



Deval L. Patrick, Governor  
Timothy P. Murray, Lt. Governor  
Jeffrey B. Mullan, Secretary & CEO



July 27, 2011

Kenneth L. Kimmell  
Commissioner  
Massachusetts Department of Environmental Protection  
One Winter Street  
Boston, MA 02108

Dear Commissioner Kimmell:

Pursuant to Section 7 of amended 310 CMR 7.36, *Transit System Improvements*, please find attached the annual Status Report on transit projects required under the revised State Implementation Plan. We appreciate your allowing us an extension on our submittal of this Report.

The Status Report will be made publicly available on the MassDOT website at [www.massdot.state.ma.us](http://www.massdot.state.ma.us).

If you have any questions or concerns or if we can be of assistance during the public review period for this document, please do not hesitate to contact Katherine Fichter of my staff at (617) 973-7342 and [katherine.fichter@state.ma.us](mailto:katherine.fichter@state.ma.us).

Sincerely,

A handwritten signature in black ink that reads "David J. Mohler".

David J. Mohler  
Executive Director  
Office of Transportation Planning





Massachusetts Department of Transportation  
Massachusetts Bay Transportation Authority

State Implementation Plan – Transit Commitments  
2011 Status Report

Submitted to the Massachusetts Department of Environmental Protection  
July 27, 2011

**For questions on this document, please contact:**

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## INTRODUCTION

This report is submitted by the Massachusetts Department of Transportation (MassDOT), in conjunction with the Massachusetts Bay Transportation Authority (MBTA), to the Massachusetts Department of Environmental Protection (DEP) in order to fulfill the requirements of 310 CMR 7.36(7), *Transit System Improvements*. Below is a project description and status information for each of the public transit projects required under the amended State Implementation Plan (SIP).

As in previous Status Reports, MassDOT is no longer reporting on Blue Line Platform Lengthening and Station Modernization and the Greenbush Commuter Rail Restoration. Both of those projects have been completed and MassDOT believes that the relevant commitments have been met.

As always, MassDOT hopes to make the annual Status Report process one of iterative improvement, and looks to DEP and to the public for comments and other suggestions to refine its efforts.

## I. FAIRMOUNT LINE IMPROVEMENT PROJECT

### SIP Requirement

*Before December 31, 2011, construction of the following facilities shall be completed and opened to full public use: Fairmount Line improvements consisting of enhancements of existing stations including without limitation: platform extensions; improved lighting and improved access; a new station in the general location of Four Corners, and a new station in each of the neighborhoods of Dorchester, Mattapan and Roxbury; and bridge upgrades and other measures to improve service and increase ridership (the Fairmount Line project). EOT<sup>1</sup> shall meet the following interim deadlines for the Fairmount Line Project:*

A. *One year from the effective date of this regulation (December 1, 2006), develop a Request for Proposals for a design consultant, complete the competitive procurement process, and issue a notice to proceed for a design consultant.*

✓ Done

B. *Within two years following the issuance of a notice to proceed, complete final design, apply for all necessary permits and grants, file any required legislation, and initiate all public and private land acquisition.*

✓ Done (for all elements of the project except for Blue Hill Avenue Station)

### Project Description

The 9.2-mile Fairmount commuter rail line runs from South Station, currently serves four stations (Uphams Corner, Morton Street, Fairmount, and Readville) in the communities of Dorchester, Mattapan, and Hyde Park, and terminates in the Readville section of Boston. The line, which uses right-of-way entirely owned by the MBTA, also includes 41 bridges. It is the only commuter rail line that exclusively serves neighborhoods within the City of Boston, but ridership has historically been low and passenger facilities along the line do not meet modern standards.

The Fairmount Line Improvement Project includes the rehabilitation of the existing Uphams Corner and Morton Street Stations, construction of four new stations - Newmarket, Four Corners, Talbot Avenue, and Blue Hill Avenue - reconstruction of six existing railroad bridges (located over Columbia Road, Quincy Street, Massachusetts Avenue, Talbot Avenue, Woodrow Avenue, and the Neponset River), and construction of a new interlocking and upgraded signal system (required to advance the bridge reconstruction work). These upgrades will enhance future service, allowing for increased frequency on the line.

### Planning Conformity

Throughout the life of the project, improvements to the Fairmount Line have been included in all relevant transportation planning documents, including the MBTA Program for Mass Transportation and the Regional Transportation Plans of the Boston Region MPO.

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<sup>1</sup> EOT is the predecessor to the legislatively-created Massachusetts Department of Transportation (MassDOT). For the purposes of referencing 310 CMR 7.36(7) *Transit System Improvements* of the SIP, this report will continue to use the EOT designation. However, the MassDOT designation will be used for all other language or text contained in this report.

## **Project Status**

The sections below describe the current status of the different elements of the Fairmount Line Improvement Project.

## **Systems**

Necessary upgrades to interlocking and signal systems have been completed and are currently in use, allowing for the reconstruction of structurally deficient bridges along the Fairmount Line.

## **Bridges**

A construction contract to replace the Columbia Road, Quincy Street, and Massachusetts Avenue bridges was awarded in October of 2007, with the construction work completed in 2010. The design of the Talbot Avenue, Woodrow Avenue, and Neponset River bridges is completed and construction is beginning (see below). The Talbot Avenue and Woodrow Avenue bridges will be constructed under the same construction contract as Talbot Avenue Station, while three Neponset River bridges are being advertised separately (see below).

The project includes replacing three bridges over the Neponset River. Bids for replacement of the northernmost Neponset River Bridge (just north of Fairmount Station) were opened on November 3, 2010. The low bidder was Barletta Construction. Contract authorization was given at the January 2011 MBTA Board of Directors meeting, and the MBTA issued a notice to proceed on February 11, 2011. The project duration is approximately 30 months and is currently 17% complete, with project completion to occur in August 2013.

The two southern Neponset River Bridges (one just south of Fairmount Station, and one just north of Readville Yard) were packaged with environmental remediation of the Yard 5 area. Bids for this group of projects were opened on October 13, 2010. The low bidder was S&R Construction Enterprises, with contract award authorization given at the January 2011 MBTA Board of Directors meeting. The notice to proceed for this contract was issued March 1, 2011. The project duration is approximately 30 months and is currently 17% complete, with project completion to occur in September 2013.

## **Existing Stations**

The MBTA held a station-opening at Uphams Corner on January 23, 2007. The reconstruction of Morton Street was celebrated at a station-opening on July 17, 2007. New elements at both stations include extended high-level passenger platforms, accessible walkways, canopies, benches, windscreens, signage, bicycle racks, variable messages signs, lighting, and landscaping. Work at both stations is now complete.

## **New Stations**

**Four Corners Station** is under construction and is now 67% complete. A notice to proceed was issued to S&R Construction Enterprises, Inc. on January 28, 2010. Four Corners Station has experienced delays due to unforeseen geotechnical conditions encountered during the excavation work undertaken for the construction of the outbound platform at Washington Street. The revised

substantial completion date for Four Corners Stations is September 2012 with final completion to occur in November 2012.

The construction of **Talbot Avenue Station** and the **Talbot and Woodrow Avenue Bridges Rehabilitation** projects were advertised and opened for bids in May 2010. The MBTA Board of Directors authorized a construction contract to Barletta Construction on September 10, 2010 and the notice to proceed was issued on November 22, 2010. The construction period is expected to last approximately twenty-six months, with substantial completion of the station and the bridges in October 2012 and anticipated final completion of work by January 2013. Construction is currently 38% complete. A groundbreaking was held on June 7, 2011.

