Memorandum for the Record
Transportation Planning and Programming Committee of the
Boston Region Metropolitan Planning Organization (MPO)

January 21, 2010 Meeting
10:00 AM – 12:30 PM, State Transportation Building, Conference Rooms 2 & 3, 10 Park Plaza, Boston
David Mohler and Clinton Bench, Chairs, representing Jeffrey Mullan, Secretary and Chief Executive Officer, Massachusetts Department of Transportation (MassDOT)

Decisions

The Transportation Planning and Programming Committee voted to take the following actions:

- approve the work program for *Strategic Visioning for MBTA Bus Service*
- approve the work program for the *Green Line Extension FEIR/New Starts Analysis*
- approve the minutes of the meeting of January 7 with recommended changes
- make an administrative modification to the federal fiscal year (FFY) 2010 – 2013 Transportation Improvement Program (TIP) to make cost and cash flow adjustments to three projects funded with American Recovery and Reinvestment Act (ARRA) funds and three projects funded under Section 5307 (as detailed in the body of these minutes)
- propose an amendment to the FFY 2010 – 2013 TIP to remove the *Lynn – Improvements at Blossom Street Ferry Terminal* project from the list of ARRA-funded projects and add one highway and three transit projects (as detailed in the body of these minutes), and hold a 10-day public review period

Meeting Agenda

1. Public Comments

Paul G. Yourkis, Town of Medway, with Tom Holder, Town of Medway Department of Public Works, informed members that MassDOT has issued a letter approving the *Medway – Route 109* project. The project proponents plan to spend funds approved for the project for design and engineering and, when the project reaches the 25% design phase, request that the MPO add the project to the TIP. D. Mohler clarified that the project has an earmark in the state bond bill; $300,000 of that earmark has been released for project design.

2. Chair's Report – *David Mohler, MassDOT*

The Chair would like the Transportation Planning and Programming Committee to reorganize its subcommittees. Members were asked to sign-up for the subcommittees that they would like to serve on.

The MPO's Open House, which was held on January 20, was well attended with interesting discussions. Over 42 people participated.

3. Subcommittee Chairs' Reports
Today's Unified Planning Work Program (UPWP) Subcommittee meeting has been cancelled but is rescheduled for February 4 at 1PM.

The Clean Air and Mobility Program Subcommittee will meet in a couple of weeks.

The Administration and Finance Subcommittee will meet before the February 4, Transportation Planning and Programming Committee meeting.

4. Regional Transportation Advisory Council – *Laura Wiener, Regional Transportation Advisory Council*
The Advisory Council met on January 13. Hayes Morrison, MPO staff, gave a presentation on the MPO's Clean Air and Mobility Program. A new Advisory Council member, the Seaport Advisory Council, described its mission and function.

5. Director's Report – *Arnie Soolman, Director, Central Transportation Planning Staff (CTPS)*
A. Soolman praised the staff members who gave presentations at the MPO's Open House for their good work. Committee members expressed their appreciation.

6. Work Program for Strategic Visioning for MBTA Bus Service – *Karl Quackenbush, Deputy Director, CTPS*
Members heard a presentation on the work program for *Strategic Visioning for MBTA Bus Service* at the meeting of January 7. This work program will examine the feasibility of employing traffic signal priority strategies and queue jumps on several key MBTA bus routes. (See attached work program.)

A motion to approve the work program for *Strategic Visioning for MBTA Bus Service* was made by Mary Pratt, Town of Hopkinton, and seconded by Paul Regan, MBTA Advisory Board. The motion passed unanimously.

Jim Gillooly, City of Boston, asked if Massachusetts Avenue is included as one of the routes to be studied, and noted that a community group is interested in a matter concerning bus stop locations. K. Quackenbush replied that a separate study of MBTA bus route #1 is included in the UPWP and that study will be patterned after the other MBTA key route studies. The community group may contact CTPS for more information.

7. Work Program for the Green Line Extension FEIR/New Starts Analysis – *Karl Quackenbush, Deputy Director, CTPS*
Members were presented with the work program for the *Green Line Extension FEIR/New Starts Analysis*. (See attached.) This work program would provide travel-forecasting support to the Commonwealth as it develops the Final Environmental Impact Report (FEIR) and New Starts submission for the Green Line Extension project. The MPO approved two similar work programs in the recent past: one in 2004/2005 that supported

the MBTA's major investment study and alternatives analysis, and; another in 2006 that supported the development of the Draft EIR.

Many of the tasks in this work program are similar to those in other travel forecasting work programs; however, others are a bit different. The latter include conducting sensitivity analyses, considering livability (one facet of which is economic development), conducting uncertainty analyses (which involves varying the input values to the travel model to see various outcomes), and coordinating with an MIT research team. This work is included in the UPWP.

Members asked questions and made comments:

Why does the study not include the proposed Green Line terminus station at Route 16? (Thomas Bent, City of Somerville)
The work program focuses on the project extending to College Avenue, as defined in the State Implementation Plan (SIP), but does not preclude staff from analyzing at the project as extending to Route 16, if requested. (K. Quackenbush)

Will the alternative analyses (Task 4) look at alternatives that MassDOT provides? (Jim Gallagher, Metropolitan Area Planning Council)
Staff does not know what the alternatives are yet. As indicated in the work program, they may consist of testing various bus service plans or rail headways. (K. Quackenbush)

Community groups may advocate for other alternatives to be studied, such as the project with a terminus at Route 16. Does this work program have that flexibility? (J. Gallagher)
Yes, it does. (K. Quackenbush)

How much more would it cost to add the study of the project as extending to Route 16 to the work program budget? (M. Pratt)
There is flexibility to add that within the existing budget. (K. Quackenbush)

The Advisory Council supports studying the project as extending to Route 16. (L. Wiener)

How does the timing of this study fit in with the New Starts application? (J. Gallagher)
The New Starts application is due in September. Then there is follow-up in the months after with the Federal Transit Administration (FTA). The 15-month time frame of the study should include the application time and response to FTA's questions. (Scott Peterson, MPO Staff)

Could the upcoming reauthorization and rule changes affect the New Starts application? (Paul Regan, MBTA Advisory Board)
MassDOT will ask FTA to put the project into the New Starts pipeline in the next week or two. It will have to enter the New Starts process under the existing rules. Factors that will be considered include project cost effectiveness, land use, and economic development. MassDOT is talking with FTA about the application. A delay in

implementing this work program would hamper MassDOT's ability to move forward with FTA. (Stephen Woelfel, OTP, MassDOT)

When modeling uncertainties, will there be consideration for combining factors such as gas prices, the state of the economy, etc.? (David Koses, City of Newton)
FTA will prescribe the factors. FTA has been comfortable with the MPO's model runs so far, but will likely want data from the MBTA's onboard passenger survey included in future runs. (S. Woelfel) There will likely be discussions with FTA about which factors to put to the test. (K. Quackenbush) FTA requires uncertainty analyses. For example, the previous study for the DEIR looked at the interaction with the Urban Ring, which would have had synergies and passenger siphoning effects. Land use or bus service could be examined in this work scope. (S. Peterson)

Will the economic development happening in Assembly Square benefit the project? (M. Pratt)
The change in FTA rules will allow for the state to take more credit for economic development associated with the project. Assembly Square may or may not have an impact. The project's economic development benefits will have equal weighting with project cost effectiveness. (S. Woelfel)

Would the alternatives considered in the study be included in the task for the environmental justice analyses. (L. Weiner)
Yes, they would. (K. Quackenbush) The focus of the New Starts application should be on the project going to College Avenue first, which is the legal commitment, before looking at the alternative to extend the line to Route 16. MassDOT needs to send a clear message to FTA about exactly what project the project being developed is. Looking to Route 16 would be a separate work scope. (S. Woelfel)

How did the Route 16 option fall out? (L. Wiener)
It happened when the MPO flexed highway funding to transit. That action made it possible for the Route 16 option to be considered in the future. Originally, with a 50%/50% federal/state split, the project would not have been affordable to the state. The MPO's action resulted in an 80%/20% federal/state split. (S. Woelfel)

What alternatives would you study? (L. Wiener)
It could be modest adjustments to the service plan within the SIP boundaries. (K. Quackenbush)

When would staff be starting the task involving passenger revenue? Will that information be shared with the MPO? (P. Regan)
That task would start about three months into the work program. The information will be provided to the MPO. (K. Quackenbush)

Wouldn't it be more fiscally responsible to tell FTA that the project is going to College Avenue, but to include the Route 16 option in an addendum? (M. Pratt)

For the section beyond College Avenue, there will be a number of issues that will need to be revisited based on concerns from Medford residents. This reduces the efficiency of including money to do modeling in this work scope. (S. Woelfel)

If the New Starts application goes in September, will the rules in place for the 50%/50% split hold or will they change? (J. Gallagher)
It is unclear now what the splits will be. (S. Woelfel)

Wig Zamore urged that MassDOT and CTPS work together to ensure that the issues raised in the Healthy Transportation Compact are met.

A motion to approve the work program for the *Green Line Extension FEIR/New Starts Analysis* was made by P. Regan, and seconded by M. Pratt. The motion passed unanimously.

8. Meeting Minutes – *Pam Wolfe, Manager, Certification Activities, MPO Staff*
A motion to approve the minutes of the meeting of January 7 – with changes recommended by M. Pratt to page 2 and a correction to the attendance sheet – was made by M. Pratt, and seconded by D. Koses. The motion passed unanimously.

9. Work Program for the Long-Range Transportation Plan of the Boston Region MPO and for the Congestion Management Process – *Karl Quackenbush, Deputy Director; Anne McGahan, Long-Range Transportation Plan Manager; and Efi Pagitsas, Manager, Traffic Analysis Group; MPO Staff*
K. Quackenbush introduced two related work programs for: the *Long-Range Transportation Plan for the Boston Region MPO* and the *Congestion Management Process (CMP) – February 2010, to September 2011*. (See attached work programs and associated diagrams.)

The MPO's long-range transportation plan (LRTP) is one of three federally required certification documents that guide the MPO's long-range planning efforts. SAFETEA-LU requires MPOs to develop a new regional transportation plan every four years. The Boston Region MPO last approved a full LRTP in 2007 and amended that plan in November 2009. The MPO must now approve a new LRTP in the spring of 2011.

The next LRTP will be similar to the last, *JOURNEY TO 2030*, in that the LRTP will continue as the centerpiece of the MPO's long-range planning. The process for developing the next LRTP will also be similar to that for , *JOURNEY TO 2030*, but for the new LRTP it will involve a needs assessment, the development of more information, more analysis (much of which will be structured around corridors), a strengthening of the connection between the CMP and the LRTP, and hence a strengthening of the connection to operations and management strategies. These elements will be included to provide the MPO with an opportunity to consider a broader array of ideas and information.

The Boston Region MPO has had a CMP since 1995. Since that time, the CMP has had two name changes; formerly it was called the Congestion Management System and the

Mobility Management System. There is a federal requirement that urban areas with populations of over 200,000 must have a CMP. The mission of the CMP is to monitor the region's transportation network to report on system performance, and to develop strategies and solutions to address problems in the system.

Members were presented with the last full CMP work program in 2005. That work program was designed to put the information generated by the CMP on the web, and to emphasize the monitoring of intersections for roadway problems, and the bicycle and pedestrian mode. Last year members approved an interim work program that allowed for staff to continue some core monitoring activities and to finish the web-based development work. The interim work program was designed to coordinate with this new CMP work program, which staff is now asking members to consider as in lockstep with the LRTP work program.

The new CMP work program is similar to the previous ones in that the CMP's core mission remains unchanged, it will involve the systematic collection and analysis of data (which will be made available to the MPO and public), and the website will continue to be used as the centerpiece for information dissemination. The new work program is different, however, in that there will be enhanced connections to the LRTP. Again, this will provide the MPO with the opportunity to consider a broader array of ideas and information.

The attached graphic (titled "Linkages Between LRTP and CMP: Proposed Work Programs") depicts the linkages and flow of information between the LRTP and the CMP.

Work Program for the Long-Range Transportation Plan of the Boston Region MPO
Anne McGahan provided more specifics on the LLRTP work program.

The work program has four tasks:

1) documenting existing conditions, updating goals and policies, completing a needs assessment, and conducting a public involvement process
2) developing and analyzing alternative future scenarios
3) developing the draft LRTP
4) finalizing the LRTP

Task 1 will involve establishing corridors for the 101 municipality region and documenting existing conditions, as well as, conducting a needs assessment for each corridor based on past trends, projected travel demand, and issues stemming from MPO planning topics. The information for the needs assessment will come from the CMP, the MBTA's Program for Mass Transportation, other work programs, demographic projections developed by the MAPC, 2035 No Build model runs, and public input. (The new base year for the travel model will be 2008 and the horizon year will be 2035.)

Projects, programs, and strategies will be identified for consideration in the development of the LRTP. The vision, policies, and goals of the LRTP will be updated. Performance

measures will be developed in conjunction with the CMP. The CMP will also be used to identify non-capital intensive projects and programs. Environmental justice work, freight studies, bicycle and pedestrian studies, public comments, and MassDOT initiatives and performance scorecards will also inform this work. The attached graphic (titled "Relationship of Regional Transportation Plan to Other Transportation Planning Documents") shows the linkages between the LRTP and other planning work. The MPO will also hold a public involvement process.

In Task 2, project revenues will be defined based on the TIP, and projected to 2035, and needs will be prioritized. This information will be used to develop a universe of projects and programs and transportation build networks. Three build model runs are assumed in this work scope. Environment justice analyses will also be conducted.

In Task 3 and 4 the draft LRTP will be developed and finalized by the MPO for submission to the Federal Highway Department (FHWA) and Federal Transit Administration (FTA). The LRTP will be finalized in April 2011.

Members asked questions and made comments:

Would the federal agencies allow the MPO to delay the development of the LRTP by a year in order to be able to use the new census data? (Eric Bourassa, MAPC)
The current LRTP expires in 2011. (Michael Chong, FHWA) The MPO is required to update the LRTP every four years and the MPO uses the information that is available at that time . (A. McGahan)

By 2012 the MPO would also have the results of the statewide survey, and there will be new federal legislation. If the LRTP is developed on the proposed schedule, the MPO would have to immediately update it. (Jim Gallagher, MAPC)
It is the federal requirement that the MPO update the LRTP every four years. (A. McGahan) The MPO is also required to have a 20-year horizon for the LRTP. The current plan expires in 2011. (Lourenço Dantas, MassPort)

Could the MPO include defined needs or programs (rather than projects) with costs in the outer years of the LRTP? (Eric Bourassa, MAPC)
Yes, the CMP will help identify non-capital intensive strategies and help with program development. The needs assessment will identify needs and strategies and then the MPO can consider what it can fund. (A. McGahan)

Does an air quality conformity analysis have to be done on projects that are in the current LRTP? (M. Pratt)
The projects in the current LRTP have had an air quality conformity determination and can move forward. (A. McGahan)

Work Program for the Congestion Management Process (CMP) – February 2010, to September 2011

Efi Pagitsas provided an overview of the work program for the CMP. The CMP is a performance-driven and need-based approach. Its purpose is to support the development of the LRTP, TIP, and UPWP. It is consistent with federal guidance and MassDOT's system performance goals.

The first task of the work program is to develop goals and objectives; these will depend on the goals and objectives of the LRTP. Then, the geographic area that the CMP will be applied to will be defined with an emphasis on travel corridors. Traditionally, the CMP has covered the MPO area and the regional model area, but other system areas may be considered if data is available. Performance measures will be developed. Staff will summarize existing data and may do some additional monitoring if the LRTP requires it.

Projects and strategies will then be identified. Strategies could include improving the capacity of the system by, for example, better coordinating signals, implementing traffic signal priority for buses, supporting agency incident response programs, or removing bottlenecks. A toolbox of strategies will be assessed, staff will make recommendations, and then the MPO will select which set of strategies to adopt. The strategies will be monitored for effectiveness.

Finally, the MPO will coordinate with implementing agencies to share ideas and strategies. The MPO's role would be to champion strategies and fund them. The findings and recommendations of the CMP for incorporating strategies into the LRTP and TIP will be documented.

