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**MASSACHUSETTS DEPARTMENT OF TRANSPORTATION  
MASSACHUSETTS BAY TRANSPORTATION AUTHORITY**

**STATE IMPLEMENTATION PLAN – TRANSIT COMMITMENTS  
MONTHLY STATUS REPORT**

**MAY 2015**

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## INTRODUCTION

This report is being submitted to the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) to provide an update on the status of the three outstanding State Implementation Plan (SIP) transportation control measure (TCM) projects: (1) improvements to the Fairmount Line, (2) The proposed Red Line/Blue Line Connector design, and (3) the construction of the Green Line Extension to College Avenue (Medford) and Union Square (Somerville). The U.S. Environmental Protection Agency (EPA) approved the projects as part of the SIP on July 31, 2008. A complete description of the process by which those projects were included in the SIP is provided in the Boston Region MPO's long-range transportation plan – JOURNEY TO 2030 Amendment adopted on September 24, 2009 and amended on November 19, 2009. As part of the approval of the JOURNEY TO 2030 Amendment, FHWA and FTA stated:

*“The demonstration of timely implementation of TCMs in the SIP is required for a conformity determination. In order to ensure that the TCMs are completed as scheduled, the Executive Office of Transportation and Public Works shall prepare monthly progress reports to FTA, FHWA, and EPA. In addition to these progress reports EOT [MassDOT after November 1, 2009] shall convene monthly meetings with all interested parties to discuss the status of each TCM. This reporting requirement will be effective starting November 2009.”*

This is the 51<sup>st</sup> update of the required monthly status reports. This report builds on the *State Implementation Plan Transit Commitments 2014 Status Report*, submitted to the Massachusetts Department of Environmental Protection on July 22, 2014. This report will be posted on the website of the Massachusetts Department of Transportation.

Following the submittal of the 2012 *Agency Response to Public Comments*, MassDOT is no longer reporting on the 1,000 Parking Space requirement, as that project is complete.

## **I. FAIRMOUNT LINE IMPROVEMENT PROJECT**

### **Project Description**

The 9.2-mile Fairmount commuter rail line runs from South Station, previously served 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.

The Fairmount Line Improvement Project involves 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 an upgraded signal system (required to advance the bridge reconstruction work). The intent of these upgrades has been to 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 Regional Transportation Plans of the Boston Region Metropolitan Planning Organization (MPO).

### **Project Status**

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

#### **Systems**

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

#### **Bridges**

Construction to replace the Columbia Road, Quincy Street, and Massachusetts Avenue bridges was completed in 2010. The construction of the Talbot Avenue and Woodrow Avenue bridges is complete (see “New Stations” below). Construction of three bridges over the Neponset River was completed in summer 2013.

#### **Existing Stations**

As stated above, existing stations at Uphams Corner and Morton Street required rehabilitation for the project. The MBTA held a station re-opening at Uphams Corner on January 23, 2007. The reconstruction of Morton Street was celebrated at a station re-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 message signs, lighting, and landscaping.

### **New Stations**

**Four Corners Station** opened for service on July 1, 2013. The station had been under construction since January 2010. The construction of Four Corners Station experienced delays due to unforeseen geotechnical conditions, relocation of existing utilities, and a redesign of the inbound sloped walkway structure at Geneva Avenue. Substantial completion of Four Corners Station occurred in June 2013 and final construction was completed in September 2013. There is only one remaining claim that must be processed and then this Contract can be closed out. The claim has been negotiated and should be paid in June 2015 with final closeout expected in July 2015.

The construction of **Talbot Avenue Station** and the **Talbot and Woodrow Avenue Bridges** began in fall 2010. The construction lasted approximately twenty-six months, with substantial completion of the station and the bridges in October 2012 and final completion of work in January 2013. The structural replacement of the two bridges was completed over weekends in November and December 2011. Talbot Avenue Station opened in November 2012. There are several change orders that must be processed in order for this project to be closed out. The MBTA project office is negotiating with the Contractor to finalize payment.

**Newmarket Station** opened for service on July 1, 2013. This project is 100% complete and has been closed out.

The proposed **Blue Hill Avenue Station** has been the subject of significant community controversy over the past five years. In early 2009, after design work for the station was well underway (at the 60% design level), a small number of abutters raised concerns about negative impacts to residences immediately surrounding 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 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. Also these alternatives would serve fewer riders at a greater cost. The MBTA developed one additional alternative that made use of a center-island platform at the original station site in order to address abutter concerns by locating the platform further from homes and backyards. The MBTA then completed an additional analysis of noise and vibration impacts and considered mitigation measures to try and address any outstanding abutter concerns.