Construction of **Newmarket Station** was awarded to S&R Construction Enterprises at the MBTA Board of Directors meeting on October 6, 2010. The MBTA issued a notice to proceed on December 13, 2010. Construction is currently 18% complete. The MBTA anticipates substantial completion in December 2012 with final completion of work to occur in February 2013.

The proposed **Blue Hill Avenue Station** has been the subject of significant community controversy over the past two years. In early 2009, after design work for the station was well underway (60% design), concerns about negative impacts to surrounding residences were raised by a small number of abutters to the proposed station, which at the time was proposed to have two side platforms. In an effort to address these concerns, the MBTA conducted a new analysis of alternative station locations. This additional analysis determined that at least one alternative location (River Street) was infeasible due to track curvature, and that the two other alternative locations (north of Blue Hill Avenue and south of Cummins Highway) would have greater impacts to abutting residential properties than would the original design, while serving fewer riders at increased cost. The MBTA then developed an additional alternative that made use of a center-island platform at the original station site, therefore mitigating some abutter concerns by locating the platform further from homes and backyards; the MBTA also developed a conceptual design for this proposal. The MBTA continued to encounter opposition from some abutters, however, who question the need for and appropriateness of any commuter rail station in this location. The MBTA responded to the immediate neighborhood concerns by completing an additional analysis of noise impact and mitigation measures.

After this further review, the MBTA and MassDOT made a final determination on the Blue Hill Avenue station in May 2011. Station design will proceed at the original site with the center-island platform concept. The necessary redesign of the station is underway, and 100% design completion is anticipated by the end of 2011. The project is tentatively scheduled for construction advertisement in February 2012, with anticipated construction to start in May 2012. This anticipated schedule will be revisited as the design of the station evolves.

### **Project Funding**

In August 2007, MassDOT and the MBTA executed a contract to transfer approximately \$39 million in bond funds from MassDOT to the MBTA to support project costs of (1) signal work, (2) reconstructing the Columbia Road, Quincy Street, and Massachusetts Avenue Bridges, (3)

designing the Talbot Avenue, Woodrow Avenue, and Neponset River Bridges, and (4) designing the Newmarket, Talbot, and Blue Hill Avenue Stations. A supplemental funding agreement providing \$23,756,574 in Commonwealth bond funding was executed in June 2009 in order to advance construction of the station at Four Corners. An additional funding agreement, approved in June 2011 by the MBTA Board of Directors in the amount of \$61,616,500, has allowed the remaining stations and bridges, including Blue Hill Avenue, to advance.

### **SIP Requirement Status**

*Community concerns (described above) regarding the construction of a station at Blue Hill Avenue, as well as construction challenges throughout the Fairmount Line, have resulted in a delay of the overall Fairmount Line Improvement Project beyond the December 31, 2011 SIP deadline. MassDOT anticipates that the Four Corners, Talbot Avenue, and Newmarket Stations and their attendant bridges and other infrastructure will be completed incrementally in 2012-2013, beyond the SIP deadline. A reliable completion date for Blue Hill Avenue station continues to be unknown at this time, although the MBTA is working to advance the project as quickly as possible.*

*MassDOT recognizes that this delay triggers the Project Delay component of the SIP regulation and that MassDOT therefore needs to prepare a Petition to Delay and an Interim Emission Offset Plan, to be implemented for the duration of the delay. Both are appended to this Report.*



## II. CONSTRUCTION OF 1,000 NEW PARKING SPACES

### SIP Requirement

Before December 31, 2011, construction of the following facilities shall be completed and opened to full public use: 1,000 new park and ride parking spaces serving commuter transit facilities within the 101 cities and towns constituting the Boston Metropolitan Planning Organization. EOT is also bound by the following interim deadlines:

- On or before 18 months following the effective date of the regulation (December 1, 2006), MassDOT must develop a request for proposals for a design consultant, complete the competitive procurement process, and issue a notice to proceed.  
✓ Done
- Within 15 months of the completion of the above requirements, EOT must complete conceptual design and file an Environmental Notification Form.  
✓ Done (as appropriate for the different projects)
- On or before two years after MEPA's issuance of a scope for a Draft Environmental Impact Report or a Single Environmental Impact Report, EOT must complete preliminary design and file a DEIR or SEIR.  
✓ Not appropriate for the projects
- On or before one year after MEPA's issuance of a scope for a Final Environmental Impact Report, EOT must file an FEIR.  
✓ Not appropriate for the projects
- On or before 18 months after MEPA's issuance of a certificate on an FEIR or an SEIR, EOT must complete final design, apply for all necessary permits, funds and grants, file any required legislation, and initiate all public and private land acquisition.  
✓ Done (as appropriate for the different projects)
- Upon completion of all of the above milestones, DEP and EOT shall establish a schedule for project construction and deadlines for project completion.  
Underway

### Project Description

To encourage commuters and other travelers to make use of the public transit network for trips into downtown Boston and to other locations, the MBTA will construct 1,000 new parking spaces at MBTA stations within the 101 communities of the Boston Region Metropolitan Planning Organization (MPO).

### Planning Conformity

The construction of 1,000 new parking spaces is included in the Regional Transportation Plan of the Boston Region MPO, adopted in November 2009.

### **Project Status**

In prior reports submitted to DEP, MassDOT identified two major garage projects (at the Beverly and Salem Commuter Rail Stations) that it planned to implement in order to provide the 1,000 park and ride spaces required under the SIP regulation. While MassDOT was focused on developing these two projects for the SIP commitment, the MBTA was also advancing a series of other projects that would result in additional parking spaces in other locations. Following these two paths simultaneously, MassDOT and the MBTA would have constructed significantly more than the required 1,000 spaces.

However, unanticipated delays to the projects in both Beverly and Salem have extended the anticipated timelines for design and construction of those two facilities beyond the deadlines required by the SIP. Therefore, MassDOT, along with the MBTA, has established a different set of parking projects which are intended to fulfill the necessary SIP commitments and requirements.

### **Wonderland/Blue Line (Revere)**

MassDOT, the City of Revere, and the MBTA are working together to advance a transit-oriented development (TOD) project at Wonderland Station. The master plan for the TOD project calls for residential, retail, office, and hotel space to be built on a portion of the existing surface parking lots at the site currently used by transit riders. In exchange, the developer will build for the MBTA a new 1,465-car parking garage to not only replace the parking lost due to the development but also to increase overall transit parking supply. This project will result in 612 net new transit spaces.

In November 2009, with the garage substantially designed, the City of Revere and MassDOT secured funding under ARRA for construction of the garage. This unanticipated funding source substantially expedited the development of the project. The MBTA entered into a Memorandum of Understanding with the City of Revere to award a construction contract using a municipal earmark. On September 9th, 2010, the MBTA authorized the City of Revere to award a Design/Build contract to Suffolk Construction. Notice to proceed was issued September 9th, 2010 to Suffolk Construction, and a project groundbreaking occurred on September 13th, 2010. Construction is currently 49% complete. The construction schedule anticipates substantial completion by the end March 2012, with final completion in June of 2012.

### **Beverly Depot/Commuter Rail**

As part of the proposed parking garage project in downtown Beverly, the MBTA purchased a parcel of land for use for a portion of the project. In the fall of 2009, the MBTA added 102 surface level spaces on the purchased parcel, which are currently open for use by commuters. Future development on this site will include a parking garage, replacing and supplementing the current surface parking.