Members asked questions and made comments:

Would municipalities be proponents of ideas that come out of the CMP? What are other ways that the MPO could carve out funding for programs? (E. Bourassa)
Yes. The short-term strategies can feed the TIP and long-range strategies can go into the LRTP. (E. Pagitsas)

The importance of the CMP process in terms of helping the MPO members make decisions regarding the LRTP and TIP is that it can identify a mix of projects, programs, and strategies reflecting the needs of the region. (L. Dantas)

The CMP might help the MPO re-evaluate the criteria it uses to select projects. (Ginger Esty, Town of Framingham)
Many of the CMP goals and objectives and measures of effectiveness are already included in the TIP criteria. (E. Pagitsas)

Does staff plan to bring the proposed corridors to the MPO members for review? (David Koses, City of Newton)
Yes, staff will bring all the material to the members for review. (A. McGahan)

Why is 2008 the base year for the model rather than 2009? (Christine Stickney, Town of Braintree)
Staff needs to use the most recent year for which there is sufficient travel data to calibrate the model. There is not complete data for 2009 yet. (K. Quackenbush)

ITS and traffic cameras at intersections could be used to address congestion. Will the projects that are already on the TIP be included? (M. Pratt)
The currently programmed TIP projects will be included and new ones added based on the needs assessment. Regarding ITS, MassDOT is developing a new ITS architecture and MPO staff is participating. MassDOT is also developing an ITS strategic plan. (E. Pagitsas)

How will the strategies be evaluated in Task 5? (J. Gallagher)
All the strategies will be evaluated and some will surface as more favorable than others. Those will then be brought forward for further evaluation and some selected for inclusion in TIP or LRTP. (E. Pagitsas)

In Task 7, for measuring effectiveness of implemented strategies, is there a reason why staff is not proposing to collect "after" data on already implemented projects? (J. Gallagher)
For some projects there may be appropriate before and after data. Project time frames may not allow for collection of after data. The before and after data has to be consistent to make the comparison. (E. Pagitsas)

For Task 8, is anything being done to address the crash data problem (i.e. crash reporting that varies across towns, for interchanges, and for pedestrians)? (Steve Olanoff, Advisory Council)
Task 8 assumes that staff will use existing crash data sources. The MPO receives Registry of Motor Vehicle crash data through MassDOT Highway. It would be very expensive for staff to collect this data directly from the police. (E. Pagitsas)

10. Job Access and Reverse Commute and New Freedom Programs Project Solicitation – *Pam Wolfe, Manager, Certification Activities, MPO Staff*
Members received a memorandum regarding the new solicitation of proposals seeking funding from the federal Job Access and Reverse Commute (JARC) and New Freedom Programs. (See attached.)

The MPO issued two solicitations previously. Alicia Wilson, Regional Equity Manager, MPO Staff, prepared a progress report on the projects that the MPO advanced for funding last year. (A memorandum was distributed at a previous meeting.)

MassDOT has asked the MPO to initiate the next solicitation as well and to complete the process by April. A pre-proposal meeting for potential applicants is scheduled for February 11. Outreach will be held through March 5. Staff will review the proposals and report to the MPO in mid-March. Then the MPO members will determine which projects to advance to MassDOT for consideration for funding.

There is $3.2 million available for the JARC Program and $2.3 million for the New Freedom Program in the Boston Urbanized Area this fiscal year.

Members asked questions and made comments:

Who can apply for these funds? (L. Wiener)
Typically groups that apply include Councils on Aging, private non-profit organizations such as human services organizations, and organizations that provide services for people receiving financial assistance, and low-income and unemployed people. (P. Wolfe)

Staff should be clear in the solicitation process about who is eligible to receive these federal funds and whether they need to partner with a municipality or regional planning agency. (C. Bench, MassDOT)
Alicia Wilson is available to consult with applicants during the process and keep them well informed. (P. Wolfe)

Has any progress been made regarding the collection of outbound commuter rail boarding data. (W. Zamore)
There will be better data available when the MBTA implements the second phase of installing Automated Fare Collection technology. (Joe Cosgrove, MBTA) MassDOT is concerned about the lack of outbound commuter rail data. This issue is on MassDOT's radar screen. (C. Bench)

11. Proposed TIP Amendment – *David Mohler, MassDOT*
Members considered an amendment and an adjustment to the FFY 2010 – 2013 TIP to address changes recommended by FTA, MassDOT, and the MBTA.

FTA recommended the removal of the $8.4 million *Lynn – Improvements at Blossom Street Ferry Terminal* project from the list of projects funded with ARRA funds. FTA determined that the use of ARRA funds for the project is not supported by existing planning analyses. (See attached correspondence between the FTA Regional Administrator Richard Doyle and MassDOT Secretary and CEO Jeffrey Mullan and Acting General Manager of the MBTA William Mitchell Jr.)

MassDOT proposed programming ARRA funding for one highway project and three transit projects to replace the Lynn ferry project (see attached):

- $3.3 million for the *Danvers and Peabody – Resurfacing and Related Work on Route 114*
- $3.5 million for the *Red Line Floating Slab Work* project (which was identified as a critical safety need in the D'Alessandro Report)
- $2 million for the *Wedgemere Commuter Rail Accessibility Enhancement* project (for constructing a mini-high platform at the station in Winchester)
- $785,577 for the *Bridge Rehabilitation – Dean Road* project (to partially fund construction on the Dean Road Bridge in Brookline, a critical safety need according to the D'Alessandro Report)

MassDOT requested that the MPO hold an abbreviated public comment period so that these projects can move forward quickly and access ARRA funds.

MassDOT also proposed cost adjustments for three ARRA projects:

- increasing the *Somerville – Assembly Square Access Improvements* project from $15 million to $15.2 million (to reflect the current project cost estimate)
- increasing the *Lynnfield and Wakefield – Signal and Intersection Improvements at Walnut Street and I-95, Salem Street, and Audubon Road at I-95* project from $5.9 million to $6.7 million (for additional utility work)
- changing the ARRA portion of the *Quincy – Quincy Center Concourse Improvements* to reflect the project being split into two projects for contract bidding; *Quincy Center Concourse Improvements on Revere Road, Phase II*, and *Quincy Center Concourse Improvements Building Demolition.*

The cost increases noted above are possible because of some ARRA funded projects that came in under budget and reductions in cost estimates due to project scope changes.

Michael Chong, FHWA, asked if the ARRA funds would be used to purchase right-of-way for the Quincy Center Concourse project. D. Mohler replied that ARRA funds would not be used for that purpose.

The MBTA also proposed cash flow adjustments to three projects in the Section 5307 funding category:

- reducing by $3.2 million (federal) the *ITS Initiatives* project
- adding $1.6 million (federal) to the *Orange Line Vehicles* project
- adding $1.6 million (federal) to the *Specialized Non-Revenue Vehicles* project

A motion to propose an amendment and make an administrative modification to the FFY 2010 – 2013 TIP, as presented by MassDOT and the MBTA (and detailed above), without holding a public review period, was made by P. Regan, and seconded by Ginger Esty, Town of Framingham.

During a discussion about the motion, members raised the following questions:

Is the City of Lynn aware of the proposal to remove the Lynn ferry project? (J. Gallagher)
The City is aware and not happy. MassDOT shares the City's concern about the removal of the project. (D. Mohler)

Does FHWA approve of the MPO waiving the public comment period? (J. Cosgrove)
The action needs to be consistent with MPO public participation policies. (M. Chong)
The Public Participation Program text is not specific on this question, but the MPO has in the past set a precedent for abbreviating public comment periods in exceptional circumstances. (P. Wolfe)

Based on FHWA's statement, members did not vote on the motion, but made two other motions to handle the proposed administrative modification and amendment separately.

A motion to approve an administrative modification to the FFY 2010 – 2013 TIP to make cost and cash flow adjustments to three projects funded with ARRA funds and three projects funded under Section 5307 (as detailed above), without holding a public review period, was made by P. Regan, and seconded by Thomas Bent, City of Somerville. The motion passed unanimously.

Prior to the vote regarding the proposed amendment, members asked questions:

How was the replacement highway project picked? (L. Wiener)
The project was chosen because it will be ready for advertisement by the February ARRA deadline, it is located in the same region as the Lynn project, and it requires no right-of-way acquisition or environmental permitting. (David Anderson, MassDOT Highway, and Rachel Bain, MassDOT)

Was consideration given to any other highway projects in the region, such as the Canton – Route 138 project? (Richard Reed, Town of Bedford)
The Canton project is not ready. MassDOT is working to make it ready. The Danvers/Peabody project is the only project in the Boston region that can be made ready in time to receive ARRA funds. (D. Mohler)

A motion to propose an amendment to the FFY 2010 – 2013 TIP, as presented by MassDOT and the MBTA, by removing the *Lynn – Improvements at Blossom Street Ferry Terminal* project from the list of ARRA- funded projects and by adding one highway and three transit projects (as detailed above), and to hold an abbreviated, 10-day public review period, was made by T. Bent, and seconded by P. Regan. The motion passed unanimously.

12. State Implementation Plan Update – *David Mohler, MassDOT*
MassDOT released the January report on the status of the State Implementation Plan (SIP) projects. (See attached.)

MassDOT has received a MEPA certificate for the *Green Line Extension* project. It requires a Final Environmental Impact Report. This will add approximately a month to the project schedule. The *Red Line – Blue Line Connector Design* and the *Construction of 1,000 New Parking Spaces* projects are on schedule; the latter is on schedule due to the MPO's decision to flex funds to transit to construct the parking garage at Wonderland MBTA Station in Revere. The *Fairmount Line Improvement* project is six to nine months behind schedule.

E. Bourassa inquired as to whether MassDOT was planning to replace its commitment to add parking spaces near the Beverly and Salem commuter rail stations with spaces in Revere. D. Mohler explained that MassDOT is committed to the Beverly and Salem projects, but may count the Revere spaces to fulfill the SIP legal commitment.

13. Members Items

D. Mohler stated that MassDOT may include for consideration the possibility of adding a regional transit authority (RTA) as a voting member of the MPO when the MPO's memorandum of understanding (MOU) is opened for updating. The MetroWest RTA is interested in having a voting membership. The process for re-evaluating the MOU has not been defined yet.

P. Wolfe invited members to the MPO conference room following this meeting to see a demonstration of the new interactive TIP database.

14. Adjourn

Transportation Planning and Programming Committee Meeting Attendance
Thursday, January 21, 2010, 10:00 AM

Member Agencies	Representatives and Alternates
MassDOT	David Mohler
	Clinton Bench
	Rachel Bain
MassDOT Highway	David Anderson
	John Romano
	Marie Rose
	Stephen Woelfel
City of Boston	Jim Gillooly
	Thomas Kadzis
City of Newton	David Koses
City of Somerville	Thomas Bent
Federal Highway Administration	Michael Chong
Federal Transit Administration	William Gordon
MAPC	Eric Bourassa
	Jim Gallagher
Massachusetts Port Authority	Lourenço Dantas
MBTA	Joe Cosgrove
MBTA Advisory Board	Paul Regan
Regional Transportation Advisory Council	Laura Wiener
Town of Bedford	Richard Reed
Town of Braintree	Christine Stickney
Town of Framingham	Ginger Esty
Town of Hopkinton	Mary Pratt

MPO Staff/CTPS
Mike Callahan
Maureen Kelly
Anne McGahan
Hayes Morrison
Efi Pagitsas
Scott Peterson
Sean Pfalzer
Karl Quackenbush
Arnie Soolman
Mary Ellen Sullivan
Pam Wolfe

Other Attendees	
Lynn Ahlgren	MetroWest Regional Transit Authority
Erik Berrson	MassBike
Mark Guenard	MassDOT
Tom Holder	Town of Medway
John McQueen	Regional Transportation Advisory Council/WalkBoston
Steve Olanoff	Regional Transportation Advisory Council
Joe Onorato	MassDOT District 4
Bryan Slack	MassDOT District 3
Sheri Warrington	Office of State Senator McGee
David Watson	MassBike
Paul G. Yourkis	Town of Medway
Wig Zamore	

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Jeffrey B. Mullan
MassDOT Secretary and CEO
and MPO Chairman

Arnold J. Soolman
Director, MPO Staff

MEMORANDUM

DATE January 21, 2010

TO Transportation Planning and Programming Committee of the Boston Region Metropolitan Planning Organization

FROM Arnold J. Soolman, CTPS Director

RE Work Program for: Strategic Visioning for MBTA Bus Service

ACTION REQUIRED

Review and approval

PROPOSED MOTION

That the Transportation Planning and Programming Committee of the Boston Region Metropolitan Planning Organization, upon the recommendation of the Massachusetts Bay Transportation Authority, vote to approve the work program for Strategic Visioning for MBTA Bus Service in the form of the draft dated January 7, 2010.

PROJECT IDENTIFICATION

Unified Planning Work Program Classification
Technical Support/Operations Analysis Projects

CTPS Project Number
11363

Client
Massachusetts Bay Transportation Authority
Project Supervisor: Joseph Cosgrove

CTPS Project Supervisors
Principals: Elizabeth Moore and Efi Pagitsas
Manager: Mark Abbott

Funding
Future MBTA Contract

The Boston Region MPO, the federally designated entity responsible for transportation decision-making for the 101 cities and towns in the MPO region, is composed of:

MassDOT Office of Planning and Programming
City of Boston
City of Newton
City of Somerville
Town of Bedford
Town of Braintree
Town of Framingham
Town of Hopkinton
Metropolitan Area Planning Council
Massachusetts Bay Transportation Authority Advisory Board
Massachusetts Bay Transportation Authority
MassDOT Highway Division
Massachusetts Port Authority
Regional Transportation Advisory Council (nonvoting)
Federal Highway Administration (nonvoting)
Federal Transit Administration (nonvoting)

IMPACT ON MPO WORK

The MPO staff has sufficient resources to complete this work in a capable and timely manner. By undertaking this work, the MPO staff will neither delay the completion of nor reduce the quality of other work in the UPWP.

BACKGROUND

The MBTA has identified fifteen Key Routes that are the busiest bus routes in the system and carry approximately 40% of all bus passengers. The MBTA is currently collaborating with MassDOT and CTPS on a Key Routes Initiative to develop bus improvement strategies for six of the fifteen Key Routes. These strategies generally apply elements of rail rapid transit to bus service to reduce bus travel time, improve the quality of service for existing customers, and make bus service a more attractive option for potential new customers. Typical bus improvement strategies include segregating rights-of-way for buses; establishing procedures for pre-paid boarding; instituting traffic signal priority (TSP) for buses; enhancing frequency; and consolidating, eliminating, and relocating some bus stops.

The first phase of this work, which was funded by the Commonwealth, has focused on Routes 1, 15, 23, 28, 66, and 111. For five of these six routes,[1] CTPS has identified bus stops for consolidation, elimination, and relocation; analyzed travel-time data; and developed conceptual plans for transit signal priority (including queue jumps, green extension, and early green). For each route, CTPS has documented the results of these analyses in a technical memorandum.

CTPS has also collected traffic counts at selected intersections for further analysis as work moves into final design and engineering. Using this data, the second phase of the Key Routes Initiative will include in-depth signal priority evaluations of intersections along each route alignment and development of final recommendations for improvement strategies that should move forward on each route. This work program will cover intersection analyses for Routes 15, 66, and 111. The rest of the six Key Routes will be evaluated under separate contracts.

When planning for the first six Key Routes has been completed, the MBTA may wish to evaluate the same types of strategies for the remaining Key Routes in the system (Routes 22, 32, 57, 71, 73, 77, and 116/117)[2] and possibly other individual routes or the entire bus network, to further improve the quality of bus service.

[1] Evaluation of Route 23 is being completed by an outside consultant.
[2] Two Key Routes already have bus improvement strategies in place (Silver Line) or are undergoing evaluation through a separate process (Route 39).

OBJECTIVES

The purpose of this work program is to support the second phase of the Key Routes Initiative through completion of more-in-depth traffic analyses on Key Routes 66, 15, and 111.

In addition, if time and budget allow, and if a decision is made to expand the analysis, CTPS may initiate conceptual planning for additional Key Routes and possible other individual bus routes or corridors in the MBTA system, as directed.