The MBTA and MassDOT made a final determination on the Blue Hill Avenue station in May 2011. Design of the center-island station concept is continuing, as is ongoing

discussion with the opposing abutters about appropriate mitigation. The redesign of the station has reached the 60% level. On September 15 the Design and Construction Department held a community meeting at the Mattapan Library led by the MBTA General Manager. While the community still has concerns the project team is now advancing the design with the understanding that continued coordination with the community is paramount. The MBTA has engaged the Community in working Group meetings to incorporate community concerns in the design. The latest meeting was held on April 2015. The 90% design plans are expected in July of 2015, and 100% plans in September 2015, and construction is scheduled to spring of 2016. If this schedule holds the station opening will be in summer 2018.

### **Project Funding**

In August 2007, MassDOT and the MBTA executed a contract to transfer approximately \$39 million from the 'immediate needs' Transportation Bond Bill of 2007 (which provided Commonwealth bond funding to support the costs of the SIP projects) from MassDOT to the MBTA to support the 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 to the MBTA was executed in June 2009 in order to advance the construction of the station at Four Corners. A third funding agreement, approved in June 2011 in the amount of \$61,616,500, has allowed the remaining stations (including Blue Hill Avenue) and bridges to advance. These contracts total approximately \$124.4 million in authorized spending on the Fairmount Line Improvement Project to this point.

### **Potential Challenges**

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. A reliable completion date for Blue Hill Avenue station now is expected to be in summer 2018.

MassDOT recognizes that this delay has triggered the Project Delay component of the SIP regulation. Therefore, MassDOT prepared a Petition to Delay and an Interim Emission Offset Plan, to be implemented for the duration of the delay. Both the Petition and Offset Plan were submitted to DEP, and posted to MassDOT's SIP website.

As described in the Offset Plan, MassDOT estimated the reduced emissions expected to be generated by the implementation of the new Fairmount Line stations. MassDOT and the MBTA, in consultation with Fairmount Line stakeholders, identified a set of potential interim emission reduction offset measures that would meet the emissions reduction targets. MassDOT submitted these proposed measures to DEP in a July 27,

2011 petition, after which time MassDOT and the MBTA continued to work to refine the offset concepts for implementation, including a second letter to DEP (dated November 29, 2011) describing changes to the proposed offsets. On January 2, 2012 (the first weekday following January 1), the offset measures were implemented: additional trips via a dedicated shuttle on the CT3 bus route between Andrew Station and Boston Medical Center; and increased weekday frequency on the Route 31 bus.

## **II. RED LINE-BLUE LINE CONNECTOR - DESIGN**

### **Project Description**

The proposed Red Line/Blue Line Connector consists of an extension of the MBTA Blue Line under Cambridge Street to Charles/MGH Station on the Red Line station. As currently envisioned, the project consists of two major components: (1) a new tunnel extending the Blue Line under Cambridge Street from Government Center to Charles Circle and (2) a new underground Blue Line station connected to the existing Charles/MGH Station. The project will also consider whether and how to relocate Bowdoin Station.

The SIP regulations require 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 Regional Transportation Plans 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/massdot/redblue](http://www.mass.gov/massdot/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 a relocated Bowdoin Station, and (3) a tunnel option with Bowdoin Station closed. The refinement of alternatives also included an evaluation of potential construction options (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 DEIR.

### **Real Estate Requirements**

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

### **Project Funding & Cost**

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 for the project.

### **Potential Challenges**

MassDOT has made a good faith effort to meet the commitment to complete final design of the Red Line/Blue Line Connector, including the accomplishments listed above. 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 initiated 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 that end, MassDOT officially sought approval from DEP to support a SIP 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 was submitted on July 27, 2011, and is posted to the MassDOT website.

On September 13, 2012, DEP held two public hearings (at 1pm and 5pm) to take public comment on MassDOT's proposed amendments to 310 CMR 7.36, Transit System Improvements, including the elimination of the requirement to complete final design of the Red Line/Blue Line Connector. Between the two hearings there were 16 attendees, 10 of whom gave oral testimony. All those who spoke at the hearings testified in favor of DEP not removing the commitment. DEP accepted written testimony until September 24, 2012.