### **Savin Hill/Red Line (Dorchester)**

During construction of Savin Hill Station (MBTA Red Line), the MBTA purchased a parcel of land adjacent to the station for construction-related uses. Upon completion of the project, the parcel was converted to a surface parking lot, which is currently open for use by commuters. The

Savin Hill lot has 28 total spaces, with 22 available for use by daily commuters (the remaining spaces are reserved for MBTA employees and Zipcar users).

**Woodland/Green Line (Newton)**

100 spaces, built as part of a joint development project, were opened to the public in 2007.

**Quincy Shipyard/Ferry**

The MBTA purchased a site previously occupied by a series of abandoned buildings associated with the Quincy Shipyard. The buildings were deemed a safety hazard and subsequently razed. Construction of a 168-space commuter parking lot is complete and open to the public.

**Tally**

Location	Spaces	Status
Wonderland/Blue Line (Revere)	612	Expected Completion March 2012
Beverly Depot/Commuter Rail	102	Complete
Savin Hill/Red Line (Dorchester)	22	Complete
Woodland/Green Line (Newton)	100	Complete
Quincy Shipyard/Ferry	168	Complete
<b>Total</b>	<b>1,004</b>	

**Project Funding**

Of the 1,004 spaces listed, 392 are complete and the 612 at Wonderland/Blue Line (Revere) have identified funding sources. The following table provides detail on the funding sources for the reported locations:

Location	Funding Source (Percentage)
Wonderland/Blue Line (Revere)	ARRA (46) Federal Earmark (6) MBTA (23) State MORE <sup>2</sup> Grant (20) State TOD Grant (5)
Beverly Depot/Commuter Rail	Federal Earmark (80) MBTA (20)
Savin Hill/Red Line (Dorchester)	MBTA (100)
Woodland/Green Line (Newton)	MBTA (100)
Quincy Shipyard/Ferry	Federal Earmark (80) MBTA (20)

**SIP Requirement Status**

*With 392 spaces of the identified 1,004 parking spaces complete, and the Wonderland/Blue Line (Revere) garage currently under construction, it is anticipated that MassDOT will complete this SIP commitment. However, with the construction of the Wonderland garage taking longer than anticipated, MassDOT will not*

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<sup>2</sup> Massachusetts Opportunity Relocation and Expansion Jobs Capital Program

*meet the full 1,000-space commitment in time for the December 31, 2011 deadline.*

*MassDOT recognizes that this delay triggers the Project Delay component of the SIP regulation and that MassDOT therefore needs to prepare a Petition to Delay and an Interim Emission Offset Plan, to be implemented for the duration of the delay. However, MassDOT believes that the delay in the Wonderland parking garage causes no measurable loss of air quality improvement, as described in the attached Petition to Delay.*

### III. RED LINE/BLEUE LINE CONNECTOR - DESIGN

#### **SIP Requirement**

*Before December 31, 2011, complete final design of the Red Line/Blue Line Connector, from the Blue Line at Government Center to the Red Line at Charles Station.*

#### **Project Description**

The proposed Red Line/Blue Line Connector consists of an extension of the MBTA Blue Line under Cambridge Street to the Red Line station at Charles/MGH. As currently envisioned, the project would consist of two major components: (1) a new tunnel extending the Blue Line under Cambridge Street from Joy Street to Charles Circle and (2) a new underground Blue Line station connected to the existing Charles/MGH station. The project would also consider whether and how to make use of the existing Bowdoin Station - which will require significant rehabilitation - possibly including the relocation of underground trackage and platforms.

The SIP requires only that MassDOT complete final design for the project. Construction of the Red Line/Blue Line Connector is not required.

#### **Planning Conformity**

The design of the Red Line/Blue Line connector project has been included in all relevant transportation planning documents, including the 2009 amendment to the Regional Transportation Plan of the Boston Region MPO.

#### **Project Status**

On September 14, 2007, MassDOT filed an Expanded Environmental Notification Form with the Massachusetts Environmental Policy Act Office. A public scoping session was held on October 17, 2007, and the Secretary of Energy & Environmental Affairs issued a certificate on the project on November 15, 2007. Based on the project scope as defined in the MEPA Certificate, MassDOT issued a Request for Proposals on March 27, 2008 for a consultant to complete the necessary environmental reviews and engineering for the project. MassDOT awarded a consultant contract during the summer of 2008.

MassDOT has completed the following environmental reviews and conceptual engineering for the project:

#### **Draft Environmental Impact Report**

- The Draft Environmental Impact Report (DEIR) was filed on March 31, 2010
- A MEPA Certificate for the DEIR was issued on May 28, 2010

#### **Public Outreach**

- Six Working Group meetings were held
- A public hearing on the DEIR was held on May 3, 2010
- A project website has been launched and is maintained at [www.mass.gov/redblue](http://www.mass.gov/redblue)

### **Refinement of Alternatives/Conceptual Engineering**

- Refinement of potential alternatives was performed for three options: (1) a no-build option, (2) a tunnel option with Bowdoin Station remaining open, and (3) a tunnel option with Bowdoin Station closed. The refinement of alternatives also included an evaluation of potential construction options (a mined tunnel vs. a cut-and-cover tunnel) and construction phasing schemes.
- A *Definition of Alternatives/Conceptual Engineering Report* was completed in November 2009.

### **Design Criteria**

- A draft *Design Criteria Report* was prepared and was included with the *Definition of Alternatives Report*.

### **Alternatives Analysis**

- An *Alternatives Analysis Technical Report* was completed on March 31, 2010.

### **Design**

- The conceptual design of the project is complete.

### **Cost Estimates**

- Conceptual cost estimates were included in the *Definition of Alternatives Report*.

### **Construction Staging and Sequencing Plans**

- Construction staging and sequencing plans were included in the Draft Environmental Impact Report.

### **Real Estate Requirements**

- Potential real estate impacts were identified as part of the DEIR.

### **Project Funding**

The 'immediate needs' Transportation Bond Bill of 2007 provides state bond funding for the design of the Red Line/Blue Line Connector project. The estimated funding needed to complete design has increased from the previous \$29 million estimate to \$52 million, according to the new cost estimates completed during the development of the DEIR.

### **SIP Requirement Status**

MassDOT has made a good faith effort to meet the commitment to complete final design of the Red Line/Blue Line Connector. However, as part of the environmental review and conceptual design process, MassDOT determined that the ultimate construction costs for the project will far outstrip the cost projections in place at the time that the SIP regulation was promulgated: \$290 million at the time of the SIP regulation versus the current best estimate of \$748 million (escalated to year of expenditure). MassDOT has already spent \$3 million to advance the project through environmental review and conceptual design, but the current \$52 million estimate to complete final design substantially exceeds the \$29 million last identified for the effort in the 2009 Regional Transportation Plan for the Boston Region. Furthermore, MassDOT has been unable to identify funding with which to construct the Red Line/Blue Line Connector at any point in the next 20

years. As a matter of policy, MassDOT believes that it is irresponsible to spend precious public funds to design and permit transportation projects for which there are no identified construction funds, particularly given the need to continually refresh planning and permitting materials for major projects. To pursue final design of the Red Line/Blue Line Connector project at this point would be to squander resources that could otherwise be spent on projects for which construction funds are already committed.