WORK DESCRIPTION

Task 1 Assess TSP Strategies at Intersections along Routes 66, 15, and 111

In the first phase of the Key Routes Initiative, CTPS, based on field observations and analysis of bus ridership data, made preliminary recommendations for intersections that could be potential candidates for implementation of some form of TSP.

Under this work program, CTPS will complete more in-depth intersection analyses along bus Routes 66, 15, and 111 to evaluate signal priority strategies for buses. This analysis will demonstrate which intersections could realistically support TSP strategies, such as queue jumps, green extension, and early green, without having a significant negative impact on general-purpose traffic, parking, and side streets.

To this end, staff will focus on three analysis emphasis areas:

- First, staff will convene planning and engineering staff from MassDOT, MBTA, the cities of Boston, Cambridge, and Chelsea, and the Town of Brookline.[3] The purpose of these meetings would be to discuss the Key Routes Initiative and receive input from municipal staff in general terms as well as ideas specific to the implementation of TSP strategies at identified locations along the bus corridors.
- Following interactions with municipal officials, staff will devise screening tools (intersection performance measures) and displays (lists, tables, or maps) to prioritize route locations for bus priority based on intersection traffic demand, performance, operational characteristics, and likely implementation feasibility as viewed by municipal officials. This screening would yield the intersections for which, from an implementation point of view, further analysis would be practical to pursue.
- For each intersection, the analysis will include existing conditions analysis using SYNCHRO or VISSIM software and at least one TSP strategy. Analysis will be performed for the AM and PM peak hour. Bus Route 66 will be analyzed first; analysis of Routes 15 and 111 will follow. The results of the analysis will include:

[3] The overwhelming majority of traffic signals along MBTA Bus Routes 15, 66, and 111 are maintained and operated by the cities of Boston, Cambridge, and Chelsea, and the Town of Brookline. The location of bus stops is also largely controlled by municipalities.

traffic signal design modifications to reflect bus priority; identification of impacts to bus travel time, level of service, queues, delays, parking, and side street traffic; and queue jump characteristics, including, width and length.

Product of Task 1

A technical memorandum describing the methodology and the results of assessing the impacts of TSP strategies for locations along Routes 66, 15, and 111

Task 2 Provide Additional Ongoing Support for Bus Service Improvement

Upon completion of Task 1, if time and budget are available, CTPS may provide ongoing support to the MBTA and MassDOT to plan improvements at a conceptual level on a limited number of additional Key Bus routes, individual other MBTA bus routes, or corridors in which more than one bus route currently operates. The conceptual plans developed under this task would mirror those produced by CTPS for five routes in phase one of the Key Routes Initiative. Work on this task would be accomplished through field observations and analysis of MBTA bus run-time data and stop locations.

Potential Products of Task 2

If time and budget allow, products under Task 2 might include:

- A list of additional bus routes that could potentially benefit from the bus improvement strategies used on Key Routes
- A technical memorandum for each route studied that discusses, at a conceptual level, the potential capital and operational improvements that might be implemented

ESTIMATED SCHEDULE

It is estimated that this project will be completed five months after the notice to proceed is received. The proposed schedule, by task, is shown in Exhibit 1.

ESTIMATED COST

The total cost of this project is estimated to be $99,987. This includes the cost of 53.7 person-weeks of staff time and overhead at the rate of 88.99 percent. A detailed breakdown of estimated costs is presented in Exhibit 2. **Please note that Exhibit 2 represents one possible distribution of costs between Tasks 1 and 2. Depending on the number of intersections analyzed and the complexity of the analysis undertaken in Task 1, more resources may be used on this task and fewer on Task 2 or *vice versa*.**

AJS/EMM/emm

Exhibit 1
ESTIMATED SCHEDULE
Strategic Visioning for MBTA Bus Service

Task	Months				
	1	2	3	4	5
1. Assess TSP Strategies					A
2. Provide Additional Ongoing Support					B

Products/Milestones

A: Technical Memorandum on TSP Strategy Assessment

B: Technical Memorandum on Potential Additional Ongoing Support

Exhibit 2
ESTIMATED COST
Strategic Visioning for MBTA Bus Service

Direct Salary and Overhead	$99,787

Task	Person-Weeks M-1	P-5	P-4	P-3	P-2	P-1	Temp	Total	Direct Salary	Overhead (@ 88.99%)	Total Cost
1. Assess TSP Strategies	4.0	3.5	0.5	7.5	17.0	2.2	11.0	45.7	$42,063	$37,432	$79,496
2. Provide Additional Ongoing Support	1.0	2.0	4.0	1.0	0.0	0.0	0.0	8.0	$10,736	$9,554	$20,291
Total	5.0	5.5	4.5	8.5	17.0	2.2	11.0	53.7	$52,800	$46,986	$99,787

Other Direct Costs	$200
Travel	$200

TOTAL COST	$99,987

Funding
Future MBTA Contract

BOSTON REGION METROPOLITAN PLANNING ORGANIZATION

State Transportation Building
Ten Park Plaza, Suite 2150
Boston, MA 02116-3968
Tel. (617) 973-7100
Fax (617) 973-8855
TTY (617) 973-7089
www.bostonmpo.org

Jeffrey B. Mullan
MassDOT Secretary and CEO
and MPO Chairman

Arnold J. Soolman
Director, MPO Staff

The Boston Region MPO, the federally designated entity responsible for transportation decision-making for the 101 cities and towns in the MPO region, is composed of:

MassDOT Office of Planning and Programming
City of Boston
City of Newton
City of Somerville
Town of Bedford
Town of Braintree
Town of Framingham
Town of Hopkinton
Metropolitan Area Planning Council
Massachusetts Bay Transportation Authority Advisory Board
Massachusetts Bay Transportation Authority
MassDOT Highway Division
Massachusetts Port Authority
Regional Transportation Advisory Council (nonvoting)
Federal Highway Administration (nonvoting)
Federal Transit Administration (nonvoting)

MEMORANDUM

DATE January 21, 2010

TO Transportation Planning and Programming Committee of the Boston Region Metropolitan Planning Organization

FROM Arnold J. Soolman, CTPS Director

RE Work Program for: Green Line Extension FEIR/New Starts Analysis

ACTION REQUIRED

Review and approval

PROPOSED MOTION

That the Transportation Planning and Programming Committee of the Boston Region Metropolitan Planning Organization, upon the recommendation of the Massachusetts Department of Transportation, vote to approve the work program for Green Line Extension FEIR/New Starts Analysis in the form of the draft dated January 21, 2010.

PROJECT IDENTIFICATION

Unified Planning Work Program Classification
Planning Studies

CTPS Project Number
22333

Client
Massachusetts Department of Transportation
Project Supervisor: Katherine Fichter

CTPS Project Supervisors
Principal: Karl Quackenbush
Manager: Scott Peterson

Funding
New MassDOT Contract

IMPACT ON MPO WORK

The MPO staff has sufficient resources to complete this work in a capable and timely manner. By undertaking this work, the MPO staff will neither delay the completion of nor reduce the quality of other work in the UPWP.

BACKGROUND

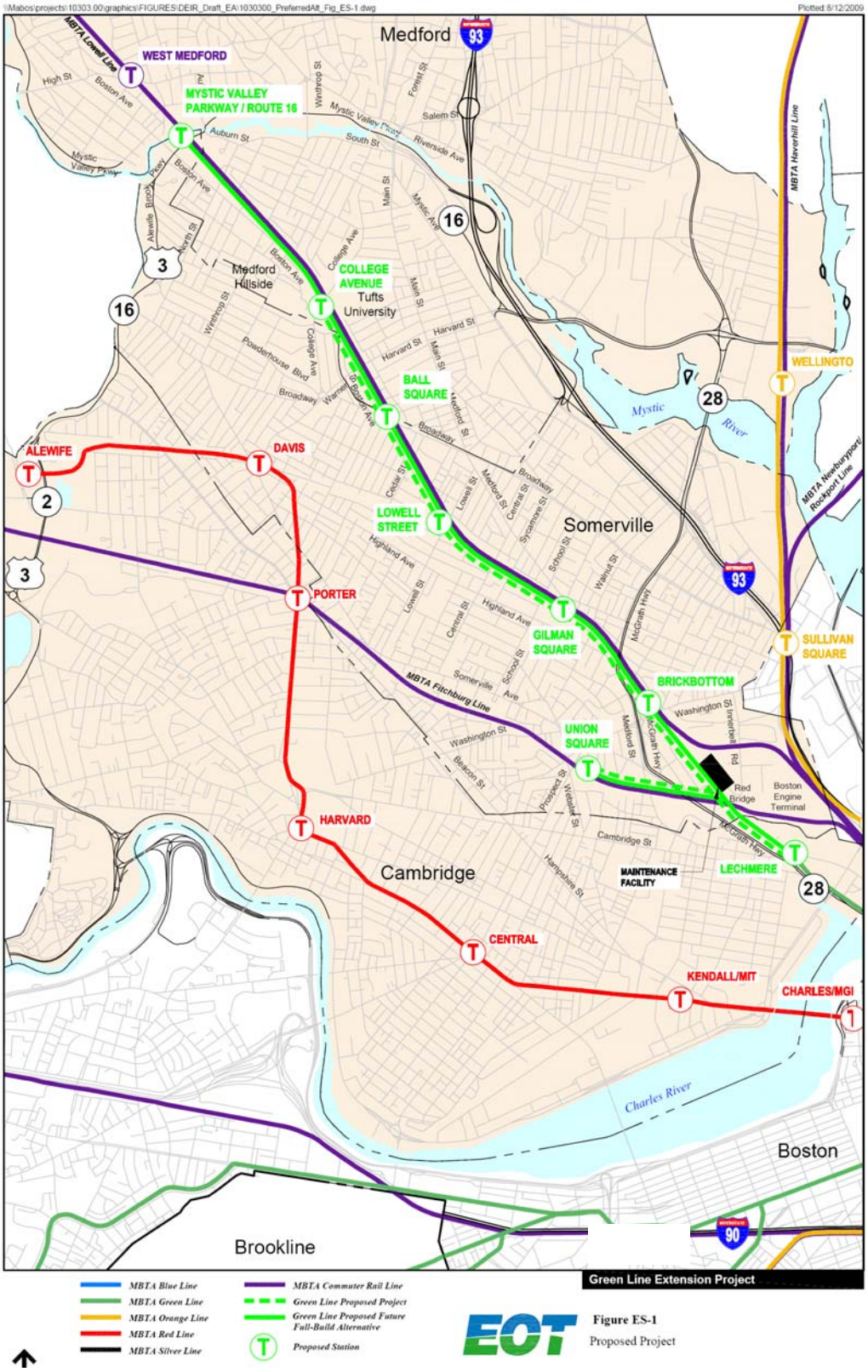
The work scope outlined below is intended to provide planning and modeling assistance to the client, the Massachusetts Department of Transportation (MassDOT), in the preparation of a Final Environmental Impact Report (FEIR) for the Green Line Extension. The results of the work undertaken by CTPS will be used to ensure that the project information requirements of the Federal Transit Administration (FTA) for evaluation in the New Starts Program are met. Since CTPS maintains the regional travel demand model that has produced previous Green Line ridership estimates and is capable of producing performance measures such as "user benefits," which are currently required in New Starts submissions, CTPS is uniquely qualified to provide this assistance. Furthermore, CTPS has performed the modeling work for the State Implementation Plan (SIP), which the Green Line Extension is included in.

Extending Green Line service to Cambridge, Somerville, and Medford has been the subject of several studies over the last 40 years. In 2005, a Major Investment Study/Alternatives Analysis entitled "Beyond Lechmere" was prepared by the then Executive Office of Transportation (EOT) and the Massachusetts Bay Transportation Authority (MBTA) to define the most appropriate transit investment strategy for improving mobility and regional access for residents in Cambridge, Somerville, and Medford. Although this study did not identify a preferred alternative, the SIP identifies the mode, routing and appropriate terminus for the project based on the analysis and recommendation of EOT in 2006. Following public comment on the project in 2006, the secretary of the Massachusetts Executive Office of Environmental Affairs (EOEA) issued a certificate requiring the preparation of a Draft Environmental Impact Report/Environmental Assessment (DEIR/EA).

A study to prepare this DEIR/EA was begun in late 2007 by the MBTA and EOT with support from CTPS. After copious public input, many public meetings, and nearly two years of rigorous analysis, the DEIR/EA was filed in October 2009 with the Massachusetts Environmental Policy Act (MEPA) office and has now been completed.

The locally preferred alternative, shown in Exhibit 1, from the DEIR/EA consists of extensions of the Green Line along two MBTA commuter rail rights-of-way. The proposed service consists of two distinct branches: a "mainline" branch, which would operate within the existing MBTA Lowell Line commuter rail right-of-way, beginning at a relocated Lechmere Station in Cambridge and traveling north to Medford; and a branch line operating within the existing MBTA Fitchburg Line commuter rail right-of-way

Exhibit 1


Medford
WEST MEDFORD
MYSTIC VALLEY PARKWAY / ROUTE 16
COLLEGE AVENUE
Tufts University
Medford Hillside
BALL SQUARE
ALEWIFE
DAVIS
PORTER
HARVARD
CENTRAL
LOWELL STREET
GILMAN SQUARE
UNION SQUARE
BRICKBOTTOM
SULLIVAN SQUARE
WELLINGTO
LECHMERE
KENDALL/MIT
CHARLES/MGI
MAINTENANCE FACILITY
Somerville
Cambridge
Boston
Brookline
Mystic River
Charles River
MBTA Lowell Line
MBTA Haverhill Line
MBTA Newburyport/ Rockport Line
MBTA Fitchburg Line
Red Bridge
Boston Engine Terminal
MBTA Blue Line
MBTA Green Line
MBTA Orange Line
MBTA Red Line
MBTA Silver Line
MBTA Commuter Rail Line
Green Line Proposed Project
Green Line Proposed Future Full-Build Alternative
Proposed Station
Green Line Extension Project
Figure ES-1
Proposed Project

to Union Square in Somerville. New stations along the "mainline" branch would exist at Brickbottom, Gilman Square, Lowell Street, Ball Square, and College Avenue, while a new station on the branch line would be erected at Union Square.

OBJECTIVE(S)

The principal objectives of this work program are:

- To assist in the refinement of the proposed project
- To measure its air quality impacts
- To measure its environmental justice impacts
- To measure its cost-effectiveness
- To provide the necessary components for an FTA New Starts submission

WORK DESCRIPTION

Green Line Extension modeling work is needed to support three distinct MassDOT planning efforts, each having its own guidelines. The regional travel demand model will be used to produce outputs to be used in an FTA New Starts submission and in the FEIR document, as well as for analyzing the extent to which the Green Line Extension project meets the SIP-related requirements contained within the EOEA Certificate for the development of the DEIR. The DEIR certificate can be found at https://www.commentmgr.com/Projects/1228/docs/13886deir.pdf.

Task 1 Perform Base-Year Model Calibration

The transit component of the current CTPS travel model is calibrated to 2006 ridership data. For the purposes of this study, CTPS will update the base-year model to the year 2008. For model calibration, CTPS will utilize the most current transit ridership data, pedestrian information, and traffic counts, and the recently completed transit on-board survey data.

The model will be calibrated and validated to 2008 conditions. The transportation services being calibrated include the transit lines (focusing on the Green Line), existing bus routes, and commuter rail lines. Also, key intersections in the corridor—those for which traffic volume impacts will be required—will be examined, as necessary, in order to properly replicate existing observed volumes. Travel times and speeds on the roadways will be examined as well.

The results of running the base-year model will be summarized in sufficient detail to provide certain systemwide statistics, daily boardings and access-mode shares at major stations on the Green Line, boardings on groups of bus lines, and traffic volumes at key intersections.

Product(s) of Task 1

A well-calibrated travel demand model set, with outputs showing the transit, highway, air quality, and travel characteristics of the transportation system.

Task 2 Prepare Inputs for Forecast Years

CTPS will forecast two horizon years: the 2014 opening year and the 2030 design year. Model inputs—socioeconomic data, congested highway travel times, auto-operating costs, CBD parking costs, transit fares, and travel times—will be consistent with the currently adopted land use and background transportation projects assumed in the 2008 amended Regional Transportation Plan (RTP) and in the SIP. MAPC and other relevant agencies such as other MPOs, as well as MassDOT, will be consulted about the best demographic and land use assumptions to use in this planning effort in conducting the opening year analysis and responding to FTA's request to quantify uncertainty in demographic forecasts in New Starts submissions.

