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

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

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

This project is a hallmark of the Commonwealth's commitment to the principles and practice of smart growth. This significant investment in urban mass transit will provide important transportation, air quality and urban redevelopment benefits and will fulfill a longstanding commitment to incorporate transit projects as an integral element of the Central Artery/Tunnel Project (CA/T). It will significantly reduce regional emissions of nitrous oxides (NO<sub>x</sub>) and volatile organic compounds (VOC), the chief precursors of smog, and of carbon dioxide, the principal greenhouse gas responsible for global warming. New public and private investments can revitalize the social and environmental fabric of the corridor. For this project to achieve its potential, however, the Executive Office of Transportation (EOT) and the Massachusetts Bay Transportation Authority (MBTA) must design the project carefully and coordinate proactively and effectively with state and city agencies, citizens, local businesses and other stakeholders during all aspects of the project – planning, design and construction.

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

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

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

### Project Description

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

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

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

#### Jurisdiction and Permits

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

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

#### DEIR Request

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

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

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

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

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

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

## SCOPE

### General

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

### Project Description and Permitting

The EIR should provide a detailed project description including a project schedule, project costs and funding sources. If EOT will pursue federal funding, it should coordinate the MEPA and National Environmental Policy Act (NEPA) review process. The EIR should include an existing conditions plan illustrating resources and abutting land uses for the entire project area and a proposed conditions plan (or plans) illustrating proposed elevations, structures and stormwater management systems.

The EIR should describe designs for track locations, relocations and bridge replacements. It should provide detailed information on station locations, designs, lighting and access. The EIR should describe operating parameters for the service including the type and number of cars required to provide service and headways. The EIR should also include a circulation plan illustrating how motor vehicles, buses, pedestrians and cyclists will access each station. It should detail requirements for the maintenance facility including parking. It should describe electrical systems including the catenary and support structures, substations and signal and communication systems. The DEIR should identify temporary and permanent land takings. The DEIR should include plans, designs, renderings and, where appropriate, illustrations or photos.

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

### Smart Growth/Land Use

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

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

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

EOT should use its work with municipalities on the Urban Ring Project (EOEA #12565) as a model for planning and coordination on this project. As the Conservation Law Foundation (CLF) and the Metropolitan Area Planning Council (MAPC) have indicated, EOT should build on the corridor planning work it has conducted to date and develop a more detailed corridor study to examine zoning, development opportunities (including the potential for air rights development to create open space and playing fields or affordable housing), the relationship of EJ communities to the project and potential and existing transit connections. The study should adequately account for near-term and long-term population projections and job growth in the entire corridor. Commenters have written and spoken eloquently about the potential impacts of new transit access and identified concerns that the project could change the character of their communities, reduce housing affordability and reduce transit access for certain populations. The corridor study should be used to inform these issues and the DEIR should describe how communities can plan to address these issues.

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

#### Consistency and Coordination with Planning and Projects

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

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

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

### Environmental Justice

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

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

### Alternatives Analysis

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

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

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

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

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

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

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

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

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

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

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

#### Impacts to Land/Stormwater

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

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

#### Station Design and Locations

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

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

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

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

### Air Quality

According to the U.S. Environmental Protection Agency (EPA) Massachusetts is in moderate non-attainment for ozone, whose precursors are nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOCs). Ozone pollution causes a variety of health problems including aggravated asthma, reduced lung capacity and increased susceptibility to respiratory illnesses like pneumonia and bronchitis. A study by the Centers for Disease Control and Prevention revealed that Massachusetts has the highest rates of asthma for adults in the nation. Cars, trucks and buses, are the largest source of criteria air pollutants, air toxics and greenhouse gases in the state. Extension of the Green Line will reduce local air quality impacts by maximizing public transit service and replacing some diesel bus service with light rail service.

The DEIR should describe the air quality benefits associated with this project and describe its consistency with the State Implementation Plan (SIP) and MassDEP's Transit Regulations. The DEIR should include a mesoscale and a microscale air quality analysis. The analyses should analyze the following emissions: VOC, NO<sub>x</sub>, greenhouse gases, carbon monoxide, particulate matter (PM) and air toxics. The mesoscale analysis should examine the broad regional impacts of the project and predict total emission reductions. The microscale analysis should examine localized carbon monoxide (CO) conditions and identify hot spots related to traffic congestion near transit stations. EOT and the MBTA should consult with MassDEP regarding the development of the study protocols before initiating the study and submitting the DEIR.

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

### Transit Ridership

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

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

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

### Traffic and Transportation

This service will operate in a dense urban area and will affect traffic patterns and circulation. It will draw thousands of people to the transit stations that will be constructed near intersections already experiencing significant congestion. Its completion will require the reconstruction of 6 to 11 roadway bridges and several railroad bridges. Comment letters express significant concern with temporary and long-term traffic impacts. Many citizens of Medford are particularly concerned with additional traffic and parking issues that could be generated at the terminus of the line. Although the project is intended to reduce vehicle traffic overall and will not incorporate parking at stations, there could be limited problems if it is not thoughtfully designed or constructed in conjunction with appropriate parking regulations and enforcement. Re-construction of bridges will need to be well-coordinated with the communities to minimize construction period impacts.

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

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

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

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

#### Freight Service

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

### Noise/Vibration

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

### Open Space and Historic Resources

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

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

### Hazardous Waste/Contaminated Soils

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

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

### Construction Period Impacts

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

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

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

### Mitigation

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

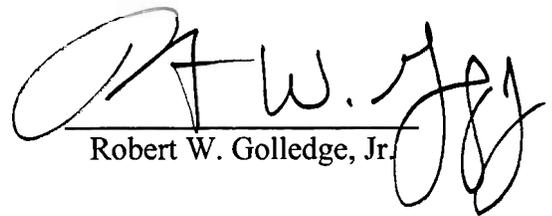
### Response to Comments

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

### Circulation

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

December 1, 2006  
Date

  
Robert W. Golledge, Jr.

RWG/CDB/cdb

## Comments received:

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

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