On August 23, 2013, EPA sent a letter to FHWA providing an update on Massachusetts Air Quality Conformity. In that letter, EPA noted the Red Line/Blue Line Connector Design project has not met the SIP completion date of December 31, 2011, but that MassDOT is not obligated to implement interim emission reduction offset projects because no emission reductions are associated with the design project.

On October 8, 2013, the Department of Environmental Protection approved a request made by MassDOT in July 2011 to revise 310 CMR 7.36 to remove the requirement for MassDOT to complete the design of the Red Line/Blue Line Connector. This revision to the State Implementation Plan must now also be approved by the U.S. Environmental Protection Agency. The text of the revision is available on the MassDOT website at:

<http://www.massdot.state.ma.us/Portals/17/docs/sip/October13UpdatedSIPReg.pdf>

On December 1, 2014, the Environmental Protection Agency (EPA) has published in the Federal Register a proposed rule to approve a State Implementation Plan (SIP) revision submitted by the Commonwealth of Massachusetts on November 6, 2013. This

proposal, if finalized, would remove the design of the Red Line/ Blue Line Connector as a requirement in the SIP.

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

#### **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. The project is a collaborative effort of MassDOT and the MBTA, with the MBTA taking the lead in design, engineering, construction and project management.

#### **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. A traction power substation will also 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’s 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 Somerville Community Path will be located adjacent and connected to the station. A traction power substation will be installed on the south side of the corridor.

**Washington Street, Somerville** – Located at the Washington Street Bridge, proximate to Somerville’s Brickbottom, Inner Belt, and Cobble Hill neighborhoods. The station platform will be located south of the MBTA New Hampshire Main Line Bridge over Washington Street. 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 extension of the Somerville Community Path will be located adjacent to and provide access 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.

#### **Vehicle Storage and Maintenance Facility (VSMF)**

The Green Line Extension project will also require the construction of a new light rail vehicle storage and maintenance facility in the vicinity of the Green Line Extension. The facility will be constructed on an L-shaped parcel in the Inner Belt area of Somerville that is adjacent to the MBTA's Boston Engine Terminal.

#### **Somerville Community Path Extension**

Originally, the Green Line Extension project included just the design of the proposed extension of the Somerville Community Path from the proposed Lowell Street Station to the Inner Belt area. In May 2014, MassDOT and the City of Somerville announced an agreement to add the construction of the Community Path, including a connection to the Cambridge/Northpoint area, to the scope of the program. The Path Extension is not part of the SIP commitment.

#### **SIP Deadline**

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 and 2.) The Green Line Union Square spur of the Green Line Extension. The explanation for the SIP deadline extension is found at the end of this report.

#### **Project Status**

The MBTA has established an experienced project team to manage the design and complete the construction of the Green Line Extension project. These team members are referenced throughout the remainder of this report:

- Program Manager / Construction Manager (PM/CM): HDR/Gilbane; functions as an extension of MBTA staff.
- Advanced Preliminary Engineering / Final Design (APE/FD): AECOM/HNTB; responsible for advanced preliminary engineering and final design.
- Phase 1 Contractor (Design-Bid-Build): Barletta Heavy Division.
- Construction Manager / General Contractor (CM/GC): WSK (JF White/Skanska/Kiewit); is responsible for preconstruction support services to the MBTA and has been contracted with as the CM/GC for the first four (of eight) construction packages. WSK is also anticipated to be responsible for the remaining construction of Phases 2/2A, 3 and 4 of the GLX Program.

- Owner’s Representative: Hatch Mott MacDonald; Commonwealth-required position for projects of this size.
- Relocation Consultant: Peter W. Sleeper Associates; reports to MBTA Real Estate preparing Relocation Plans for those properties that require relocation.
- Independent Cost Estimator (ICE): Stanton Constructability Services; provides independent cost estimates for each of the design packages and advises the MBTA if a bid for a scope of work is within criteria to allow for a contract award.

In addition to these team members, the GLX also works very closely with the Federal Transit Administration (FTA) and its Program Management Oversight Consultant (PMOC) on the GLX project.

**Environmental Approvals:**

State-level environmental review (Massachusetts Environmental Policy Act [MEPA]) was completed in July 2010. Federal-level environmental review (National Environmental Policy Act [NEPA]) documents were submitted to the Federal Transit Administration (FTA) in September 2011, and a public hearing was held on October 20, 2011. A Finding of No Significant Impact (FONSI) was issued by the FTA on July 9, 2012. The July 2012 release of a FONSI completed the federal-level environmental review process.