Product(s) of Task 2

Model inputs for both the opening and horizon years.

Task 3 Conduct No-Build Model Runs for the Forecast Years

Using the model work done for the RTP, CTPS will create no-build networks for the two forecast years: the 2014 opening year and the 2030 design year. Forecast-year model runs will be conducted for these no-build scenarios, and the results will be summarized at the same levels of detail as for the base year.

Product(s) of Task 3

A complete summary of travel and air quality forecasts for the no-build scenarios.

Task 4 Refine Locally Preferred Alternative through Sensitivity Analyses

The locally preferred alternative from the DEIR/EA will be refined through a series of sensitivity analyses for the design year (2030). Up to 10 different build alternatives, identified by MassDOT and composed of service plan variations to the Green Line and other transit services, will be tested. The variants might consist of testing different bus service plans in the corridor to optimize demand as well as testing different headways on the different alignments based on feedback from MBTA Operations. The no-build scenario trip patterns will be held constant across the different alternatives for a given year. Service levels will be examined and equilibriated to match demand in the corridor. Once the best variant of the preferred alternative is chosen, it will be tested for the opening year (2014).

Forecasts of air quality impacts and vehicle-miles traveled will be produced for each scenario. Mode choice and highway assignment results will be summarized in tabular

form. Aggregate statistics such as total linked and unlinked transit trips will be summarized by submode. These statistics will form the basis for determining the utilization of the proposed service. Traffic volume forecasts for the immediate areas around the proposed stations will be extracted and summarized.

Product(s) of Task 4

A complete summary of travel and air quality forecasts for the build scenarios.

Task 5 Develop, and Run Model for, Transportation System Management/Baseline Alternative

FTA guidance mandates the development of a Transportation System Management/Baseline alternative for the design year (2030). Such a scenario will be constructed in conformity with FTA regulations. This same alternative will also be tested in the opening year (2014).

Outputs from the model similar to the no-build in Task 4 will be processed and examined.

Product(s) of Task 5

A complete summary of travel and air quality forecasts for this alternative for the forecast and opening years of analysis.

Task 6 Estimate Transportation User Benefits

For the variants of the preferred alternative identified by MassDOT, CTPS will use the results of the travel demand model forecasts to run the FTA-developed SUMMIT software and produce tables showing transportation user benefits. User benefits are similar to travel time savings and are used in the cost-effectiveness formula that FTA considers in the New Starts submission. Several maps showing the pattern of travel-time savings will be generated using the results of the SUMMIT software. Additionally, the transit trip flows by mode for each alternative will be analyzed to determine the origins and destinations of the markets in the study area. Graphics will be produced to show the spatial distribution of the primary beneficiaries of each of the build alternatives examined.

Product(s) of Task 6

Tables and maps summarizing results obtained using the SUMMIT software.

Task 7 Estimate Passenger Revenue

Travel model results will serve as the starting point for estimating likely passenger revenue associated with each alternative. The revenue estimates will take into

consideration the different regional transit agencies' fare structures and parking revenue by operating entity. CTPS will also assist the projects team's financial consultant in the development of its finance plan.

Product(s) of Task 7

Passenger revenue estimates for each transit alternative.

Task 8 Analyze Green Line Capacity

CTPS will analyze, by time period, existing and future-year (both 2014 and 2030) peak load and capacity concerns on the currently highly used Green Line rapid transit service, specifically in the heavily traveled Central Subway portion shared by the four different Green Line branches. The ridership demand under the build alternatives being examined in Task 4 will be measured against the carrying capacity of each of the Green Line branches. In addition, capacity issues related to station configuration, such as pedestrian movement at the new Lechmere station, will also be examined.

Product(s) of Task 8

Memorandum explaining the peak load and capacity analysis.

Task 9 Perform Environmental Justice Analysis

CTPS will conduct an environmental justice analysis for the preferred build alternative for the opening and design years. After identifying communities of concern, performance measures—accessibility to health care, higher education, and jobs; mobility and congestion; and environmental impacts—will be used as indicators of benefits and burdens for environmental-justice and non-environmental-justice communities.

Product(s) of Task 9

Memorandum on environmental justice analysis.

Task 10 Assist with Traffic Analysis

CTPS will provide necessary data to the project team for conducting level-of-service analyses for a subset of alternatives: up to four of those tested in Task 4. The data will consist of approach volumes by time period for up to 40 intersections that will be identified by the project team.

Product(s) of Task 10

Traffic forecasts for the major intersections in the study area.

Task 11 Coordinate with MIT Team

MIT's Transit Research Program is conducting an academic research project to assist MassDOT (through its planning contractor, Vanasse Hangen Brustlin, Inc.) with the station area planning, scenario development, and operations planning for the Green Line Extension and related transit services in the area of the Green Line project. The designated faculty and staff will also advise MassDOT on various related multimodal transportation policy issues. CTPS will work with the MIT research team in their endeavors to model highway and transit use in the study corridor using innovative modeling approaches.

Product(s) of Task 11

Provide technical assistance and data when appropriate, with guidance from MassDOT.

Task 12 Assist with Livability and Economic Measures of the Project

The FTA New Starts Program is starting to shift away from the user benefit measure and to look at the topic of livability in more detail. At this time FTA has not identified a specific way of measuring livability, but one possible definition relates to economic growth and job creation generated by improved mobility through transit investment. MassDOT will work with FTA to identify measures that CTPS and the consultant team can quantify via an economic impact analysis. CTPS will work with the project team in developing and analyzing data on the livability and economic benefits of the proposed project.

Product(s) of Task 12

Technical assistance and data to support the project team.

Task 13 Quantify Uncertainties

The travel demand model set that CTPS will use in this study will be developed based on a set of assumptions that cover a broad spectrum of topics. The confidence in many of these assumptions decreases the further we go into the future. Assumptions such as costs, land use, and other transit investments are all major inputs into the travel demand modeling process and can potentially be a major area of uncertainty in relation to future conditions. Sensitivity testing will be undertaken to test the degree to which these assumptions could impact future Green Line Extension ridership and other performance measures. Additionally, the current climate of fiscal austerity and rising debt payments by the MBTA may lead to some changes in the supporting bus network. Assessments will be undertaken to see how tied the predicted Green Line Extension ridership is to local bus service.

Product(s) of Task 13
Memorandum explaining the uncertainty analysis.

Task 14 Assist with FTA New Starts Program Grant Submission

CTPS will provide coordination and assistance to the client and its consultant in an FTA New Starts grant submission process.

Product(s) of Task 14
Memoranda; data needed by the client, in spreadsheets and other forms as appropriate.

Task 15 Produce Technical Memorandum

CTPS will produce a technical memorandum describing the modeling method and the results of the travel demand analysis.

Product(s) of Task 15
A technical memorandum documenting the project.

Task 16 General Support to MassDOT

Provide general support to MassDOT, via planning, modeling, and/or coordination with stakeholders, in the development of the Green Line Extension FEIR and New Starts documents.

Product(s) of Task 16
General support.

ESTIMATED SCHEDULE

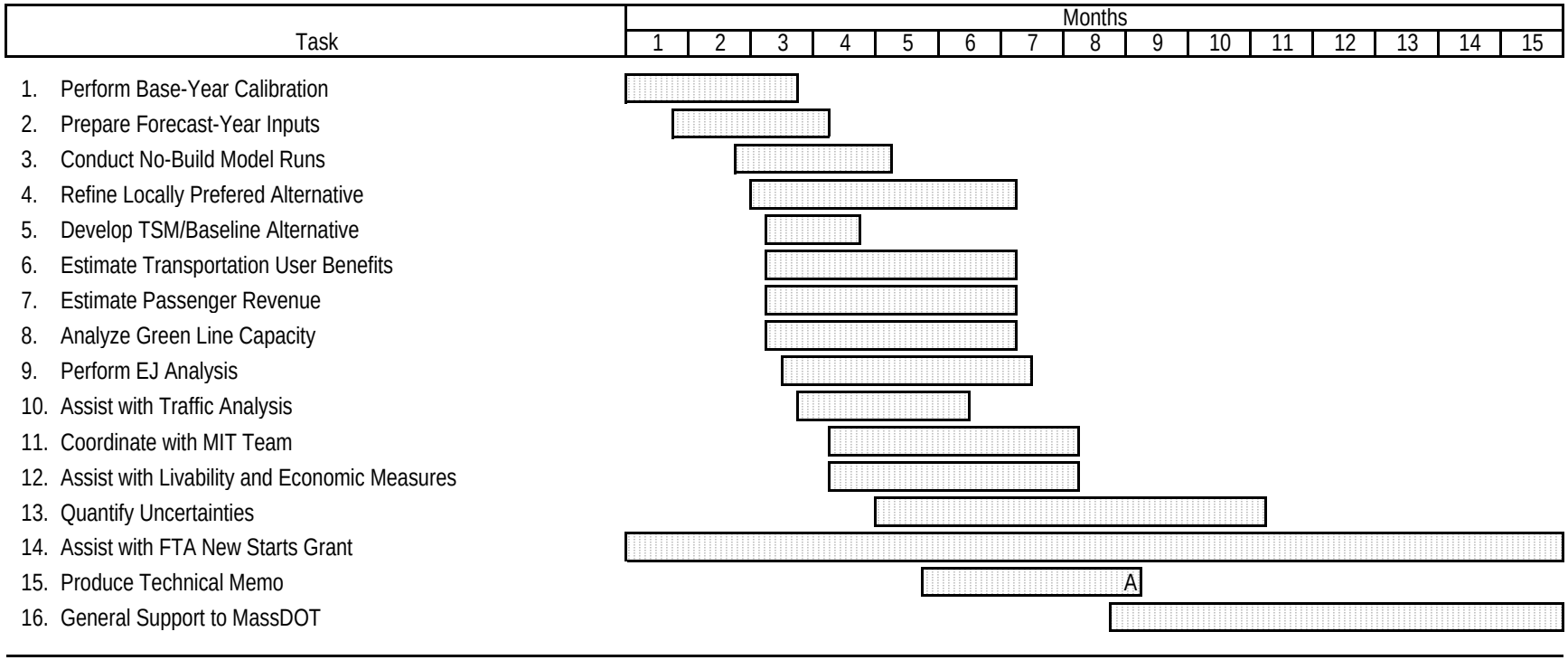
It is estimated that this project will be completed 15 months after the notice to proceed is received. The proposed schedule, by task, is shown in Exhibit 2.

ESTIMATED COST

The total cost of this project is estimated to be $267,600. This includes the cost of 106.6 person-weeks of staff time, overhead at the rate of 88.99 percent, and travel. A detailed breakdown of estimated costs is presented in Exhibit 3.

AJS/BK&SP/sp

Exhibit 2
ESTIMATED SCHEDULE
Green Line Extension



Products/Milestones

A: Technical Memorandum

Exhibit 3
ESTIMATED COST
Green Line Extension

Direct Salary and Overhead	$267,500

Task	Person-Weeks M-1	P-5	P-4	P-3	Total	Direct Salary	Overhead (@ 88.99%)	Total Cost
1. Perform Base-Year Calibration	1.1	3.9	3.5	1.5	10.0	$13,836	$12,312	$26,148
2. Prepare Forecast-Year Inputs	0.2	1.3	1.5	1.0	4.0	$5,260	$4,681	$9,941
3. Conduct No-Build Model Runs	0.4	1.4	2.0	0.2	4.0	$5,534	$4,925	$10,458
4. Refine Locally Prefered Alternative	1.8	4.0	13.5	2.2	21.5	$28,061	$24,971	$53,032
5. Develop TSM/Baseline Alternative	0.5	1.1	1.0	0.4	3.0	$4,205	$3,742	$7,947
6. Estimate Transportation User Benefits	0.5	1.0	3.0	3.0	7.5	$9,161	$8,152	$17,312
7. Estimate Passenger Revenue	0.5	1.3	0.1	0.0	1.9	$3,014	$2,683	$5,697
8. Analyze Green Line Capacity	0.5	0.0	4.5	0.0	5.0	$6,308	$5,614	$11,922
9. Perform EJ Analysis	0.5	0.5	3.0	0.0	4.0	$5,319	$4,733	$10,052
10. Assist with Traffic Analysis	0.4	0.5	3.6	0.5	5.0	$6,307	$5,613	$11,920
11. Coordinate with MIT Team	0.5	0.0	1.7	0.2	2.4	$3,129	$2,785	$5,914
12. Assist with Livability and Economic Measures	0.5	1.5	2.0	0.0	4.0	$5,651	$5,029	$10,680
13. Quantify Uncertainties	0.5	2.5	11.3	2.0	16.3	$20,649	$18,376	$39,025
14. Assist with FTA New Starts Grant	2.8	0.5	3.2	0.0	6.5	$9,286	$8,263	$17,549
15. Produce Technical Memo	1.5	1.5	2.5	0.0	5.5	$7,898	$7,029	$14,927
16. General Support to MassDOT	1.0	0.5	4.5	0.0	6.0	$7,924	$7,052	$14,976
Total	13.2	21.5	60.9	11.0	106.6	$141,542	$125,959	$267,500

Other Direct Costs	$100
Travel	$100

TOTAL COST	$267,600

Funding
New MassDOT Contract

State Transportation Building
Ten Park Plaza, Suite 2150
Boston, MA 02116-3968
Tel. (617) 973-7100
Fax (617) 973-8855
TTY (617) 973-7089
www.bostonmpo.org

Jeffrey B. Mullan
MassDOT Secretary and CEO
and MPO Chairman

Arnold J. Soolman
Director, MPO Staff

MEMORANDUM

DATE January 21, 2010

TO Transportation Planning and Programming Committee of the Boston Region Metropolitan Planning Organization

FROM Arnold J. Soolman, CTPS Director

RE Work Program for: Long-Range Transportation Plan of the Boston Region MPO

ACTION REQUIRED

Review and approval

PROPOSED MOTION

That the Transportation Planning and Programming Committee of the Boston Region Metropolitan Planning Organization vote to approve the work program for Long-Range Transportation Plan of the Boston Region MPO in the form of the draft dated January 21, 2010.

PROJECT IDENTIFICATION

Unified Planning Work Program Classification
Certification Requirements

CTPS Project Number
10101

Client
Boston Region Metropolitan Planning Organization

CTPS Project Supervisors
Principal: Karl Quackenbush
Manager: Anne McGahan

Funding
EOT §5303 3C Transit Planning Contract #MA-80-0004; MassHighway PL/SPR 3C Highway Planning Contract #59796

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Town of Framingham
Town of Hopkinton
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Massachusetts Bay Transportation Authority Advisory Board
Massachusetts Bay Transportation Authority
MassDOT Highway Division
Massachusetts Port Authority
Regional Transportation Advisory Council (nonvoting)
Federal Highway Administration (nonvoting)
Federal Transit Administration (nonvoting)

IMPACT ON MPO WORK

This is MPO work and will be carried out in conformance with the priorities established by the MPO.

BACKGROUND

The Boston Region MPO is required by federal regulation to maintain a current Transportation Plan for the region. Under the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), a new Transportation Plan (Plan) is required every four years. Although the MPO adopted an Amendment to its last plan (JOURNEY TO 2030) in November 2009, the last full Transportation Plan was approved in June 2007. The Massachusetts Department of Transportation (MassDOT) is requesting that this Plan be adopted by the MPO by April 2011 to coincide with the regional transportation plan schedules of the Commonwealth's other MPOs.

OBJECTIVE(S)

The Transportation Plan serves as the guiding document for the Boston Region MPO through the year 2035. The Plan establishes the vision for the region and is used by the MPO in making decisions for the future. A public participation process will be conducted to involve the general public in its development. The product that will result from the process established by this work program will be a Transportation Plan that:

1. Provides multimodal, intermodal, and management and operations strategies to address the region's transportation needs
2. Addresses regional priorities such as system preservation, mobility, safety, security environmental justice, climate change, livability, and operations and management
3. Reflects the MPO's visions, policies and goals for the region
4. Guides Transportation Improvement Program development as the implementing document for the Plan
5. Fosters inter-agency cooperation and coordination
6. Is financially constrained to available and projected sources of revenue
7. Complies with all applicable environmental requirements for air quality conformity and greenhouse gases

WORK DESCRIPTION

The development of the new Long-Range Transportation Plan (LRTP) will continue through April 2011 and involve a majority of the groups within CTPS. Certification Activities, Information Technology and Services, Travel Model Analysis, Traffic Analysis and Design, Transit Service Planning, Graphics, Travel Model Development,

and Analytical Studies will all contribute to the final product. The Metropolitan Area Planning Council (MAPC) will produce the land-use and demographic estimates and forecasts.