Therefore, MassDOT is initiating a process to amend the SIP to permanently and completely remove the obligation to perform final design of the Red Line/Blue Line Connector. To this end, MassDOT will work with DEP and with the general public on the amendment process. MassDOT is not proposing to substitute any new projects in place of the Red Line/Blue Line Connector commitment, given the absence of any air quality benefits associated with the current Red Line/Blue Line commitment (final design only). Correspondence from MassDOT to DEP formally initiating the amendment process is appended to this Report.

#### IV. GREEN LINE EXTENSION TO SOMERVILLE AND MEDFORD

##### SIP Requirement

Before December 31, 2014, construction of the following facilities shall be completed and opened to full public use: 1. The Green Line Extension from Lechmere Station to Medford Hillside; 2. The Green Line Union Square spur of the Green Line Extension to Medford Hillside; and

- On or before 18 months following the effective date of the regulation (December 1, 2006), MassDOT must develop a request for proposals for a design consultant, complete the competitive procurement process, and issue a notice to proceed.  
✓ Done
- Within 15 months of the completion of the above requirements, MassDOT must complete conceptual design and file an Environmental Notification Form.  
✓ Done
- On or before two years after MEPA's issuance of a scope for a Draft Environmental Impact Report or a Single Environmental Impact Report, MassDOT must complete preliminary design and file a DEIR or SEIR.  
✓ Done
- On or before one year after MEPA's issuance of a scope for a Final Environmental Impact Report, MassDOT must file an FEIR.  
✓ Done
- On or before 18 months after MEPA's issuance of a certificate on an FEIR or an SEIR, MassDOT must complete final design, apply for all necessary permits funds and grants, file any required legislation, and initiate all public and private land acquisition.  
Underway
- Upon completion of all of the above milestones, DEP and MassDOT shall establish a schedule for project construction and deadlines for project completion.  
To be completed

Extensive information about the Green Line Extension project can be found at [www.mass.gov/greenlineextension](http://www.mass.gov/greenlineextension).

##### Project Description

This project – the purpose of which is to improve corridor mobility, boost transit ridership, improve regional air quality, ensure equitable distribution of transit services, and support opportunities for sustainable development – will extend the MBTA Green Line from a relocated Lechmere Station in East Cambridge to College Avenue in Medford, with a branch to Union Square in Somerville.



## Proposed Stations

New Green Line stations are currently proposed for:

- **College Avenue, Medford** - Located at the intersection of College Avenue and Boston Avenue in Medford, adjacent to Tufts University. The station platform will be located on the north side of the College Avenue Bridge, which crosses over the MBTA Lowell Line. Access to the station will be provided from both Boston Avenue and College Avenue, as well as from the Burget Avenue neighborhood, which lies northeast of the station site.
- **Broadway/Ball Square, Medford/Somerville** - Located at the intersection of Broadway and Boston Avenue on the north side of Ball Square. The station platform will be located on the north side of the Broadway Bridge, which crosses over the MBTA Lowell Line. Access to the station will be provided from both Boston Avenue and Broadway. An electrical substation, needed to support the Green Line Extension, will likely be installed at this location.
- **Lowell Street, Somerville** - Located at the Lowell Street Bridge, which crosses over the MBTA Lowell Line adjacent to the proposed extension of the Somerville Community Path. The station platform will be located on the north side of the Lowell Street Bridge. Access to the station will be provided from Lowell Street.
- **Gilman Square, Somerville** - Located in the vicinity of the Medford Street crossing of the MBTA Lowell Line, behind Somerville City Hall, Public Library, and High School. The station platform will be located on the north side of the Medford Street Bridge, which crosses over the MBTA Lowell Line. Access to the station will be provided from Medford Street. The proposed extension of the Somerville Community Path will be located in close proximity to the station.
- **Washington Street, Somerville** - Located within the footprint of the Washington Street Bridge, proximate to Somerville's Brickbottom, Inner Belt, and Cobble Hill areas. The station platform will be located south of the Washington Street undergrade crossing of the MBTA Lowell Line. Access to the station will be provided via entrances located under or adjacent to the south abutment of the bridge, in conjunction with improved sidewalk and street-crossings in the area. The proposed extension of the Somerville Community Path will be located in close proximity to the station.
- **Union Square, Somerville** - Located east of Prospect Street in the vicinity of Union Square in Somerville. The station platform will be located within the MBTA Fitchburg Line right-of-way east of Prospect Street. Access to this station will be provided from both the street and bridge levels of Prospect Street.

Details of the design of the stations, including the relationship of the stations to the pedestrian, bicycle, and bus networks around them, are now being more fully developed. The MBTA has just

completed a series of public Design Workshops, held to engage the public in developing the ‘look and feel’ of the stations and the areas around the stations. The MBTA will use the information collected at the Workshops and from work with the Green Line Extension Design Working Group to inform the ongoing station design and engineering work.

#### Vehicle Storage and Maintenance Facility

The Green Line Extension will also require the construction of a new light rail vehicle storage and maintenance facility in the vicinity of the Green Line Extension. MassDOT has identified a location known as ‘Option L’ in the Inner Belt area of Somerville as its preferred alternative for the location of the vehicle support facility. The MBTA is currently working on the program and design of the maintenance facility and its associated vehicle storage areas. The MBTA must acquire certain parcels of private property in order to construct the vehicle facility at the Option L location.

#### Somerville Community Path Extension

In addition, the Green Line Extension project includes the design of the proposed extension of the Somerville Community Path (not part of the SIP commitment).

#### **Planning Conformity**

The Green Line Extension project has been included in all relevant transportation planning documents, including Transportation Improvement Programs for the Boston Region MPO, the MBTA Program for Mass Transportation, and the Regional Transportation Plans of the Boston Region MPO.

#### **Project Status**

State-level environmental review (MEPA) was completed in July 2010. Federal-level environmental review (NEPA) documents were submitted to the Federal Transit Administration (FTA) in December 2010, and will be released upon FTA approval. MassDOT hopes to receive a Finding of No Significant Impact from the FTA for the Green Line Extension project in autumn of 2011.

The MBTA procured a new Program Management/Construction Management/Preliminary Engineering (PM/CM/PE) technical team in the autumn-winter of 2010-2011. This team is currently working under an initial contract to perform Advanced Conceptual Engineering for the Green Line Extension project, which will lead to Preliminary Engineering and then to the initiation of procurement of a Design-Build team to complete design of and construct the Green Line Extension. The MBTA has also recently selected an Owner’s Representative to support the MBTA throughout the implementation of the project.

MassDOT and the MBTA continue to work with the FTA to seek funding for the Green Line Extension project under the FTA New Starts capital funding program.

Procurement of 24 new Green Line vehicles needed to support the operation of the Green Line Extension is now underway. The MBTA advertised for the new vehicles in January 2011 and held

a pre-bid meeting for prospective bidders in February 2011. Proposals were submitted to the MBTA on June 13, 2011.

Potential real estate impacts have also been identified and are continuing to be refined. MassDOT and the MBTA are collaborating on necessary background and support work, including geotechnical and hazardous materials testing, in order to be ready for the process of property acquisition upon receipt of federal environmental approval. In addition, recent completion of an agreement with Pan Am Railways allowed the Commonwealth to acquire land and track vital to the construction of the project.

Many other project milestones have also been reached on the Green Line Extension project, including: refinement and analysis of alternatives, development of design criteria, station programming and siting, initial cost and schedule estimating, conceptual engineering, and the development of construction staging and sequencing plans.