**Funding Approvals:**

On January 5, 2015, the U. S. Secretary of Transportation and the MBTA signed the FFGA for the Green Line Extension project, approving \$996,121,000 of FTA New Starts funding to support the design and construction of the Green Line Extension project. The execution of the FFGA was the result of many years of planning, design and pre-construction efforts by MassDOT and the MBTA, in collaboration with the FTA and its PMOC. The federal funding is scheduled to be paid between Federal Fiscal Year (FFY) 2015 and FFY 2022. As noted in the current MassDOT Capital Investment Plan (released January 2014), MassDOT and the MBTA will use Commonwealth funds in addition to the federal funding to support the design and construction activities.

The FFGA Budget for the GLX project is \$1.992 Billion, which includes a 30% project cost contingency. The FFGA also establishes a project completion date of June 2021, which includes one year of schedule contingency. The MBTA is actively working towards delivering the project earlier than the FFGA project completion date and at a cost lower than the FFGA budget.

**Project Phasing and Delivery**

To tailor the project delivery method to best mitigate the larger project risks, the MBTA is implementing a phased project delivery plan, which has structured the project into four phases.

Phase 1 Early Bridge/Demolition is using the traditional Design-Bid-Build approach for ongoing Phase 1 construction activities including the widening of the Harvard St.

railroad bridge (Medford) and the Medford St. railroad bridge (Somerville) to accommodate the additional GLX tracks and the demolition of the MBTA tire storage building at 21 Water Street in the Lechmere Station area to provide parking and staging areas for the Phase 2/2A work.

Phase 2/2A will extend service from the (new) Lechmere Station to the Washington Street and Union Square Stations and will relocate the bus facility and vehicle storage at Lechmere Station. This initial extension of Green Line service was planned to be completed in late 2017/early 2018. Although enabling construction work is underway toward achieving this milestone, the completion is primarily driven by issuance of a Notice to Proceed on the final Phase 2/2A construction package. This Notice to Proceed was projected for February/March 2015; however, is now expected to occur no sooner than late June 2015, after the June MassDOT Board of Directors' meeting. This extension of the NTP date is due to the extended pricing duration for subcontractors and vendors, value engineering changes and bidding/reconciliation of pricing with the contractor.

As stated above, estimating and bid activities continued in April and early May on the 100% design for IGMP #4 (the final work package needed for Phase 2/2A construction). Final bids were submitted to the MBTA on May 8, 2015. If the CM/GC's bid is found to be within 10% of the estimate provided by the independent cost estimator and within the overall program budget allocated for this contract, the GLX team will move towards presenting an award recommendation for the IGMP #4 contract to the MassDOT Board of Directors.

Based on the above, the projected completion date for Phase 2/2A initial Green Line service is now likely mid-2018. However, if the 10% bid threshold regarding the ICE is not reached or if the bid is not reasonably within budgeted costs, a second pricing submission from the CM/GC will be called for and/or a reassessment of the project delivery approach may be considered.

Phase 3 will construct the Vehicle Maintenance and Storage Facility (VMSF). As the full storage yard and maintenance facility are not needed to support initial (Phase 2/2A) passenger service to Washington Street and Union Square, the VSMF was scheduled to be completed six months before the full service to College Ave date (i.e., Phase 4 completion). Due to recently received information regarding availability of the Walker site (see Real Estate and Design Progress sections), the GLX team is evaluating the schedule for advancing the VMF design.

Phase 4 will provide service beyond Washington Street Station (completed as part of Phase 2/2A above) to College Avenue Station. It was targeted to be completed in June 2020, roughly a year ahead of the FFGA completion date. Although enabling construction is already underway in this segment, the design of this package is undergoing revision to incorporate value engineering scope changes. This reworking

will extend the period to complete the 100% final design for pricing and may extend the bidding and award into early 2016, as opposed to the planned November 2015 NTP date.

To mitigate risks associated with construction activities such as the delivery of longer lead materials or utility relocation, Phases 2/2A, 3 and 4 were further divided into eight *Interim Guaranteed Maximum Price* (IGMP) construction contracts. As noted in "Construction Status," the four early construction work IGMP contracts did not require the FFGA to proceed with construction. With FTA's January 5, 2015 execution of the FFGA, the remaining four IGMP contracts now have the approval necessary to advance their construction activities once design and bidding is complete. IGMP #4, #5, #6 and #7 contracts are advancing through the design and bidding process (see the following pages for details).