The work program will be carried out within four basic tasks, which both interrelate and provide the building blocks for later tasks. Documenting and understanding existing conditions and needs and gathering information from pertinent work conducted by others builds a foundation for the Plan. Developing and analyzing future scenarios; modeling transportation networks; articulating visions, policies, and goals; consulting with the public; and applying MPO project selection criteria will provide the MPO with information to develop the Plan's 2035 vision for the region and choose a set of projects and programs to accomplish it. This work will end with an endorsement of an LRTP for the region. The LRTP will be informed by a public outreach process that will include input from municipal, state, and federal officials, as well as interested groups and the public, and will continue the efforts to reach those who may not usually take part in the transportation planning process.

Task 1 Document Existing Conditions; Update Visions, Goals, and Policies; Review Current and No-Build Model Runs; and Conduct Public Reviews

In order to plan for the future, a review of existing conditions is necessary. The region will be divided into corridors based on inputs from the Congestion Management Process and the regional travel model in order to examine existing conditions, understand needs and plan solutions. The documentation will include a description of the MPO area as a whole and will then be divided into smaller corridors of the region based on travel patterns; it will include the region's existing demographic and land-use characteristics and the existing transportation system. The current visions, goals, and policies of the MPO will be reviewed to include updated requirements and MPO priorities, including climate change, livability and transportation operations and management to promote system efficiency.

MAPC developed projections for population, housing, and employment on a zonal basis through the year 2030 under its MetroFuture efforts. The forecasts will be reviewed for any updates, coordinated with MassDOT Planning's projection updates, refined to include projections through 2035, and then used in the regional travel model. In addition, other documents and studies will be reviewed and used for input into the development of the Plan.

Subtask 1.1 Document Existing Conditions

This task will begin with establishing corridors within the MPO area considering the travel patterns and the existing transportation system. Existing conditions outlined in the previous Plan will be reviewed and included at the regional level and in the appropriate corridors. This information will include descriptions of the MPO, the region, past and present demographic and land use conditions, and the existing transportation system. In addition, land use and transportation trends from 1990 to

the present will be reviewed, and a needs assessment for the region and corridors will be developed based on trends, projected travel demand, and issues stemming from planning topics such as mobility, system preservation, safety, and security. Information from previous and ongoing work will be used to develop the needs assessment, including the previous Plan, the MBTA's Program for Mass Transportation, the Congestion Management Process (CMP), environmental justice outreach, MPO studies, and special studies. This information will be summarized and presented for use in identifying projects and programs to be included in the recommended LRTP. Information that does not fit into particular corridors will be included in a description of the region as a whole.

Subtask 1.2 Review and Summarize Data and Tools Being Developed under Separate Work Scopes

Work is being performed under separate work scopes and projects that involve developing tools and information to be used as input into the development of the LRTP. Under one project, MAPC recently adopted a new land-use plan—MetroFuture. The MPO adopted this land-use as their preferred land-use in April 2008, and it was used in the development of the MPO's 2009 LRTP—JOURNEY TO 2030 Amendment. MAPC will review their projections, coordinate with MassDOT Planning, and determine if any changes are required for this new LRTP. Projections will be updated at the least through the year 2035.

Under the Regional Model Development work scope, CTPS is developing a Base Case (or current conditions) network for the year 2008 using the 2727 Transportation Analysis Zone (TAZ) Travel Model. In addition, CTPS will incorporate any changes to MAPC's MetroFuture demographic land use projections through 2035. Two model runs will be performed for the 2008 Base Case and the 2035 No-Build scenarios. The 2035 No-Build transportation network includes the 2008 Base Case transportation system, plus the projects that have been constructed since 2008, are currently under construction, have been advertised, or for which the MPO has programmed funds for construction in the first year of the FFY 2010 Transportation Improvement Program. The results of the 2008 Base Case scenario will be compared to the 2035 No-Build, and information will be broken down by corridor level. The results will be documented and presented for review to the Transportation Planning and Programming Committee.

Work is also being performed under the Congestion Management Process (CMP)(formerly the Mobility Management System (MMS)). The CMP monitors the performance of transportation facilities in the MPO area, including expressways, arterial roadways, intersections, transit, park-and-ride lots, high-occupancy-vehicle (HOV) lanes, and bicycle and pedestrian transportation. The monitoring provides the MPO with the most recent performance information, to be used in identifying needs and developing recommendations for action when congestion and other mobility deficiencies are found. This information will also be broken down by corridor level. Performance measures will be developed to measure congestion and

evaluate strategy effectiveness for relieving congestion in conjunction with our visions, goals, and policies. The performance measures will be used in developing the needs assessment for the corridors and region as a whole and will help the MPO determine if the project and program recommendations of the LRTP are being met. They will also help in identifying strategies for operating and managing the existing system through non-capital-intensive programs, including signal optimization, HOV lanes, demand management (parking management, telecommuting), and land-use strategies (transit-oriented development, smart growth).

Work is also proceeding under the MPO's ongoing environmental justice/regional equity work. Existing conditions and transportation needs for low-income and minority communities will be documented.

Numerous other studies and work being performed for the MPO, such as freight, transit and bicycle/pedestrian studies, and the Coordinated Human Services Transportation Plan will be used as resources and input into the LRTP. New requirements and studies regarding climate change, operations and management, and livability, and other plans and studies will be reviewed, and the public's comments on goals for the future of the region will be summarized. Inputs and other information from metropolitan planning organizations bordering the Boston Region MPO area will also be reviewed and incorporated into the development of the LRTP.

In addition, public comments received in the development of the previous JOURNEY TO 2030 Plan and its Amendments, as well as current outreach efforts undertaken as part of other MPO initiatives, MAPC's MetroFuture, and the Commonwealth's youMove Massachusetts statewide planning initiative will be used in reviewing the MPO visions and needs assessment for the region.

All of the above information will be reviewed and summarized and a needs assessment will be developed for each corridor and the region as a whole. The needs assessment will be presented to the Transportation Planning and Programming Committee as a starting point for discussion of future needs in the region.

Subtask 1.3 Update Visions, Goals and Policies

The existing visions, goals and policies developed by the MPO in previous Plans will be reviewed, and any changes resulting from current MPO priorities will be incorporated. They will be used in developing the goals and objectives developed as part of the Congestion Management Process. Specific measurable performance measures for implementing the policies of the Plan will begin to be developed as part of this Plan process and the CMP process and will continue to be implemented upon the Plan's completion. Other information, including the core themes of the youMove Massachusetts planning effort and information from the MassDOT's Office of Performance Management and Innovation's ScoreCards for measuring performance of the system, will also be used. The MPO's performance measures will be used in monitoring the Plan's implementation after adoption, as well as in

monitoring the implementation of other documents that will be developed in the future.

Subtask 1.4 Public Review

A public-involvement plan will be developed and reviewed with the Transportation Planning and Programming Committee. The general public will be notified of the development of the LRTP, its schedule, and its public-participation process, as well as surveyed for their input through *TRANSREPORT* and the MPO's e-mail listserve, which goes to the general public, local officials, chambers of commerce, legislators, and print media in the region. In addition, MPO Open Houses and other outreach activities to bring together key constituencies will be scheduled. Staff will also seek to attend regularly scheduled meetings of organizations with transportation interests.

Plan products will be presented to the Regional Transportation Advisory Council, the MAPC subregions, environmental justice advocates, bordering MPOs, and members of the general public for their input throughout the process.

Products of Task 1

- Draft chapters on the existing and future land-use conditions
- Updated MPO goals, policies, and visions
- Presentation of the results of 2008 and 2035 No-Build model data
- A written summary of other work being conducted that will be used as input into the development of the LRTP
- Needs Assessment for each corridor and for the region as a whole
- Performance measures for determining if recommendations from the LRTP are being met
- A written summary of comments received from other studies and from outreach regarding the public's ideas and goals for the future of the region
- Comments from the Regional Transportation Advisory Council, the MAPC subregions, environmental justice advocates, and the public through *TRANSREPORT*, the MPO website, MPO Open Houses, and other outreach activities

Task 2 Develop and Analyze Alternative Future Scenarios

After the documentation of the current transportation system, the projection of the future of the system using a 2035 No-Build scenario, and the identification of needs, the Transportation Planning and Programming Committee will develop additional transportation networks for analysis. These networks will be informed and shaped by public input, the visions, policies, and goals of the MPO, information from data collected and summarized under Task 1, and projections of future transportation revenues.

Subtask 2.1 Develop a Projection of Future Transportation Revenues Available from Current Sources

Federal regulations require that the LRTP demonstrate the consistency of proposed transportation projects and programs with currently available sources of revenue. The starting point for projections will be the extrapolation of current revenue sources. Federal, state, and local revenues will be forecast, including individual projections for sources of revenue dedicated to surface transportation. In addition to these traditional revenue sources, staff will document possible nontraditional revenue streams. However, in accordance with federal regulations, these nontraditional sources will not be assumed to be available unless significant action has been proposed or taken to secure them. This information will be used to ensure that the Plan is financially constrained to available resources.

Subtask 2.2 Review and Update Universe of Projects and Programs List

The MPO will review the needs identified as part of the Needs Assessment from Task 1 and the Universe of Projects and Programs List compiled as part of the JOURNEY TO 2030 Plan and its Amendments. It will then add projects and programs that have been identified through the development of the Transportation Improvement Program, the MBTA's Capital Investment Program, the CMP, the youMove Massachusetts process, and special studies. This list will also include strategies emerging from the MPO's CMP analysis. This information will be reviewed with members of the public through the MPO's public-outreach program. It is from this list that the recommended list of projects and programs for the new LRTP will be chosen.

Subtask 2.3 Develop and Model a Series of Transportation Networks

The Transportation Planning and Programming Committee will define transportation networks to be modeled and analyzed with the 2035 preferred land-use projections developed by MAPC. The selection of projects, programs, and strategies for inclusion in these networks will be drawn from the needs assessment for each corridor and the Universe of Projects and Programs List, and will be judged by the MPO's policies and visions using the applicable criteria developed from the Transportation Improvement Program and the CMP, including:

- Preservation and modernization
- Safety
- Mobility
- Community (including environmental justice and community character)
- Land use and economics
- Environment

Transit projects will also be judged using the above criteria, plus:

- Utilization
- Service quality

Additional priorities will be reviewed including:

- Operations and management
- Climate change

- Livability

Cost and cost-effectiveness will also be considered.

The networks will be financially constrained to projections of available revenue, as developed under Subtask 2.1. The foundation of this work scope assumes that there will be three separate transportation networks. Modeling and analysis will be performed for each of the networks for 2035 Build conditions.

Subtask 2.4 Environmental Justice/Regional Equity Analysis of the No-Build Scenario and Build Scenarios

An environmental justice analysis will be conducted on the 2035 No-Build and Build networks using the preferred land-use projections. Results using mobility, congestion, and accessibility performance measures for trips from target environmental justice areas to selected destinations will be estimated. The target communities have been established in the MPO's ongoing environmental justice/regional equity work.

Subtask 2.5 Circulate the 2035 Build Scenario Results

The staff will review the results of the model runs with the Transportation Planning and Programming Committee members. Once approved, this information will be released for public review to solicit input before the recommended set of projects is selected. Public review will include meetings with the Regional Transportation Advisory Council, environmental justice advocates, and the subregions. Outreach will also be conducted through *TRANSREPORT*, the MPO listserve, and the MPO website.

Subtask 2.6 Present the Results of Public Input to the Transportation Planning and Programming Committee and Choose a Recommended List of Projects and Programs

Comments from the public will be summarized for the Transportation Planning and Programming Committee to help members select the recommended list of projects and programs using the criteria presented in Subtask 2.3, in addition to results from the travel model (including environmental justice results) and comments from the public.

Products of Task 2

- A Financial Plan for transportation projects, programs, and strategies in the Boston region developed in accordance with federal regulations
- An updated Universe of Projects and Programs List
- Travel model results for the 2035 Build networks
- Environmental justice results of the 2035 No-Build and Build model runs
- Public comments from outreach on 2035 Build scenarios
- Recommended list of projects and programs for the draft LRTP
- Text on the LRTP process to date, including 2035 travel model results

Task 3 Develop and Circulate a Draft Transportation Plan

The Circulation Draft LRTP will incorporate previous work products and include visions and policies for the region and a recommended list of projects and programs constrained to revenues outlined in the Plan. The recommended list of projects with the preferred land use will be analyzed using the MPO's environmental justice criteria. The projects and programs will also be tested for air quality conformity, and all documentation necessary to show such compliance will be provided to the appropriate agencies.

Subtask 3.1 Perform Environmental Justice Analysis on the Draft Recommended LRTP

The recommended list of projects and programs chosen under Subtask 2.6 will be analyzed using the MPO's environmental justice criteria. The draft recommended 2035 Build network will be compared to the 2035 No-Build network to ensure that the recommended projects provide comparable benefits to the target environmental justice areas and the non-target areas in the MPO region.

Subtask 3.2 Perform Air Quality Conformity Analysis of the Draft Recommended LRTP

An air quality conformity determination will be performed to ensure that the draft recommended list of projects and programs complies with all applicable air quality standards. The years 2020, 2030, and 2035 will be used for model runs for the LRTP, using 2020 and 2030 as interim milestone years, and 2035 as the forecast year of the Plan.

Subtask 3.3 Prepare the Circulation Draft Transportation LRTP

At the direction of the Transportation Planning and Programming Committee, staff will prepare the Circulation Draft LRTP. This LRTP will contain the results of all previous work products, including changes made as a result of public input. This LRTP will include:

- The documentation of existing conditions (demographic, land-use, and transportation system)
- The documentation of future conditions (demographic, land-use, and transportation system)
- The needs assessment for the corridors and region as a whole
- Updated visions, goals and policies
- The projection of future revenue from currently available sources
- A discussion of inputs used in project and program selection
- A discussion of alternative transportation networks
- The results of qualitative and quantitative analysis of the networks
- The selection of major transportation projects and programs to be included in the recommended LRTP (including estimated project costs and timelines)
- An environmental justice analysis of the recommended LRTP
- An air quality conformity determination of the recommended LRTP

Subtask 3.4 Approve and Distribute the Circulation Draft Transportation Plan

Staff will present the Circulation Draft LRTP to the Transportation Planning and Programming Committee for review, modification, and approval for circulation to the general public.

The Circulation Draft LRTP will be presented to the public via placement on the MPO website and distribution to local libraries and municipal offices. Copies will be provided to the Regional Transportation Advisory Council, environmental justice advocates, and the MAPC subregions. A notice will appear in the MPO's newsletter *TRANSREPORT*, and notices of the Plan's availability will be sent to newspapers and to recipients on the MPO e-mail listserve.

Shortly after distribution of the circulation draft, public workshops will be held to solicit input from members of the public. These meetings will be attended by members of the MPO as well as by MPO staff.

Subtask 3.5 Present the Results of the Public Meetings to the Transportation Planning and Programming Committee

Comments made at the public meetings will be summarized for the Transportation Planning and Programming Committee to help members in their deliberations prior to recommending an LRTP to the MPO.

Products of Task 3

- The Circulation Draft Transportation LRTP
- The Environmental Justice Analysis
- The Air Quality Conformity Determination
- A summary of public comments from the outreach efforts

Task 4 Adopt the Final LRTP

After the public review process for the Circulation Draft LRTP, the Boston Region MPO will endorse an LRTP for the years 2011 through 2035. It is the goal of the MPO to have an endorsed LRTP in time for its review by federal agencies and their approval by July 1, 2011. This Plan will serve as the source document for projects and work programs in future Transportation Improvement Programs (TIPs) and Unified Planning Work Programs (UPWPs).