Public outreach on the project has included hundreds of meetings and other events over multiple years. MassDOT and MBTA staff have met with numerous public groups, elected officials, and other interested parties. There have been two different project advisory committees, including the former Project Advisory Group and the present Design Working Group. Meeting types have included meetings of those groups and their subcommittees, station workshops, interagency meetings, neighborhood briefings, briefings with elected officials, institutional and business group meetings, public meetings and hearings, land use workshops, and 'meet and greet' sessions, as well as many others.

### **Project Funding**

As mentioned above, MassDOT is pursuing federal funding - through the competitive New Starts program managed by FTA - to support the design and construction of the Green Line Extension project. In January of 2010, MassDOT and the FTA initiated formal collaboration on the development of a complete New Starts application for the Green Line Extension project, including oversight and assistance from a Project Management Oversight Consultant (PMOC). This effort is and will be ongoing. The MBTA, MassDOT, FTA, and the PMOC held a week-long 'Cost and Schedule Risk Assessment' Workshop in March 2011, which was crucial to moving ahead with the New Starts application process (see below for more information on the results of the Workshop). The final New Starts application materials are in progress, and need to be finalized for FTA review.

The challenges related to the New Starts process - a complex, demanding, and time-consuming process - have added substantial time to the schedule for initiating design of the Green Line Extension project. MassDOT and the MBTA nevertheless believe that the Green Line Extension project is a strong and viable contender for New Starts funding. Despite support for the project and its benefits from officials at FTA, however, we are realistic about the national-level demand for New Starts funding. While the Commonwealth (not the MBTA itself) is committed to pay the capital costs of the Green Line Extension, there will be additional and ongoing operating expenses associated with running the expanded Green Line that must be borne by the MBTA. We are therefore concerned about the effect that the enormously constrained financial condition of the MBTA system will have on our chances of success within the New Starts program. It must also be

noted that the availability of transportation funding at the federal level, including for the New Starts program, is uncertain and most likely shrinking. All of these factors will play a role in the potential federal funding of the Green Line Extension project.

In addition to the use of any federal funding, MassDOT and the MBTA will use Commonwealth funds to support the design and construction of the Green Line Extension project. These funds will be raised with the backing of authorizations made to support the SIP projects in Transportation Bond Bills of the past several years. At present, MassDOT has \$800 million (less funds already spent on planning, design, and construction) in active Transportation Bond Bill authorizations for the SIP projects. As needed, MassDOT will seek additional Transportation Bond Bill authorization to cover the costs of the Green Line Extension project, as well as other SIP projects.

### **SIP Requirement Status**

*By filing an Expanded Environmental Notification Form, procuring multiple design consultants, and publishing both Draft and Final Environmental Impact Reports, MassDOT has met the first four interim milestones associated with the Green Line Extension project. MassDOT – which has committed substantial resources to the Green Line Extension project, a top transportation priority of the Commonwealth and the largest expansion of the MBTA rapid transit system in decades – is now transitioning the project from the planning and environmental review phases to design, engineering, and eventual construction, coupled with the tasks associated with applying for New Starts funding. As part of this transition, the MBTA has assumed lead project management responsibility for the ongoing development of the Green Line Extension project, with MassDOT continuing to support the MBTA on an as-needed basis. This transition to design, engineering, and construction represents the achievement of a crucial and exciting milestone for the Green Line Extension project, which has now progressed farther and closer to implementation – with the support and advocacy of elected leaders, municipal officials, organized advocates, and hundreds of individual members of the public – than at any time in the past.*

*Together, MassDOT and the MBTA have also managed an extensive community and public participation effort for the Green Line Extension project, which enjoys widespread support from local officials and the public in general. This community participation effort, while time-consuming, has made the project better and more responsive to public concerns, and is appropriate for a project of this magnitude and importance to the surrounding community and to the region as a whole.*

*The Green Line Extension is an enormously complex capital project, with many tasks and sub-tasks that must be completed, some in sequence and some in parallel, in order for the first rider to travel from a relocated Lechmere Station toward Union Square and College Avenue. In the 2010 SIP Status Report, MassDOT indicated that the Green Line Extension project was tracking for completion at the end of October 2015, ten months past the legal deadline of December 31, 2014. Over the past four months, the Green Line Extension project team has performed a cost/schedule/risk analysis, which used as a foundation the results of the above-mentioned FTA PMOC Risk Assessment Workshop. As a result, the 2010 schedule projections for the Green Line Extension project have been further refined. MassDOT and the MBTA now have a much deeper and more nuanced understanding of the constraints and limitations that must be managed in order to implement the Green Line Extension project.*

Based upon those continuing analyses, we are now projecting a timeframe – rather than a specific month or day – for the introduction of revenue service on the Green Line Extension. The points within the timeframe are associated with different probabilities, as shown below:

- 10% Probability of Not Exceeding – September 2018
- 50% Probability of Not Exceeding – June 2019
- 90% Probability of Not Exceeding – July 2020

It is important to note that this schedule scenario assumes the issuance of a notice to proceed to a Design/Build contractor only after the MBTA has taken full ownership of all private property of any substantial size required for the construction of the Green Line Extension. This allows the Green Line Extension project to benefit from lessons learned on the Greenbush Commuter Rail project, in which the MBTA did not take ownership of needed properties until after the issuance of a notice to proceed to the Design/Build contractor, costing the MBTA both time and money and slowing the overall completion of the project. It also assumes that the federal National Environmental Policy Act (NEPA) process for the Green Line Extension will be complete in November of 2011 and that necessary property acquisition can begin at that time.

The work that has gone into developing the detailed risk analyses and to quantifying the statistically-based schedule ranges is significant and the most detailed done to date for the Green Line Extension project. However, MassDOT and the MBTA are not satisfied with the schedule ranges shown here, and are actively considering strategies that could mitigate schedule risks and improve upon the probable delivery dates for passenger service on the Green Line Extension. Some of the strategies under consideration are identified below:

- The development of a ‘phasing’ scenario that could have segments of the Green Line Extension in revenue service earlier than projected, thereby mitigating at least some of the delay described above. In this scenario, opening of the Green Line Extension project would be phased, allowing some stations to open for public use while others are still being constructed.
- The possibility of awarding a Design/Build contract prior to completion of all major property acquisitions. While this would run counter to the lessons of the Greenbush project, it could potentially expedite completion of the project.
- The possibility of using a project delivery method other than Design/Build, specifically Construction Manager - General Contractor. Although this method is relatively new, it could potentially expedite final design and construction.
- In order to better and more frequently share with project stakeholders and the general public the status and progress of the Green Line Extension project, the MBTA proposes to convene a GLX Steering Group. The Group, which will be chaired by the MBTA, will include representatives of MassDOT Planning; MassDOT Highway Division; the Cities of Cambridge, Somerville, and Medford; and the Federal Transit Administration. The first task for the Group will be to review the anticipated Green

Line Extension project schedule, including phasing options, to try to lessen the projected delay. The Group will, therefore, meet on at least a bi-weekly basis, at least in the short term. The MBTA and its technical team will report to the Group on the schedule and status of the Green Line Extension project, and will bring any other pertinent issues to the Group. The Group will follow all Open Meeting guidelines.

In addition, the MBTA plans to request a 'Letter of No Prejudice' from the FTA, which could allow the Green Line Extension project to move forward more quickly while still preserving the future potential to seek federal reimbursement for state monies expended.