### Construction Status

#### Phase 1 Construction Status

The MBTA awarded the Phase 1 contract on December 13, 2012 and issued a Notice to Proceed to Barletta Heavy Division on January 31, 2013. The MBTA has also added some retaining wall construction to the Phase 1 contract that had previously been programmed for Phase 4 in that area. By constructing this work under the Phase 1 contract, this retaining/noise wall should be completed in time to better support and facilitate track relocation as part of the construction of Phase 4. The addition of this work has extended the end date of the Phase 1 contract by six months to October 2015 and the contractor is tracking towards completion at this time.

In Medford at Harvard Street, the new T2 track installation is almost complete and the track throw to the new T2 bridge alignment was completed on May 10<sup>th</sup>. Road closure and demolition of the old T2 bridge structure is scheduled for the weekend of May 16<sup>th</sup> and 17<sup>th</sup>. Once this demolition is complete, abutment modifications will commence for the installation of the new Green Line outbound and inbound bridges. Noise barrier column and panel installation above the new cast-in-place retaining wall south of Winchester Court is also anticipated to begin in the next few weeks.

Phase 2/2A, 3 and 4 are expected to be completed utilizing the CM/GC project delivery-approach. The CM/GC has provided preconstruction services including design reviews and estimating, as well as bidding and reconciling the bids on the four early work contracts. The CM/GC has also been active in performing constructability assessments, preparing access and construction staging plans, preparing schedules for each *Interim Guaranteed Maximum Price* (IGMP) and recommending construction savings opportunities.

As part of the CM/GC delivery method, an Independent Cost Estimator (ICE) was hired in October 2013. The ICE began by validating the estimate prepared by the PM/CM and then prepared independent estimates for the first four *Interim Guaranteed*

*Maximum Price* (IGMP) packages (see below). The ICE reviewed the CM/GC and PM/CM estimates and after a series of reconciliations and re-submission of bids by the CM/GC, determined that the pricing was within the range required to recommend contract award for the four early work packages.

On October 2, 2014, the CM/GC Master Agreement and the Pre-Construction contract were signed, and a Notice to Proceed (NTP) was issued to the CM/GC for the early work construction contracts:

- IGMP #1: Procurement of long lead items including traction power substations, signal equipment and special track work and superstructure steel for the new Washington Street railroad bridge,
- IGMP #2: Phase 2/2A and Phase 4 temporary utility bridges at Medford Street and Broadway and utility relocation work, and
- IGMP #3: Millers River drainage improvements and the relocation of the Fitchburg Mainline commuter rail track.

On November 24, 2014, the MBTA issued a Notice to Proceed for IGMP #4A: procurement, fabrication and delivery of the long lead viaduct structural steel. As part of the IGMP #4A bid, a separate bid item for the installation of the fabricated viaduct steel members was also priced. These bid prices are binding and will be included in the bids for the follow on IGMP #4.

#### Early Work Construction Status

Early work activities for IGMP #1, #2, #3 and #4A continue, including preconstruction survey, preparation and review of critical submittals, construction of the permanent GLX field office, and foundation and bridge work.

On IGMP #1, meetings were held to resolve comments on the open submittals for specialty track, Washington Street Bridge structural steel and other long lead electrical and signal equipment. Work has been completed at the GLX field office at 200 Inner Belt and a Certificate of Occupancy was received on April 30, 2015.

On IGMP #2, the temporary utility bridge was installed adjacent to the Broadway Bridge over the weekend of April 11<sup>th</sup> & 12<sup>th</sup>. Verizon has now completed the temporary installation of conduit on this new utility bridge and work to remove the utilities from the existing bridge is underway. At the Medford Street Bridge, work continued on the north and south abutments and the fabrication of the utility bridge/walkway (to be installed just north of the existing bridge). Work also commenced to install the shafts for the temporary utility bridge support bent on the west side of School Street Bridge.

On IGMP #3, excavation work continued on the area north and south of Red Bridge and at the site of the proposed detention pond for the Millers River drainage



improvements. Installation of piles and sheeting for the US-1 wall system is progressing, and the demolition of the existing south abutment of the old Red Bridge has now commenced. Work continued to move excess Phase 1 material from the 21 Water Street site to use as surcharge for the future West Boulevard roadway (see the Real Estate section). In addition to the above soil hauling activities, drilling continued for the installation of piles at US-2 wall area.