Product of Task 4

- LRTP for the Boston Region with an Air Quality Conformity Determination and Environmental Justice Analysis
- Synopsis of the LRTP for wide distribution

ESTIMATED SCHEDULE

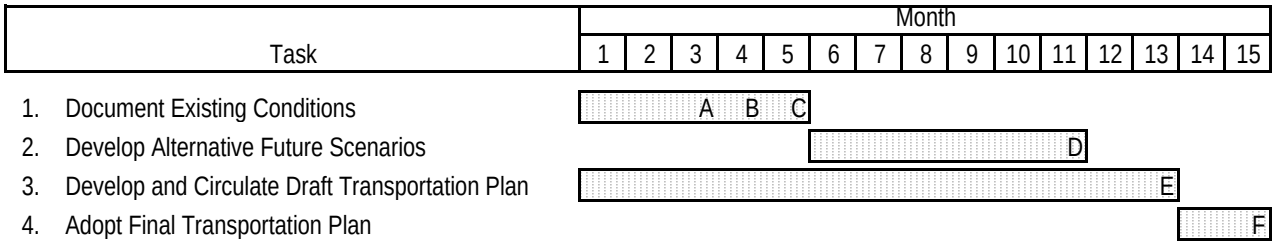
It is estimated that this project will be completed 15 months after the notice to proceed is received. The proposed schedule, by task, is shown in Exhibit 1.

ESTIMATED COST

The total cost of this project is estimated to be $471,522. This includes the cost of 189 person-weeks of staff time, overhead at the rate of 88.99 percent, printing, travel, equipment, consultants, and other direct costs. This project will be funded over a two-year period. $271,900 has been included in the 2010 Unified Planning Work Program, with the remainder to be included in the 2011 Unified Planning Work Program. A detailed breakdown of estimated costs is presented in Exhibit 2.

AJS/ASM/asm

Exhibit 1
ESTIMATED SCHEDULE
Long-Range Transportation Plan for the Boston Region MPO



Products/Milestones

- A: Updated visions and performance measures
- B: Needs assessment
- C: Public comments on existing conditions and needs assessment
- D: Alternative network model results (including environmental justice)
- E: Draft circulation plan
- F: Final plan

Exhibit 2
ESTIMATED COST
Long-Range Transportation Plan for the Boston Region MPO

Direct Salary and Overhead	$465,022

Task	Person-Weeks M-1	P-5	P-4	P-3	P-2	P-1	Total	Direct Salary	Overhead (@ 88.99%)	Total Cost
1. Document Existing Conditions	12.0	33.0	21.0	1.0	6.0	10.0	83.0	$110,794	$98,595	$209,389
2. Develop Alternative Future Scenarios	5.0	28.0	8.0	2.0	5.0	3.0	51.0	$70,961	$63,148	$134,109
3. Develop and Circulate Draft Transportation Plan	4.0	10.0	6.0	10.0	7.0	5.0	42.0	$49,456	$44,011	$93,467
4. Adopt Final Transportation Plan	2.0	2.0	0.0	5.0	3.0	1.0	13.0	$14,846	$13,211	$28,057
Total	23.0	73.0	35.0	18.0	21.0	19.0	189.0	$246,057	$218,966	$465,022

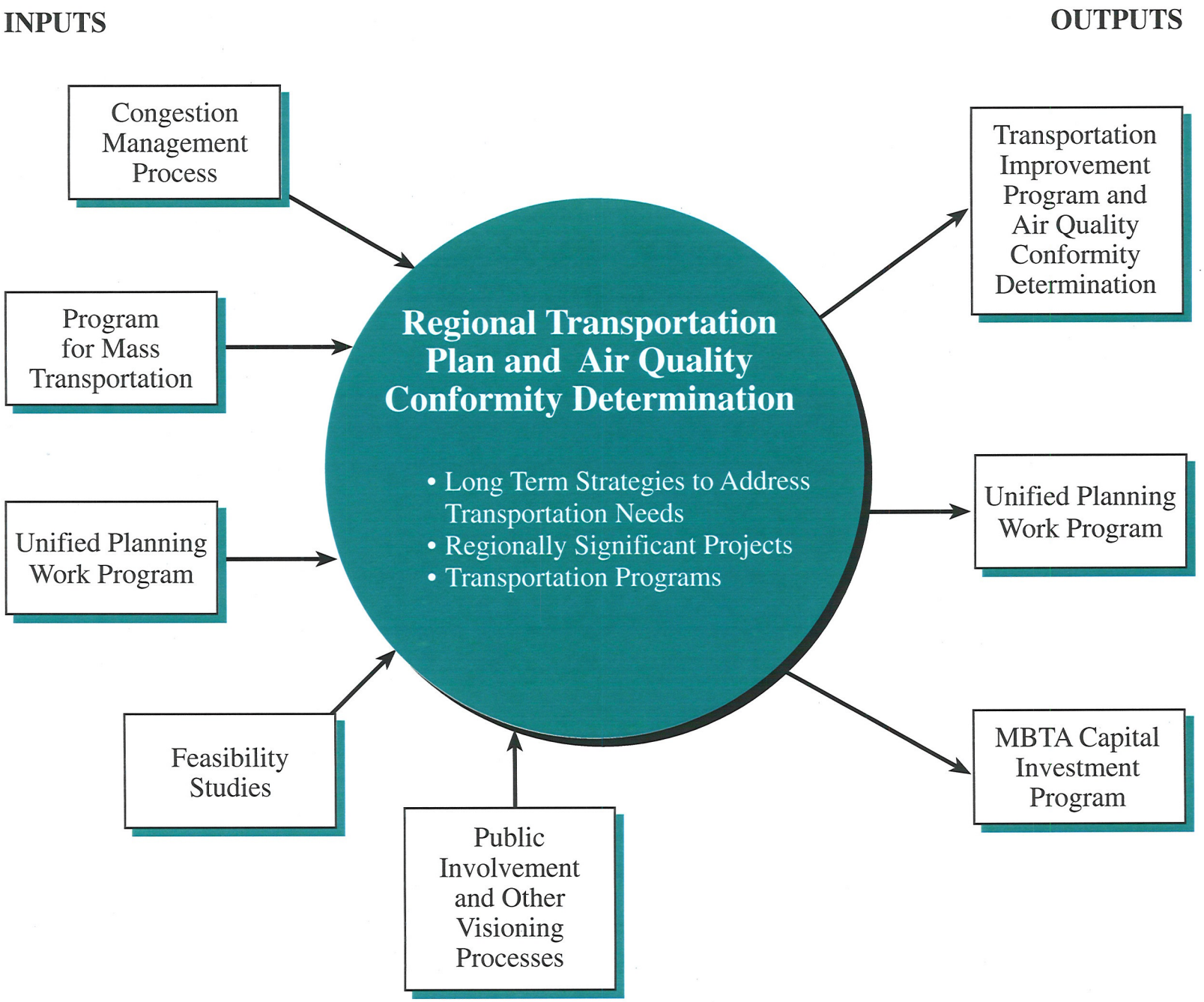
Other Direct Costs	$6,500
Travel	$500
Printing	$6,000

TOTAL COST	$471,522

Funding

EOT §5303 3C Transit Planning Contract #MA-80-0004; MassHighway PL/SPR 3C Highway Planning Contract #59796

Relationship of Regional Transportation Plan to Other Transportation Planning Documents



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Jeffrey B. Mullan
MassDOT Secretary and CEO
and MPO Chairman

Arnold J. Soolman
Director, MPO Staff

MEMORANDUM

DATE January 21, 2010

TO Transportation Planning and Programming Committee of the Boston Region Metropolitan Planning Organization

FROM Arnold J. Soolman, CTPS Director

RE Work Program for: Congestion Management Process (CMP) – February 2010, to September 2011

ACTION REQUIRED

Review and approval

PROPOSED MOTION

That the Transportation Planning and Programming Committee of the Boston Region Metropolitan Planning Organization vote to approve the work program for Congestion Management Process (CMP) – February 2010, to September 2011, in the form of the draft dated January 21, 2010.

PROJECT IDENTIFICATION

Unified Planning Work Program Classification
Planning Studies

CTPS Project Number
11138

Client(s)
Boston Region Metropolitan Planning Organization

CTPS Project Supervisors
Principal: Efi Pagitsas
Manager: Eric Howard

Funding
3C PL Transportation Planning Contract #59796

The Boston Region MPO, the federally designated entity responsible for transportation decision-making for the 101 cities and towns in the MPO region, is composed of:

MassDOT Office of Planning and Programming
City of Boston
City of Newton
City of Somerville
Town of Bedford
Town of Braintree
Town of Framingham
Town of Hopkinton
Metropolitan Area Planning Council
Massachusetts Bay Transportation Authority Advisory Board
Massachusetts Bay Transportation Authority
MassDOT Highway Division
Massachusetts Port Authority
Regional Transportation Advisory Council (nonvoting)
Federal Highway Administration (nonvoting)
Federal Transit Administration (nonvoting)

IMPACT ON MPO WORK

This is MPO work and will be carried out in conformance with the priorities established by the MPO.

BACKGROUND

The MPO originally began the Congestion Management Process (CMP)[1] in 1995. As a result of CMP monitoring, numerous studies have been prioritized and included for detailed study in the Unified Planning Work Program (UPWP) and many have been included in the Long-Range Transportation Plan (LRTP) and Transportation Improvement Program (TIP) for construction funding. CMP products can be reviewed in the Boston Region MPO website, www.bostonmpo.org, under Mobility Monitoring and under Resources, MPO Reports. A small sampling of current and recent studies and other products includes:

- Route 60 Mobility Study
- Route 126 Corridor Study
- Improving Pedestrian and Bicycle Access to Selected Transit Stations
- Bicycle Parking Need at MBTA Transit and Commuter Rail Stations
- Arterial and Freeway Average Travel Speed Maps
- Lists of Most Congested Intersections
- MBTA and MassDOT Parking Lot Monitoring
- Lower North Shore Transportation Study
- HOV Monitoring
- Freeway Speed and Travel Time Monitoring

The CMP is a federally required[2] program for this MPO and one that benefits the planning process in the region. *Its purpose is to apply a systematic, performance-driven approach to the region to identify congestion and its causes, propose mitigation strategies, and evaluate the effectiveness of implemented strategies.* In addition, the CMP's "performance-driven" approach is consistent with the initiative of MassDOT's Office of Performance Management and Innovation to improve agency performance by setting goals and measuring progress.[3]

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[1] The CMP is the continuation of the program formerly referred to as the Mobility Management System (MMS) and, before that, as the Congestion Management System (CMS). The current name is consistent with the increased emphasis in SAFETEA-LU and subsequent federal regulations and guidances on addressing congestion "through a process that provides for effective management and operations, and an enhanced linkage to the planning process and to the environmental review process, based on cooperatively developed travel demand reduction and operational management strategies as well as capacity increases" (SAFETEA-LU).

[2] A CMP is required in Transportation Management Areas (TMAs), defined as urban areas with a population over 200,000.

[3] MassDOT Office of Performance Management and Innovation, A Vision for 2010: Performance Management at MassDOT, January 12, 2010; MassDOT Score Card, Secretary Mullan's Message, December 2009.

The CMP is not viewed by federal regulation as a stand-alone process, but as an integral part of the metropolitan transportation planning process. At its core, the CMP identifies congested and mobility-deficient locations and services and recommends projects and strategies to be included in the LRTP and funded for implementation in the TIP. Also, based on monitoring and the identification of congested locations, the CMP recommends appropriate studies and prioritizes them for funding in the UPWP.

The CMP is one of the primary avenues for planning for management and operations (M&O)strategies. These generally include non-capital-intensive solutions that typically require no right-of-way takings and usually include incident management, traffic signal management, HOV lanes, transit signal priority, dedicated bus lanes, and other types of improvements.

Federal regulation requires the implementation of such strategies and the public also seems to favor them. For example, several of the 10 core themes from the public workshops of MassDOT's youMove Massachusetts public engagement process are focused, respectively, on reliability,[4] system management and preservation,[5] efficiency,[6] choices,[7] and technology.[8] These emerging themes indicate that the public places a high priority on reliability of transit service, provision of accurate information for making choices in travel modes and routes, coordination of traffic signals, identification and redesign of crash-prone locations, and effective use of technology to optimize system performance across the region's modes and services. Also, with respect to natural disasters and homeland security, efficient emergency response and evacuation are critical, and they rely on good communication technology, efficient agency coordination, and cooperative management[9] and operations.

In addition, it is estimated that over half of congestion experienced by travelers is caused by nonrecurring events.[10] These are not typically taken into account in the development of a traditional regional transportation plan. Planning for operations through the CMP, a strategic and informed approach, is a new way to address these types of congestion problems. This approach ensures that the LRTP is not exclusively a "project-focused" document but also addresses short- and medium-range issues usually associated with transportation

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[4] "Theme 1: You want a more reliable transportation system where the delays are minimized and travel times are consistent."
[5] "Theme 2: Our transportation assets need to be managed to extend their useful life and thereby maximize the benefits of our past investments."
[6] "Theme 3: Transportation facilities and operations should be better informed by real-world conditions faced by system users."
[7] "Theme 4: With so many users competing for space, we must find better ways to share our roadways, through engineering, education, and enforcement."
[8] "Theme 6: Consumers want a more user-friendy transportation systen, where information is easier to access and the travel experience is more comfortable and welcoming."
[9] Note that "management" implies a systematic approach to optimize the efficiency of a service, program, or operation. It differs from "maintenance," which refers to keeping a facility in good working condition (as in, for example, foliage trimming for improved driving visibility and aesthetics).
[10] Weather conditions, work zones, special events, and major incidents.

operations and strategies that seek to optimize existing capacity rather than simply building new capacity.

The close connection between the LRTP and the CMP requires that they be developed in an integrated manner, where the objectives of the LRTP flow into the CMP objectives, performance measures, and strategies—strategies that in turn will be selected for inclusion in the MPO's 2011 LRTP. To ensure this, this region's LRTP and CMP work programs and schedules must be coordinated.

In order to coordinate with the work program and schedule of the LRTP, staff designed this CMP work program to overlap with the 15-month time period in which the next LRTP will be developed. As the CMP work program contains tasks not directly related to the LRTP, CMP work will continue for five more months, for a total of 20 months. Most of the coordination between the CMP and the LRTP actually will occur under Tasks 1 and 2 of the LRTP work program.

OBJECTIVES

The main purpose of the CMP is to support the development of the MPO's Long-Range Transportation Plan, Unified Planning Work Program (UPWP), Transportation Improvement Program, and other planning activities, so that the MPO's certification documents promote and fund efficient transportation system management and operations strategies that benefit the region's economic vitality, safety, security, accessibility, mobility, quality of life, and energy conservation and that support preservation of the existing transportation system. To this end, the objectives of this proposed work program are to:

- Develop the CMP regional goals and operations objectives
- Define area of application and transportation system components covered
- Develop performance measures which are consistent with those of the LRTP
- Summarize and apply existing monitoring information and continue monitoring
- Identify congested locations, operational deficiencies and management, and operations and capital needs for the LRTP
- Identify and evaluate strategies to inform LRTP and UPWP development
- Select appropriate implementation strategies and include in LRTP and TIP
- Monitor strategy effectiveness
- Coordinate with transportation agencies' operations staff and LRTP/TIP staff
- Update CMP webpage
- Document CMP findings and recommendations
- Provide information and recommendations to the MPO to support its considerations of management and operations issues and its adoption of management and operations strategies and projects to meet the region's goals and objectives

WORK DESCRIPTION

The diagram on the following page shows the CMP work program's tasks and how they relate to the development of this region's certification documents: the LRTP, TIP, and UPWP. The task descriptions that follow provide the details on how staff will meet the above-stated objectives.

Task 1 Develop Regional CMP Operations Goals and Objectives

The CMP is part of developing the LRTP and the TIP; therefore, CMP operations goals and objectives naturally relate to, and flow from, these documents' goals and objectives. As such, the CMP goals and objectives relate to just about all focus areas, policies, visions, goals, and objectives of the LRTP.