The timeline listed above represents a substantial delay beyond the current SIP deadline of December 31, 2014, triggering the need to provide interim emission reduction offset projects and measures for the period of the delay (beginning January 1, 2015). Working with the Central Transportation Planning Staff, MassDOT and the MBTA are currently initiating the process of calculating the reductions of NMHC, CO, and NO<sub>x</sub> – reductions equal to or greater than the reductions projected for the Green Line Extension itself, as specified in the SIP regulation – that will be required for the period of the delay. Once that process is complete, MassDOT and the MBTA will develop a portfolio of interim projects and/or measures that can meet the requirement, and will seek input from both DEP and the general public on the portfolio. MassDOT and the MBTA are aware of the strong public interest in potential interim emission reduction offsets, having already received many suggestions and recommendations; we will strive to make use of ideas presented to us by the public whenever possible. However, MassDOT and the MBTA are acutely aware of the need for any selected interim emission reduction offsets to quantitatively and demonstrably meet the emission reduction threshold established in the SIP regulation, and will be subjecting potential interim emission reduction offsets to necessary rigorous analysis by the Central Transportation Planning Staff. MassDOT and the MBTA are also sensitive to the constrained fiscal environment in which all of the Massachusetts transportation agencies currently operate, and will weigh fiscal concerns when selecting appropriate interim emission reduction offsets.

MassDOT will keep DEP apprised of the progress made by the Central Transportation Planning Staff as it develops the emission reduction targets for the portfolio of interim emission reduction offset projects and measures.



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PETITION TO DELAY

**Fairmount Line Improvement Project  
1,000 New Park and Ride Parking Spaces**

**Background**

This Petition to Delay is submitted by the Massachusetts Department of Transportation (MassDOT), in conjunction with the Massachusetts Bay Transportation Authority (MBTA), to the Massachusetts Department of Environmental Protection (DEP) in order to fulfill the requirements of 310 CMR 7.36(7), *Transit System Improvements*, as amended. Below is a Petition to Delay the Fairmount Line Improvement project and the 1,000 New Park and Ride Parking Spaces project.

**Fairmount Line Improvement Project**

The Fairmount Line Improvement project includes the rehabilitation of the existing MBTA Uphams Corner and Morton Street Stations, construction of four new stations - Newmarket, Four Corners, Talbot Avenue, and Blue Hill Avenue - reconstruction of six existing railroad bridges (located over Columbia Road, Quincy Street, Massachusetts Avenue, Talbot Avenue, Woodrow Avenue, and the Neponset River), and construction of a new interlocking and upgraded signal system (required for the bridge reconstruction work). These upgrades will allow for increased frequency and better overall service on the Fairmount Line.

The entirety of the Fairmount Line Improvement project is required to be completed by December 31, 2011.

At present, multiple elements of the Fairmount Line Improvement project are delayed, including construction of three of the Neponset River Bridges, construction of Four Corners Station, construction of Talbot Avenue Station, construction of Newmarket Station, and construction of the Talbot and Woodrow Avenue Bridges. These project elements are all currently anticipated to be completed autumn 2012-winter 2013. In addition, the construction of Blue Hill Avenue Station is substantially behind schedule, due to sustained neighborhood controversy about the siting of the station. The MBTA has announced its decision to pursue the construction of the station at the intersection of Blue Hill Avenue and Cummins Highway and has re-started station design for that location. The necessary redesign of the station is underway, and 100% design completion is anticipated by the end of 2011. The project is tentatively scheduled for construction advertisement in February 2012, with anticipated construction to start in May 2012. This anticipated schedule will be revisited as the design of the station evolves.

The Fairmount Line Improvement project is delayed for multiple reasons, including a longer-than-anticipated public outreach process; the need to re-design certain station elements and infrastructure such as platforms, canopies, and track curvature in order to accommodate public requests; and unexpected geological conditions encountered during construction. However, the majority of the project elements are now under construction; Blue Hill Avenue Station - the exception - is well into design and construction is anticipated next year. The MBTA is advancing the Fairmount Line Improvement project steadily and expects to meet the timeline laid out here.



As the delay of the complete implementation of the Fairmount Line Improvement project cannot now be avoided, however, MassDOT is petitioning DEP to formally delay the project. In order to compensate for the delay, MassDOT requested the Central Transportation Planning Staff to estimate the reduced emissions expected to be generated by the implementation of the new Fairmount Line stations (the emissions reduction projections are shown below). MassDOT and the MBTA have further identified two interim emission reduction offset measures that will together meet the required emissions reduction targets and which will provide valuable transportation benefits in the period prior to the full implementation of the Fairmount Line Improvement project. These proposed measures were developed with the input and assistance of Fairmount Line stakeholders, for which MassDOT and the MBTA are grateful. MassDOT believe that the potential offset measures shown below meet the standard of being within the ‘transit ridership area’ as required by the State Implementation Plan regulation.

**Fairmount Line Improvement Project  
Mobile Source Emissions (Average Weekday) – Projection for 2012**

Condition	VOC (kg) <sup>1</sup>	NO <sub>x</sub> (kg)	CO (kg)
Existing Conditions	42,071.7	90,851.9	1,256,799.6
Fairmount Line Improvement Project - Implemented	42,071.4	90,851.3	1,256,789.4
<b>Target</b>	<b>-0.34</b>	<b>0.67</b>	<b>-10.26</b>

**Fairmount Line Improvement Project  
Proposed Interim Emission Reduction Offset Measures**

	VOC (kg)	NO <sub>x</sub> (kg)	CO (kg)
<b>Proposed Offset Measures</b>			
Shuttle bus service from Andrew Square to Boston Medical Center	-0.25	-0.546	-9.214
Implement proposed Roxbury-Dorchester-Mattapan increased bus service (Routes 29 and 31)	-0.42	-0.52	-3.65

MassDOT and the MBTA would like to solicit feedback from DEP and the general public on these proposed interim emission reduction offset measures for the Fairmount Line Improvement project.

**1,000 New Park and Ride Spaces**

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<sup>1</sup> The SIP Regulation requires the estimation of NO<sub>x</sub>, CO, and NMHC (non-methane hydrocarbons). For the purposes of this analysis, CTPS opted to use VOCs (volatile organic compounds) as the comparable measured pollutant. Volatile organic compounds (VOC) represent a larger category of substances than do NMHC and have been used interchangeably in the examination of mobile source emissions. Non-methane hydrocarbons refers to the total air borne hydrocarbons (organic compounds consisting only of hydrogen and carbon) and other organic compounds excluding methane (CH<sub>4</sub>). VOC is a generic term for a large variety of chemically different non-methane compounds, such as benzene, ethanol, formaldehyde, 1,1,1-trichloroethane, or acetone, as well as methane compounds.

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To encourage commuters and other travelers to make use of the public transit network for trips into downtown Boston, MassDOT and the MBTA are constructing 1,000 new parking spaces at MBTA stations within the 101 communities of the Boston Region Metropolitan Planning Organization (MPO). To meet this commitment, MassDOT has identified the construction of a new parking facility at the Wonderland Station on the MBTA Blue Line (see below for more information on the Wonderland project), as well as a series of other smaller projects<sup>2</sup>, that will together result in the required 1,000 spaces. The entirety of the 1,000 parking space commitment is required to be implemented by December 31, 2011.