The dewatering treatment facility was mobilized at 50 Tufts Street, and assembly of this system is ongoing. Construction crews have started the support of excavation installation for the drainage Transition Structure No. 1.

On IGMP #4A, work continued on the shop drawings and advance planning efforts regarding delivery of the steel tubs and girders to the project site. As the NTP for IGMP #4 (where the IGMP #4A steel is to be installed) is delayed, the contractor has proposed delaying the steel delivery for the sections near Lechmere station to avoid storage costs. This proposal is under review.

### **New Green Line Vehicles**

The MBTA Vehicle Procurement contract for the purchase of 24 Type 9 Vehicles was awarded to CAF USA Inc. in the amount not to exceed \$118,159,822 at the MassDOT Board Meeting held on May 14, 2014. The NTP for this contract was issued on September 4, 2014.

CAF is in the process of developing drawing packages for the Preliminary Design, and the MBTA Project Team and the Contractor CAF continue to hold technical working sessions and project meetings. In addition, weekly project management meetings are held between MBTA and CAF to discuss project status, short term schedules and priorities as well as monthly project status meetings where all project issues, schedules, deliverables and milestones are reviewed and discussed.

The first vehicle is to be delivered no later than 36 months from NTP. The pilot car delivery is scheduled for September 2017. The pilot car will receive comprehensive testing for a period of six months followed by delivery of the remaining 22 vehicles, with the last car delivered by July 2018. The entry into service of all vehicles is anticipated to be completed in early 2019.

### **Real Estate:**

MassDOT and the MBTA are collaborating on tasks associated with the property acquisition efforts for the Green Line Extension project. The MBTA continues to review and refine the list of identified properties that are impacted on an IGMP by IGMP basis, including further definition of temporary easements that may be needed to support construction.

The City of Somerville and MBTA have executed an Access License agreement for Union Square (IGMP #3 and #4). The grant of easement documentation is in process and will

be recorded prior to the City transfer of land to their Union Square developer. In addition, a MOA has been executed between the City of Somerville and MBTA to convey necessary parcels at the Gilman Square Station site. This agreement will now go before the City of Somerville Board of Aldermen for their review and approval.

As reported in March, the City of Somerville was unable to meet the March 1, 2015 planned acquisition date for two critical properties required for the construction of Washington Street Bridge and the Community Path. The GLX team is now pursuing a license agreement with the property owners while the City advances the permanent acquisition process.

The taking for the Ball Square Station properties have been recorded at the registry and legal notices were sent to the property owners and business tenants informing the change to MBTA ownership. A license agreement between MBTA and HYM Investments allowing the MBTA to work on HYM property required for the oil and water separator was executed this month; several other license agreements are under development to convey rights or property to MBTA for GLX construction.

A Tufts/MBTA College Avenue Station Redesign Commitment Letter was signed on January 23, 2015 outlining the obligations made by both parties regarding the redesign and funding for the changes to the current GLX station design at College Avenue and use of Tufts property to stage the GLX construction work. A final (draft) MOA has been prepared which includes Tuft's proposal for an air rights building over portions of the College Avenue Station and revised bridge and retaining wall design. The redesign of the College Ave. Station will cause these design elements to lag behind the remainder of the contract. In light of these design changes, the team is currently evaluating the bid process for this portion of the design package without holding up the pricing for the entire IGMP #5 contract package.

As the 60% design for the VSMF has advanced, the Design Consultant has identified that an additional property is needed from 70 Inner Belt for the proposed Transportation Building. While property relocations continue at the VSMF, the property located at 200 Inner Belt remains outstanding for acquisition. As previously reported, the Walker facility provided the GLX team with a relocation schedule longer in duration than originally proposed, such that the site may not be available to GLX until late 2016 rather than early 2016. The team is currently evaluating these issues and potential mitigation measures.

### **Design Progress**

Many project design milestones have already been reached on the Green Line Extension project. The four key early work packages (IGMP #1, #2, #3, and #4A) have progressed through final design and, as noted in previous sections of this report, have been issued NTPs for construction activities.

Contract packages IGMP #4 through IGMP #7 (exclusive of IGMP #4A) include the balance of work elements that recently received FTA approval with the execution of the FFGA. After an additional Value Engineering effort, final addenda was issued and estimating/bid activities moved ahead on the IGMP #4 100% plan set, with a bid received from the CM/GC, along with estimates from the independent cost estimator and the PM/CM on May 8, 2015. As stated earlier, reconciliation of bids and pricing is underway.