The major focus of the CMP is the MPO policies related to system preservation, modernization, and efficiency, to mobility, and to the environment. In addition it is related most closely to the SAFETEA-LU planning factor "Promote Efficient System Management and Operations." This factor relates to accessibility/intermodality, reliability, system preservation/sustainability, modernization, efficiency, mobility, and safety and security. From these themes, staff will develop goals and objectives for the CMP.

The federal regulation guidance is for the CMP objectives to be Specific, Measurable, Agreed, Realistic, and Time-bound (SMART), in order to lead stakeholders to the accomplishment of the goal or goals for specific aspects of congestion.

Product(s) of Task 1

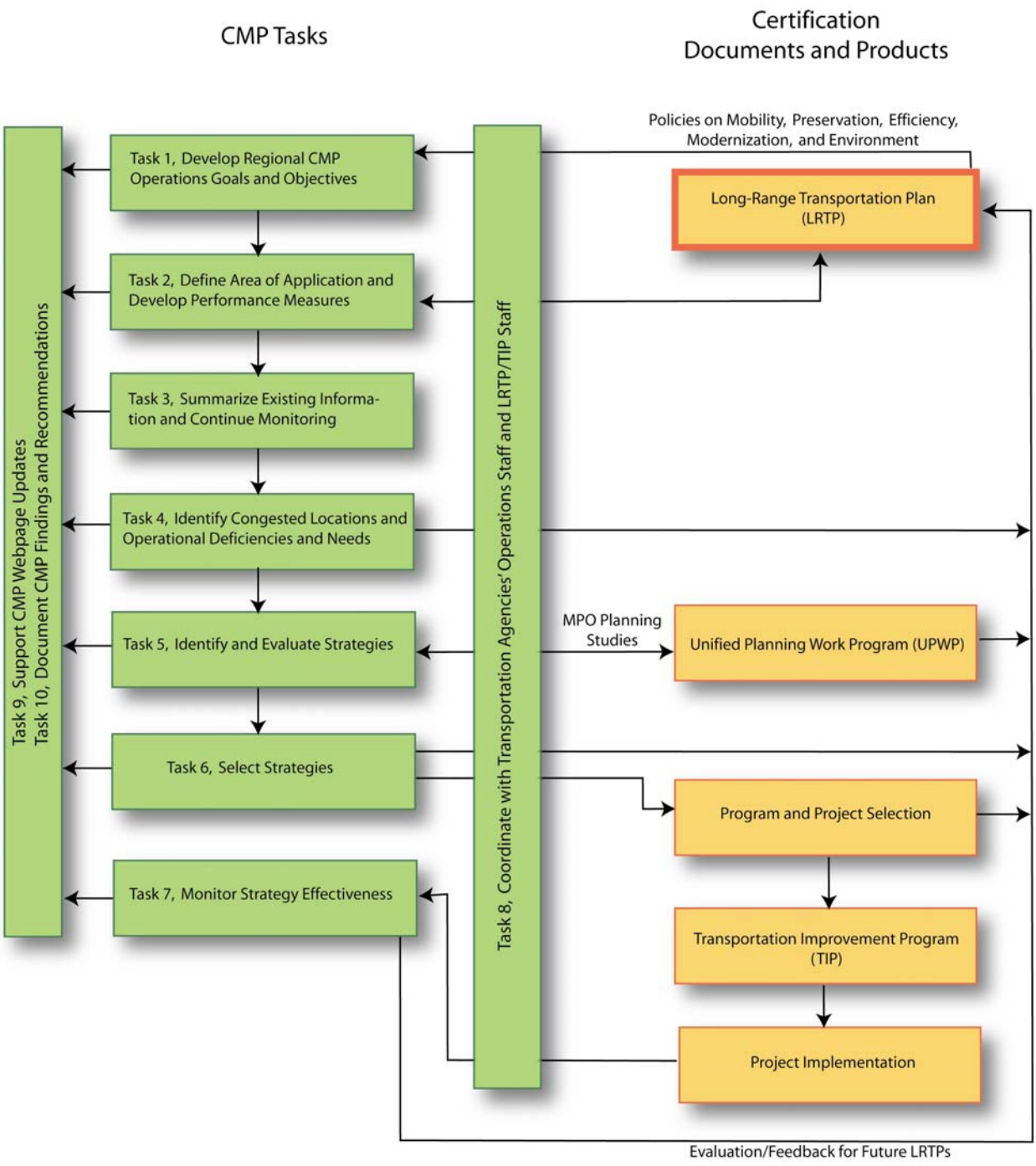
Staff will develop CMP goals and objectives for the management of congestion and improvement of mobility that are specific, measurable, agreed, realistic, and time-bound. The goals and objectives will flow from visions, policies, goals, and objectives defined in the LRTP, and most specifically from those that relate to system efficiency. A brief technical memo will describe the goals and objectives.

Task 2 Define Area of Application and Develop Performance Measures

The CMP will be applied, at a minimum, to the area that the Boston Region MPO covers; more specifically, the area the LRTP covers. Staff, in coordination and consultation with MassDOT and the MPO, may propose an extended geographic area based on the area covered by the MBTA system, the ITS architecture, the region's transportation planning model, or the area that will become part of the present urbanized Boston area[11] in the next 20 years. Alignment of the CMP area with these other systems will ensure that regional network and system descriptions are linked to it.

[11] Boston Transportation Management Area (TMA).

Boston Region MPO
Congestion Management Process (CMP):
Integration with Certification Documents



In addition to encompassing the entire metropolitan area, the CMP will place particular emphasis on needs and strategies pertaining to the corridors, travel patterns, and activity centers that the LRTP defined for evaluation as being of particular significance for accommodating travel, congestion management, operations, mobility, and other factors. Consideration of these factors will help in the definition of the LRTP corridors.

The CMP will be multimodal and will include, at a minimum, the modes traditionally included in this MPO's planning activities: roadways (arterials, freeways, interchanges, and intersections), public transit, park-and-ride, pedestrian, and bicycle. Truck transportation may also be included, depending on the LRTP's relevant performance measures. In this task, staff will derive CMP performance measures from the established CMP goals and objectives that were developed from the LRTP. The performance measures must be able to measure the extent, duration, intensity, and source of congestion and of mobility or safety deficiencies, must be able to evaluate strategy effectiveness, and must be established in a cooperative manner. They also must be measurable, have a clear and intuitive meaning, be comparable across time and geographic areas, have a relationship to actual system operations, and provide for cost-effective data collection.

Staff will continue to use some of the originally used measures from the CMS and the MMS. Also, new measures will be established based on the LRTP's goals and objectives and the operations strategies that will likely be evaluated. Potential measure categories include:

- Travel time (contour maps, congested speeds, speed index, other)
- Delay (percent incident delay per VMT, intersection delay, other)
- Level of service (percent VMT with LOS D or worse, other)
- Volume-to-capacity ratio (percent miles with v/c greater than 0.80 by functional classification, other)
- Freight-related (percent truck VMT by congestion level, other)
- Transit-related (passengers per revenue-vehicle-mile, average bus speed, other)
- Roadway-network-related (percent congested lane-miles, average person-speed, other)
- Nonmotorized-modes-related (percent of center-miles by town with sidewalks on one side, other)

Information and mapping developed in this task will be used in the LRTP discussions of existing conditions.

Product(s) of Task 2

- Maps showing the geographic area for CMP application, including corridors of significant interest for travel, congestion, operations, and mobility

- Maps showing the multimodal transportation system considered in the CMP
- A brief technical memorandum listing performance measures associated with LRTP and CMP objectives, by mode, and relevant to potential operational strategies to be evaluated

Task 3 Summarize Existing Monitoring Information and Continue Monitoring

Data is a prerequisite for the use of performance measures to identify needs. Since 1995, the MPO has had a well-organized, coordinated data collection and system performance monitoring program for congestion management and for the support of programming decisions in the UPWP, the TIP, and the LRTP. Specifically, staff monitor freeways for traffic volumes and speeds; interchanges for volumes, speeds, and crash rates; arterials for speeds and level of service; intersections for traffic volumes, level of service, bicycle and pedestrian accommodations, and crash rates; park-and-ride lots for utilization; bicycle parking for utilization; transit service for seating capacity and on-time performance; and HOV lanes for speed and vehicle occupancy.

For many of these categories of monitoring information, the MPO staff has current data that is relevant for the development of the proposed CMP program for federal fiscal years 2010 and 2011 and the associated LRTP. This is because transit and HOV lanes are being monitored continuously, freeway and interchange monitoring is very recent, park-and-ride lots are currently being monitored, and arterial conditions are rather stable. Staff will use existing information, supplemented by HPMS[12] 2005 to 2007 crash data, recent automatic traffic recorder (ATR) counts, transportation planning model runs, and census data, to map and summarize congestion locations and mobility problems area-wide and by corridor or by significant travel pattern.

In addition, staff will continue the intersection-monitoring program of the CMP and perform other monitoring as may be required by the development of the LRTP. This monitoring is described in Subtasks 3.1 and 3.2. Information from this monitoring activity will inform the LRTP assessment of needs and TIP evaluations.

Subtask 3.1 Intersection Monitoring Program

The quality of travel along an arterial roadway is largely determined by the quality of flow through intersections. For this reason, the operational performance of intersections must be monitored continuously. Often bottlenecks at intersections can be addressed by simple remedial actions that improve operations, such as coordination between signals, equipment updates, signal design updates for sensitivity to traffic flow changes, pedestrian signal updates, maintenance of markings and warning signs, and installation of new signals. Managing and operating intersections appropriately promotes safety for traffic, pedestrians, and bicyclists; lowers energy consumption; and improves mobility and air quality.

[12] Highway Performance Monitoring System.

To this end, staff began monitoring intersections under the 2005 MMS work program. Between 2006 and 2008, for over 200 intersections, field data, including counts, were collected, and analyses, including crash analyses, were conducted. In addition, data for up to 100 additional intersections became available from existing sources, including:

- Functional design reports
- Environmental impact reports
- CMS-related transportation studies

Presently, intersection performance information is available for display in the interactive intersection map of the CMP webpage in the Boston Region MPO website. This work has provided a better understanding of congested roadways and has improved upon the prioritization of intersection locations in need of improvements.

In this work program, staff will enhance intersection performance information for additional intersections. Over 1,000 of these will be selected from the CMP arterial roadway network, where travel time and delay information was collected during past CMP monitoring cycles. Staff will supplement this information by:

- Observing traffic operations
- Noting type of signal control by approach
- Documenting signal operations, including phasing, timing, and equipment
- Performing turning movement counts, including of heavy vehicles
- Observing and estimating vehicle queues
- Noting curb cut and property access in the intersection's vicinity
- Noting crosswalk and sidewalk design and condition
- Counting bicyclists and pedestrians
- Summarizing the number of crashes by type
- Recommending potential improvements

Other sources of intersection locations to monitor and study for possible recommendations for improvements will be conceptual projects in the TIP.

The final result of this task will be a catalogue of intersections and their mobility and safety issues. This catalogue will include a description of the issues and potential or proposed solutions that are based on a study's recommendations. The catalogue will be made available via the CMP webpage of the MPO website, discussed with the MPO, and used as input to the LRTP.

Subtask 3.2 Perform Other Monitoring

In addition to intersection monitoring, staff will perform other monitoring, as necessary, depending on the final management and operations objectives of the LRTP and the CMP. It could be that arterial travel times need to be updated based on travel time runs for a selected sample of arterials in the region. Another type of monitoring, useful for the planning and operation of transportation demand strategies, including HOV lanes, is that of vehicle occupancies. Vehicle occupancy data along key highways helps in determining congestion impacts using measures such as PMT (person-miles traveled) or average person speed (person-miles traveled divided by person-hours traveled).

Product(s) of Task 3

- Summaries of existing measures regionwide, by corridor, travel pattern, and mode of travel
- Field reconnaissance and data collection, processing, and analysis for intersections, including documentation of mobility and safety issues
- Data collection, processing, and analysis of additional monitoring information, as necessary
- Summary and discussion of the findings, provided via the website and via technical memos to the MPO for LRTP and TIP development

Task 4 Identify Congested Locations and Operational Deficiencies and Needs

In this task, staff will use the results of the previous task not only to identify congested locations and measure regional performance, but also to measure operational performance by LRTP corridor, subarea, facility, or service. This information will be presented to the MPO and used to determine needs for the LRTP and TIP.

Based on the goals and objectives of the LRTP and the CMP, staff and the MPO will first establish what is congestion and what is operational deficiency. The use of various thresholds can lead to the definition of concepts such as unacceptable congestion, lack of mobility, lack of accessibility, and other deficiency types by service, facility, or corridor. For example, slower speeds may be acceptable in the region's town centers but not so on freeways. Differentiating between types of congestion recognizes that the MPO stakeholders and the public do not expect reduction of all types of congestion at any cost.

Depending on the availability of operational data, staff will focus on identifying operational needs to the degree possible. Potential sources for such data are transit operations and AVL (automatic vehicle location) data, incident management data, City of Boston Traffic Operations data, CA/T Traffic Operations Center data, electronic toll collection data, and other sources.

Product(s) of Task 4

- Maps showing congestion locations regionwide, by corridor, travel pattern, or subarea
- Tables, maps, and graphs identifying services, facilities, and travel modes with operational deficiencies
- A technical memorandum, including the above products, to be discussed with the MPO and considered in the development of the LRTP

Task 5 Identify and Evaluate Strategies

In order for the Boston Region MPO to implement strategies consistent with its visions, goals, and objectives, the CMP and the LRTP must be performance-based. To that end, planning staff, the MPO, and agency operators must first identify strategies that mitigate congestion and operational deficiencies and then evaluate them using the performance measures identified in Task 2. Evaluation will lead to the selection of effective strategies to include in the LRTP.

Staff will work with agency operators and service providers complete this task. The following are examples of strategies that can be included in the MPO's CMP strategy "toolbox" and be considered for inclusion in the LRTP:

- Operating Existing Capacity More Efficiently
  - Transit signal priority
  - Optimizing the timing of traffic signals
  - Effective incident response
  - Coordinating transit service schedules
  - Access management
  - Identifying weather and road surface problems for rapid response
  - Improving management of work zones
  - HOV lanes

- Demand Management
  - Providing real-time information on transit schedules and arrivals
  - Parking management
  - Telecommuting programs
  - Suburban transit programs
  - Programs that encourage transit use, ridesharing, bicycling, and walking
  - Congestion pricing
  - Employer-based programs

- Land Use Strategies
  - Transit-oriented development
  - Smart growth/clustering development
  - Urban design

- Infrastructure Development
  - Adding capacity to the transit system
  - Removing bottlenecks at interchanges
  - Removing bottlenecks at lane drops
  - Adding bicycle or pedestrian transportation capacity

A CMP toolbox of potential strategies such as these is a framework for responding to congestion. For example, since one of the present policies of this MPO is to "Put priority on projects that maintain, repair, and modernize existing infrastructure,"[13] roadway capacity projects would be considered after other strategies from the toolbox, such as demand management or operations, have been applied. Also, strategies can be individual programs or projects (for example, incident management or bus AVL) or be implemented as part of a safety project or capacity improvements (for example, HOV lanes or ramp metering as part of a lane expansion project.).

Strategies from the CMP toolbox will have to be evaluated for effectiveness and for prioritization. Although there is a limited number of inexpensive tools that one can use to quantify benefits from these strategies, staff will apply qualitative and quantitative methods, to the extent that resources allow it, to predict the effects of operational strategies on system performance. This information will be used to assist the MPO in identifying strategies for inclusion in the LRTP. Tools available to staff, include:

- Sketch planning tools
- Travel demand forecasting model post-processors
- Simulation models (SYNCHRO, CORSIM, VISIM)
- Transportation planning model
- Archived data for before-after analysis

Staff feel it is likely that only very important strategies—and a minimal number of them—will be tested with quantitative methods as part of this work program, due to funding and schedule constraints. Evaluations will most likely be done qualitatively or using some preliminary, sketch-planning methods and tools. Additional evaluations could be done as part of projects funded in the UPWP over a period of time covered by the next LRTP.

Product(s) of Task 5

A technical memorandum on the following:

- Toolbox of available strategies
- Inventory of available analytical tools

[13] *JOURNEY TO 2030,* Visions and Policies section, page 4-2.