Upon completion of the construction of the new seven-story parking facility (known as the 'South Garage') at Wonderland, over 714 new spaces will be added to the spaces the MBTA already owns in the area. 102 of the new spaces will be leased to the City of Revere, leaving a net increase of 612 new MBTA-owned spaces that can be counted towards the 1,000 parking spaces required by the SIP. Parking at the South Garage is expected to cost \$7 per day, between \$2 and \$3 more per day than is charged by the private lots that are located nearby.

The Wonderland project is now delayed and is currently anticipated to be completed in the spring of 2012, meaning that the full parking space commitment will not be met by the established deadline. As the delay of the complete implementation of the parking space commitment cannot be avoided, MassDOT is now petitioning DEP to delay the project.

The air quality benefits projected as part the SIP regulation process were anticipated for a model year 2025, and also include different anticipated land uses than are present today. In the case of Wonderland, current land uses include inexpensive private parking lots at the site of the former Wonderland Greyhound Park and adjacent to the future South Garage, the presence of which depress the projected demand for parking at the South Garage. In the short term, the availability of the private parking lots will likely result in South Garage being under-used, and, as a result, there will be no measurable air quality benefits in the short term. Given that, MassDOT is requesting that DEP not require the implementation of interim emission reduction offset measures for the 1,000 parking space commitment.

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<sup>2</sup> Including projects at Savin Hill Station, Woodland Station, and the Quincy Shipyard.





Deval L. Patrick, Governor  
Timothy P. Murray, Lt. Governor  
Jeffrey B. Mullan, Secretary & CEO



July 1, 2011

Kenneth L. Kimmell, Commissioner  
Department of Environmental Protection  
1 Winter Street  
Boston, MA 02108

Re: Red Line/Blue Line Connector, 310 CMR 7.36 2(i)

Dear Commissioner Kimmell:

I am writing to request an amendment to MassDEP's Transit System Improvement regulations, 310 CMR 7.36, and the State Implementation Plan (SIP), specifically as they relate to the final design of the Red Line/Blue Line Connector (310 CMR 7.36 2(i)). As set forth in greater detail below, the requirement to complete final design of an extension of the Blue Line from Government Center Station to Charles/MGH Station is a significant and expensive commitment that provides no actual air quality or transit benefits in and of itself. Funding for transit projects in the Commonwealth is exceedingly scarce and there are many competing demands for those funds that do exist. Given the lack of transit or air quality benefits associated with this purely procedural requirement, MassDOT does not believe that spending up to \$50 million to complete the project design is a wise use of public funds. MassDOT therefore respectfully requests that the Department of Environmental Protection (MassDEP) undertake the steps necessary to amend the Transit System Improvement Regulations and the SIP to remove the requirement to complete final design of the Red Line/Blue Line Connector.

### **Background on Transit Commitments Under the SIP**

As you know, MassDOT, in partnership with the MBTA, has worked diligently over the past several years to implement the various SIP transit commitments. These efforts, which are described in greater detail in our monthly SIP Status Report updates (available at: <http://www.mass.gov/massdot/SIP>) are summarized below:

- **Fairmount Line Improvements:** The MBTA has already made significant upgrades to existing stations and bridges and has constructed a new interlocking on the Fairmount Commuter Rail Line. With the exception of Blue Hill Avenue station which is still in design, all remaining Fairmount project elements are currently under construction.
- **1,000 New Parking Spaces:** Multiple projects are contributing to the fulfillment of this commitment, and the anticipated completion of the new Wonderland Station garage will allow us to meet the 1,000-space target.
- **Green Line Extension:** MassDOT is continuing to advance this enormously important and complex capital project, which will extend light rail service into previously

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underserved areas of Somerville and Medford. The Commonwealth has recently committed significant funds to advance the design of the project and purchase new Green Line vehicles to support the eventual operation of the Extension. In addition, the project's Final Environmental Impact Report received a Certificate from the Secretary of Energy and Environmental Affairs in 2010, and final federal environmental approval is expected later this year. An agreement for the purchase of right-of-way needed for the project was also recently completed with Pan Am Railways.

As required by 310 CMR 7.36(8), Determination of Air Quality Emission Reductions, and EPA SIP requirements, MassDOT determined that the Fairmount Line Improvements, 1,000 New Parking Spaces, and the Green Line Extension projects would achieve daily reductions of 435 kilograms of carbon monoxide (CO), 11 kilograms of nitrogen oxides (NOx), and 17 kilograms of volatile organic compounds (VOC) in 2025. The reductions in emissions are a result of a decrease in vehicle miles traveled because the projects encourage travel by public transit rather than by private automobile.

### **Red Line/Blue Line Connector**

As noted above, the regulation and SIP require MassDOT to complete final design of an extension of the Blue Line from Government Center Station to Charles/MGH Station. Unlike the other transit project requirements in the regulation and SIP, however, there is no specific requirement or obligation to construct the Red Line/Blue Line Connector. As a result, the commitment to design this project, by itself, provides no air quality benefit to the Boston Metropolitan region. In fact, the air quality modeling for the regulation and SIP revision, as approved by EPA in 2008, did not include or assign any air quality benefits to the project<sup>1</sup>.

MassDOT has, nonetheless, made a good faith effort to meet the commitment for the design of the Red Line/Blue Line Connector. MassDOT has spent close to \$3 million over the past two years to advance conceptual design of the project and complete the Draft Environmental Impact Report (DEIR). This effort was supported by the input of a working group consisting of individuals representing institutions, neighborhood associations, business groups, advocates, City of Boston agencies, and state and local elected officials. This group met on a bi-monthly basis and their input was in addition to that received in two public meetings held on the project.

In addition to the lack of tangible air quality benefits associated with the Red Line/Blue Line Connector requirement, final design of the project comes at a considerable financial cost (most recently estimated at more than \$50 million). Given the many other competing needs for our limited transportation funding, the Commonwealth and the Boston Region Metropolitan Planning Organization have not included the project in the Regional Transportation Plan (RTP), which lists projects prioritized for construction in the next 25 years. Therefore, committing \$50

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<sup>1</sup> EPA issued final approval of the State Implementation Plan for Transit System Improvements on July 31, 2008 including approval of air quality benefits assigned to the Green Line Extension to Union Square and Medford Hillside, Fairmount Line Improvements, and 1,000 park and ride parking spaces.

million in transportation funding to complete the design process – as well as dedicating additional resources to complete the environmental review and permitting processes – for a project that is extremely unlikely to be built simply cannot be justified.

Since environmental review and conceptual design began for the Connector in 2009, MassDOT has determined that the ultimate construction costs for the project will far outstrip the cost projections in place at the time that the SIP regulation was promulgated: \$290 million at the time of the SIP regulation versus the current best estimate of \$748 million (escalated to year of expenditure). MassDOT has already spent \$3 million to advance the project through environmental review and conceptual design, but the \$50 million estimate to complete final design far exceeds the \$29 million last identified in the Boston MPO 2009 Regional RTP.

Design costs are typically estimated at 10% of total construction costs, so the \$29 million estimate for final design at the time of the new SIP regulation was based on a \$290 million estimated construction cost, which was escalated from the \$237 million project cost carried in the 2004 Boston MPO RTP. The dramatic increase in projected costs from the 2004 RTP to the \$748 million figure included in the 2010 DEIR is attributable to a number of factors:

**Prior estimates relied on decades-old analysis.** The Red/Blue Connector project had been included in several iterations of the Boston MPO RTP and the MBTA's Program for Mass Transportation (PMT). Although each of these planning efforts assigned an estimated construction cost to the project, these estimates were not based on new analyses of the project. Instead, the RTP and PMT estimates simply re-used the construction cost estimate from the last rigorous analysis of the project (the 1986 MBTA Bowdoin/Charles Connector Project report) and escalated those costs to the RTP or PMT year. The Red/Blue DEIR is, therefore, the first substantive analysis of costs for the Red/Blue Connector project in more than 20 years.