The 90% plans for IGMP #5 (Balance of Work Phase 4 service from Washington St to College Ave) were received on March 6, 2015 and the review of this plan set is nearing completion. However, as stated earlier, with the Value Engineering activities and other cost savings ideas being recently identified, a revised 90% design plan set is anticipated to be submitted on or about July 1, 2015. This new design submission will also extend the 100% design deliverable date by a number of months.

Design work continued on contract packages IGMP #6 and IGMP #7, incorporating comments from previous submissions and value engineering recommendations. The 60% plans were received on May 1, 2015. The schedule for the remaining submittals for IGMP# 6 & 7 are being evaluated in light of the later than planned relocation by Walker, the primary current occupier of the worksite.

### **Public Outreach**

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. Meetings have been held with a variety of local groups, including two different project advisory committees and their subcommittees; design review sessions with right-of-way abutters; 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.

A public meeting was held on Monday, May 4th to present updates to the design of the Community Path. The GLX team met with the Friends of the Community Path and the City of Somerville last week to discuss project updates in advance of this meeting.

On April 28, the project team met with the Brickbottom Artist's Building to discuss GLX work in the Brickbottom area and address any concerns by the residents. The GLX team also met with the Medford Mayor and School Superintendent to discuss the GLX Youth Mentoring Program.

Public meetings are scheduled later this month in Medford and Somerville to provide progress update on the Ball Square and College Avenue station designs (May 14<sup>th</sup>) and Gilman Square and Lowell Street station designs (May 21<sup>st</sup>).

### **Project Funding**

As highlighted earlier in the report, MassDOT recently obtained a commitment of federal funding – through the competitive New Starts Program managed by FTA – to support the design and construction of the Green Line Extension project. Per the current MassDOT Capital Investment Plan, MassDOT and the MBTA will use Commonwealth funds in addition to the federal funding to support the design and construction of the Green Line Extension project.

### **SIP Requirement Status**

MassDOT has met the first four interim milestones associated with the Green Line Extension project - filing an Expanded Environmental Notification Form, procuring multiple design consultants, and publishing both Draft and Final Environmental Impact Reports. The GLX project, a top transportation priority of the Commonwealth and the largest expansion of the MBTA rapid transit system in decades, has transitioned from planning and environmental review phases to design, engineering, and construction.

In the 2011 SIP Status Report, MassDOT reported that the Green Line Extension project would not meet the legal deadline of December 31, 2014. At that time, MassDOT projected a timeframe for the introduction of passenger service on the Green Line Extension. The points within the timeframe are associated with different probabilities, as shown below:

- 10% Probability of Not Exceeding – Autumn 2018
- 90% Probability of Not Exceeding – Summer 2020

FTA's projected completion is June 2021 which includes one year of schedule contingency beyond the MBTA's Target date. Presently, the GLX team anticipates that the completion date of Phase 4 (IGMP #5) will be extended from June 2020 to late summer/early fall 2020.

MassDOT and the MBTA continue to seek measures to accelerate the project timeline wherever possible. The receipt of the FFGA was a key milestone, as it allowed the completion of the bidding process and the start of construction for the bulk of the Phase 2/2A and Phase 4 work.

Although the goal of the phased project delivery approach is to complete components in an incremental way, the timeline for overall project completion listed above represents a substantial delay beyond the current SIP deadline of December 31, 2014. Consequently this schedule triggers 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 have calculated the reductions of NMHC, CO, and NOx – 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.

In June 2012, MassDOT released a list of potential mitigation ideas received from the public that could be used as offset measures. In the summer and fall of 2012, MassDOT solicited public comments on these potential measures. The MBTA created an internal working group to determine a final portfolio of interim mitigation measures to implement by December 31, 2014, the legal deadline for the implementation of the Green Line Extension.

This work resulted in a recommendation to implement the following three interim mitigation measures which collectively would meet the emissions reduction target for the project:

- Additional off-peak service along existing routes serving the GLX corridor, including the Green Line, and bus routes 80, 88, 91, 94 and 96;
- Purchase of 142 new hybrid electric vehicles for The RIDE;
- Additional park and ride spaces at the Salem and Beverly intermodal facilities.

The Petition to Delay, submitted to DEP on July 22, 2014 which expands further on the analysis and determination of the interim offset measures, is available on MassDOT's website.