**New information gathered during conceptual design disproved old assumptions.** The conceptual design work overseen by MassDOT starting in 2009 forced MassDOT and the consultant team to revisit previous assumptions. An example is the preferred tunneling method. Previous cost estimates had assumed 'cut and cover' construction, which is typically less expensive than is the use of a tunnel boring machine (TBM). However, due to the density and complexity of the utility networks beneath Cambridge Street, it was determined by MassDOT during this most recent planning process that cut and cover construction in this environment would actually be at least as expensive as a TBM approach. As a result, the savings resulting from a cut and cover approach envisioned by past analyses of the project would likely not be realized.

**Budgeting for contingency is now much more conservative.** In the late 1980s, the MBTA-developed cost estimates for the project included a 20 percent contingency. The DEIR cost estimate, which is informed by two more decades of project management, the experience from the Central Artery/Tunnel project, and guidance from the Federal Transit Administration, includes a more conservative 40 percent contingency. MassDOT believes that a 40 percent

contingency is appropriate given the conceptual stage of design, and the uncertainties inherent in a project involving tunneling under a dense and historic urban environment.

**DEIR cost estimate reflects a new project scope.** The 1980s analysis of the Bowdoin/Charles Connector did not include project components that were determined to be essential by MassDOT in 2010. For example, the 1986 analysis assumed that Bowdoin Station would be retained and that the extension would make use of that station's existing tail tracks. However, the MBTA has since determined that it cannot allow revenue service – the operation of transit vehicles with passengers on board – on the Bowdoin loop. This is due to the challenges in safely evacuating passengers with disabilities from a train that might become disabled on this tight curve. As a result, whether or not Bowdoin Station is retained in the project, the tunnel construction will now extend several hundred more feet to the edge of Government Center Station.

**Design and permitting done now will need to be duplicated later.** Finally, because the RTP does not include funding for construction of this project at any time in the next 25 years, it is fair to expect that the project will not actually be constructed during that time period even if the final design is completed. As a result, the final EIR and final design documents would need to be substantially, if not completely, revised and updated to reflect changed conditions and requirements at the time that the project was ultimately advanced for construction. There is no point in spending scarce public transit funds to develop documents that we know will need to be superseded later.

## **Conclusion**

At some point, a project's costs rise to the level where the pursuit of what was once a sound investment becomes simply unaffordable. I, therefore, respectfully submit this request for your consideration of removing the final design of this project, which by itself will generate no air quality benefits, from the Transit System Improvement Regulations and the SIP. Unless MassDEP removes this requirement, MassDOT will continue to be required to do the design or risk being in violation of the regulation and the SIP.

I look forward to your response, and we will work with you and your staff to address any questions or issues that arise from our request. If you have any questions, please do not hesitate to contact me at 617-973-7844 or david.mohler@state.ma.us.

Sincerely,



David J. Mohler  
Executive Director  
Office of Transportation Planning

cc: Red Line/Blue Line Connector Working Group





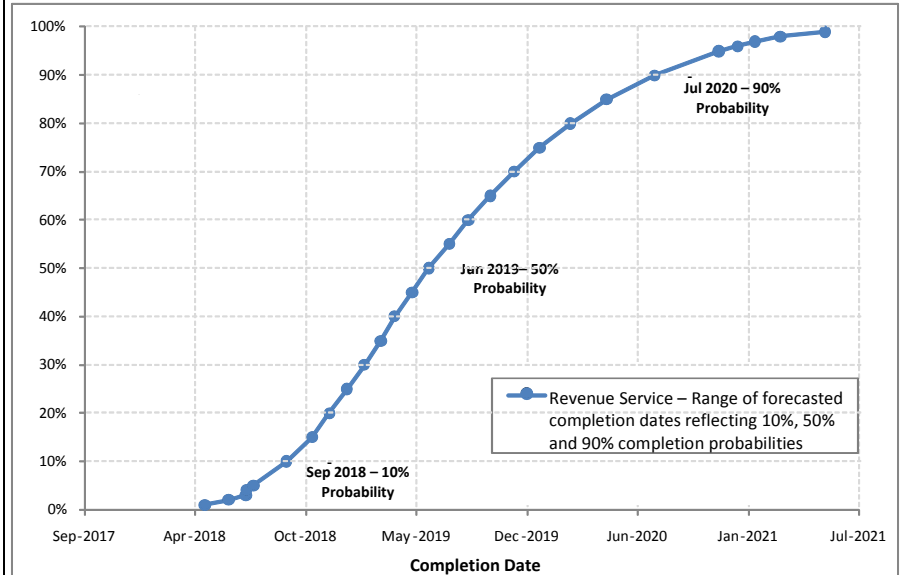
# Green Line Extension



## Project At A Glance:

- Track:
  - Green Line Medford Branch: 3.4-miles
  - Green Line Union Square Branch: 0.9-miles
  - Relocated Lowell and Fitchburg Commuter Rail Tracks
- Seven Stations (Cambridge, Somerville, and Medford):
  - Lechmere – Relocated
  - Washington Street
  - Gilman Square
  - Lowell Street
  - Ball Square
  - College Avenue
  - Union Square
- Reconstruction of 11 bridges
- Vehicle Maintenance and Storage Facility
- Signal, Communication, and Power Systems
- Multimodal Connections
- Retaining and Noise Walls
- Roadway and Intersection Design
- 24 New Green Line Vehicles
- Design of Community Path

## Risk Analysis Schedule Range – Revenue Service Date for Full project



## Project Benefits

- Improve Regional Air Quality
- Improve Corridor Mobility and Regional Access
- Boost Transit Ridership
- Ensure Equitable Distribution of Transit Services
- Support Opportunities for Smart Growth

## Risk Analysis Schedule Range

- 10% Probability of Meeting Revenue Service Date - September 2018
- 50% Probability of Meeting Revenue Service Date - June 2019
- 90% Probability of Meeting Revenue Service Date - July 2020

## Key Schedule Requirements:

- *July/August 2011*: Anticipated Final Environmental Assessment (EA) Filing
- *November 2011*: Receive Finding of No Significant Impact (FONSI) from FTA allowing Project to Acquire Private Property (Acquisition/Relocation - 24 Month Process)
- *November 2013* – Notice to Proceed to Design-Build Contractor (Property Acquisitions Complete)

## Key Project Schedule Risks

- Major Real Estate Acquisitions/Relocations (24 months)
- Extend Bridge Construction Duration to Incorporate Local and Regional Utility Relocations
- Maintaining Commuter Rail Operations During Construction:
  - Sequencing of Utility Relocation in Corridor
  - Sequencing of Bridge Construction and Utility Relocations
  - Sequencing of Retaining Walls Construction
- Implementation of Third-Party Utility and Mitigation Agreements with Communities, Utilities, Rail Operator
- Corridor-Wide Stormwater Management and Permitting Issues
- FTA Process and Procedures to Obtain New Starts Funding

Level of Project Design:

July 2011