- Evaluation of selected strategies for effectiveness for identified congested locations, services, facilities, or modes
- Short-list of strategies for implementation or further study

Task 6 Select Appropriate Implementation Strategies and Include in LRTP, TIP, and UPWP

In this task, staff and the MPO will coordinate with project sponsor agencies and municipalities to select appropriate implementation strategies. Strategies will be categorized as short-term or long-term, depending on horizon of completion. The results of this task will be incorporated in the LRTP and TIP project selection or in the UPWP for further study.

For management and operation strategies, the LRTP could reflect this task in two different ways:

- contain a chapter specifically dedicated to management and operations strategies, or
- include a discussion of management and operations strategies in the context of LRTP strategies aimed at fulfilling goals and objectives of the LRTP that relate to improving congestion, mobility, accessibility, and safety, focus areas of the CMP.

Product(s) of Task 6

- A list of selected strategies, projects, programs, partnerships, and management approaches to implement and fund in the LRTP or TIP, or to study further in the UPWP

Task 7 Monitor Strategy Effectiveness

The purpose of this task is to:

- Evaluate the effectiveness of implemented strategies using the adopted performance measures
- Document successes and failures
- Provide feedback to beginning steps of CMP and LRTP for future interactions

These evaluation elements are important because they can: help transportation agencies communicate to the public and decision makers about the benefits of the adopted strategy, project, or program; track system performance; assess and refine operations objectives; support effective decision making; and inform decision makers of whether adjustments are needed for various strategies to work better.

This is a key step in the process prescribed by the federal regulation guidance, and enough time will be spent by staff on this task to formulate the monitoring program to begin after implementation of projects from this LRTP cycle. It may take some time to

study, fund, and implement most of the strategies selected as part of this integrated process. However, it is possible that management-type strategies or short-term operational improvements could be evaluated in the context of this work program. These types of strategy evaluations include before-and-after assessments of traffic signal timing improvements and coordination, bus rapid transit improvements (queue jumps, busways, signal priority), and removing bottlenecks.

Product(s) of Task 7

- Results from program, project, and strategy evaluation studies
- Development of guidelines or incentives for local governments that receive funding to conduct evaluation studies

Task 8 Coordinate with Transportation Agencies' Operations Staff and LRTP/TIP Staff

For the CMP to be fully integrated with the LRTP and the TIP through an objectives-driven approach to planning for operations, staff and the MPO must foster regional collaboration among the MPO, MPO and transportation agency planning staff, agency operators, safety officials, and others who routinely affect or depend on the region's transportation system. The involvement of operations, safety, and emergency response professionals from the following agencies would be required:

- MassDOT
  - Massport
  - MBTA
  - Highway Division
- City and town operations staff
- Police and fire officials
- Truck freight shippers
- Emergency response
- Business organizations

Engaging agency operator stakeholders to think in terms of regional management and operations objectives and programs is key to the success of incorporating management and operations strategies in the LRTP. Specifically, it is important to engage day-to-day-operations managers from a systems operations perspective and not from a capital projects perspective. One way to start this effort is by participating in existing forums in the region, like the regional ITS architecture or the ongoing safety evacuation planning efforts, sponsored by MassDOT. The role of the MPO would be to support MassDOT-sponsored interagency operations coordination and to promote the funding of effective strategies in the LRTP and the TIP. For example, MPO staff can facilitate interjurisdictional coordination and data sharing, help address funding strategies, increase operators' awareness of broader regional trends, needs, and strategies, deal with detailed technical or policy issues, and prioritize operations initiatives.

Product(s) of Task 8

- MPO staff support of a structure and a process that facilitates interagency collaboration for the purpose of identifying, through a performance-driven approach, operations strategies to fund in the LRTP and the TIP

Task 9 Support CMP Webpage Updates

One of the main components of the 2005 MMS work program[14] was to develop and maintain a webpage for the documentation and dissemination of MMS findings and of related information. This task is now complete, and the webpage[15] has become the primary medium for disseminating the findings from each of the program's tasks. Staff and other users visit the webpage seeking information and data to input in various types of analyses.

However, as new information and data become available, the webpage needs to be updated periodically. For example, the results of the monitoring and evaluations described in this work program will be uploaded, including text that describes the method of data collection and analysis, the results, and recommendations.

Product(s) of Task 9

- Further development and maintenance of CMP webpage, including uploading data and information collected and analyzed as part of this work program's monitoring

Task 10 Document CMP Findings and Recommendations

The purpose of this task will be to develop a technical briefing report to document the nine steps in the CMP process, the findings, and the recommendations for incorporating selected strategies in the LRTP and the TIP.

Product(s) of Task 10

- Technical report documenting CMP process, including findings and recommendations

ESTIMATED SCHEDULE

It is estimated that this project will be completed 20 calendar months after the notice to proceed is received. The proposed schedule, by task, is shown in Exhibit 1.

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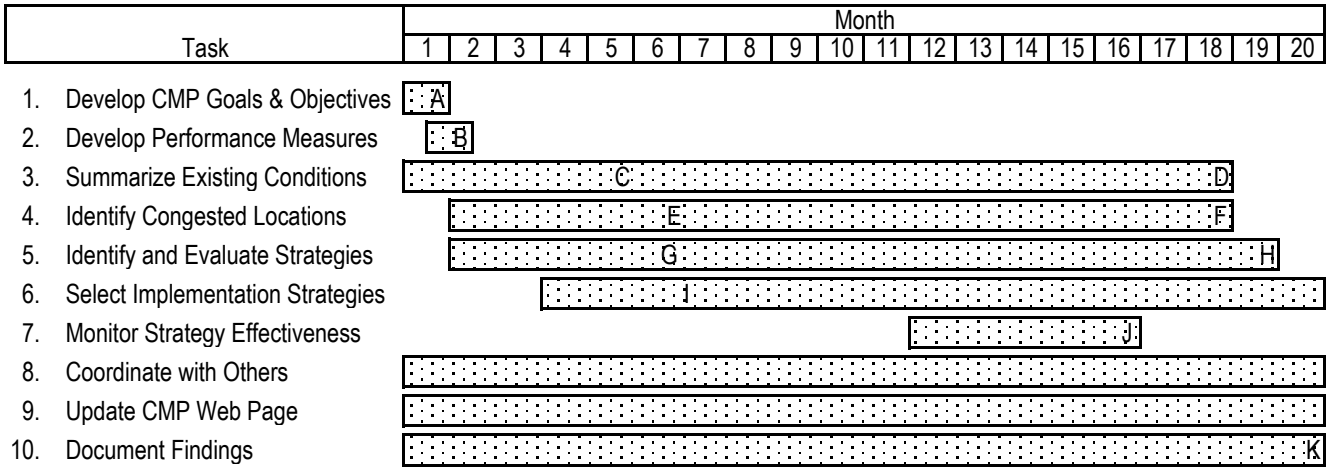
[14] Work program for Mobility Management System (MMS), 2005-2008, October 20, 2005.
[15] http://www.bostonmpo.org/bostonmpo/3_programs/6_mms/mms.html

ESTIMATED COST

The total cost of this project is estimated to be $383,053: $155,000 in FFY 2010 and $228,053 in FFY 2011. This includes the cost of 201.0 person-weeks of staff time, overhead at the rate of 88.99 percent, and travel. A detailed breakdown of estimated costs is presented in Exhibit 2.

AJS/EP/ep

Exhibit 1
ESTIMATED SCHEDULE
Congestion Management Process (CMP): February 2010, to September 2011



Products/Milestones

A: Technical memorandum no. 1
B: Technical memorandum no. 2
C: Technical memorandum no. 3
D: Technical memorandum no. 4
E: Technical memorandum no. 5
F: Technical memorandum no. 6
G: Technical memorandum no. 7
H: Technical memorandum no. 8
I: Technical memorandum no. 9
J: Technical memorandum no. 10
K: Technical Report

Exhibit 2
ESTIMATED COST
Congestion Management Process (CMP): February 2010, to September 2011

Direct Salary and Overhead	**$382,053**

Task	Person-Weeks M-1	P-5	P-4	P-3	P-2	P-1	Temp	Total	Direct Salary	Overhead (@ 88.99%)	Total Cost
1. Develop CMP Goals & Objectives	1.0	0.5	0.0	1.0	0.0	0.0	0.0	2.5	$3,464	$3,083	$6,546
2. Develop Performance Measures	1.0	0.0	0.0	4.0	0.0	0.0	0.0	5.0	$5,753	$5,120	$10,873
3. Summarize Existing Conditions	2.0	0.0	0.0	16.0	0.0	36.0	2.0	56.0	$44,990	$40,036	$85,026
4. Identify Congested Locations	3.0	0.0	3.0	10.0	5.0	15.0	2.0	38.0	$34,248	$30,477	$64,725
5. Identify and Evaluate Strategies	6.0	8.0	0.0	20.0	10.0	3.0	0.0	47.0	$53,727	$47,812	$101,539
6. Select Implementation Strategies	4.0	2.0	0.0	3.0	0.0	0.0	0.0	9.0	$12,827	$11,414	$24,241
7. Monitor Strategy Effectiveness	1.0	0.0	3.0	6.0	0.0	2.0	3.0	15.0	$14,345	$12,765	$27,110
8. Coordinate with Others	1.0	0.0	0.0	2.0	0.0	0.0	0.0	3.0	$3,695	$3,288	$6,984
9. Update CMP Web Page	0.5	2.0	0.0	5.0	0.0	2.0	0.0	9.5	$10,500	$9,344	$19,845
10. Document Findings	4.0	2.0	0.0	6.0	0.0	4.0	0.0	16.0	$18,606	$16,558	$35,164
Total	23.5	14.5	6.0	73.0	15.0	62.0	7.0	201.0	$202,155	$179,898	$382,053

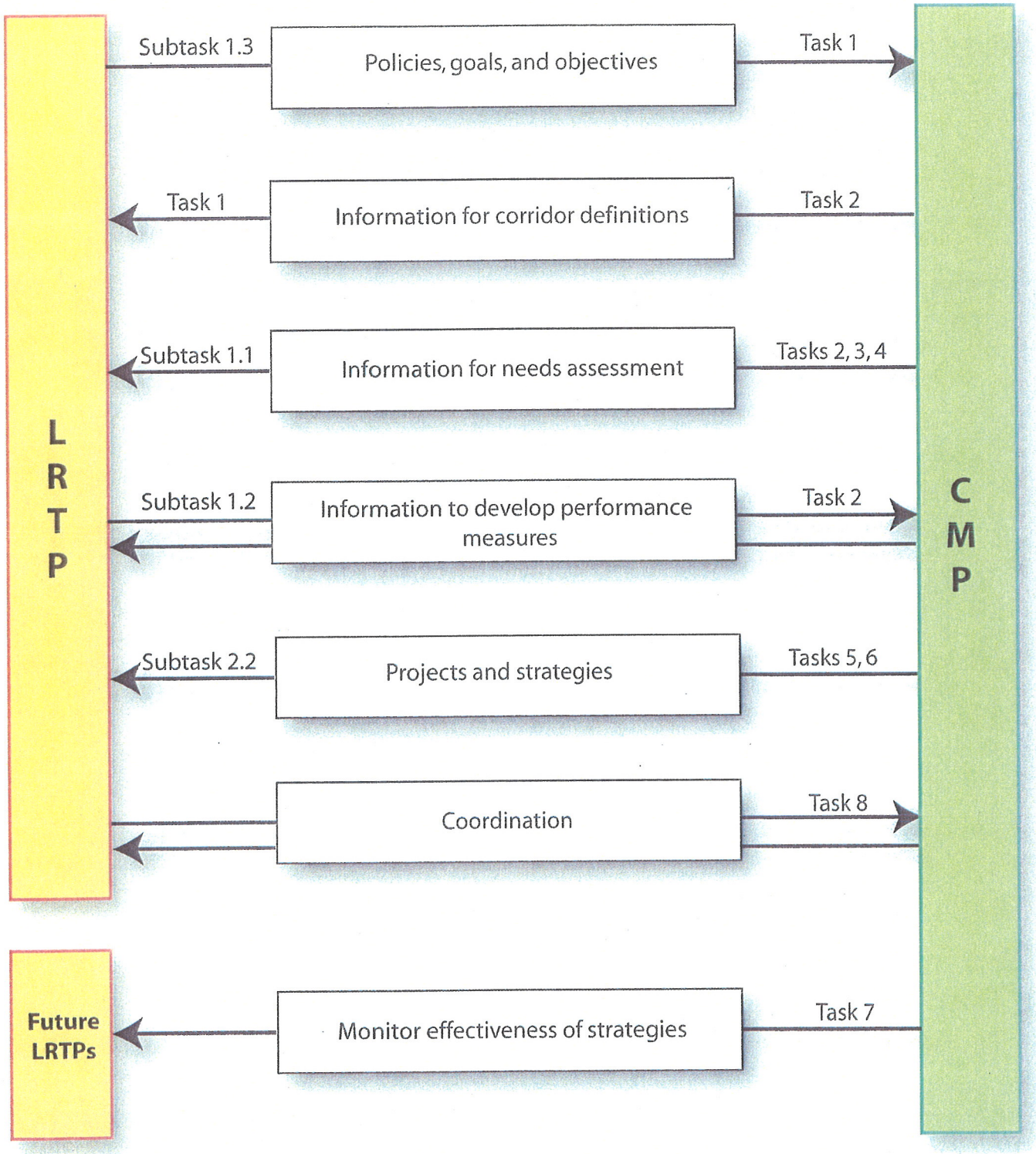
Other Direct Costs	**$1,000**
Travel	$1,000

TOTAL COST	**$383,053**

Funding

3C PL Transportation Planning Contract #59796

Linkages Between LRTP and CMP: Proposed Work Programs



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Jeffrey B. Mullan
MassDOT Secretary and CEO
and MPO Chairman

Arnold J. Soolman
Director, MPO Staff

MEMORANDUM

DATE January 21, 2010

TO Transportation Planning and Programming Committee of the Boston Region Metropolitan Planning Organization

FROM Alicia Wilson

RE JARC and New Freedom Grant Proposals Solicitation for the Boston Region MPO

The federal SAFETEA-LU act of 2005 authorized Job Access and Reverse Commute (JARC; 49 USC Section 5316) and New Freedom (49 USC Section 5317) funding grants for each federal fiscal year (FFY) between 2006 and 2009. The Massachusetts Department of Transportation (MassDOT) is the eligible recipient for the Boston urbanized area, which contains the Boston Region MPO and four other MPOs in Massachusetts.

JARC provides grants to support the development and maintenance of projects designed to transport welfare recipients and eligible low-income individuals to and from jobs and activities related to employment. New Freedom provides grants for new public transportation services and public transportation alternatives that go beyond the requirements of the Americans with Disabilities Act of 1990 in assisting individuals with disabilities.

MassDOT conducted proposal solicitations in 2008 and 2009. It uses a competitive selection process to determine which proposals recommended by each MPO will be funded. MassDOT funded nine Boston Region MPO proposals in 2008 and eight in 2009. It is now initiating a third solicitation for proposals. Funding available for the urbanized area is $3,218,695 for the JARC Program and $2,263,843 for the New Freedom Program.

The Boston Region MPO's proposal solicitation period runs from January 25, 2010, to March 5, 2010. A pre-proposal applicant workshop is scheduled for 10:00 AM on February 11 in the MPO conference room.

The Boston Region MPO, the federally designated entity responsible for transportation decision-making for the 101 cities and towns in the MPO region, is composed of:

MassDOT Office of Planning and Programming
City of Boston
City of Newton
City of Somerville
Town of Bedford
Town of Braintree
Town of Framingham
Town of Hopkinton
Metropolitan Area Planning Council
Massachusetts Bay Transportation Authority Advisory Board
Massachusetts Bay Transportation Authority
MassDOT Highway Division
Massachusetts Port Authority
Regional Transportation Advisory Council (nonvoting)
Federal Highway Administration (nonvoting)
Federal Transit Administration (nonvoting)

DEVAL L. PATRICK
GOVERNOR
TIMOTHY P. MURRAY
LT. GOVERNOR
JEFFREY B. MULLAN
SECRETARY & CEO

Moving Massachusetts Forward.
massDOT
Massachusetts Department of Transportation

January 15, 2010

Mr. Richard H. Doyle
Regional Administrator, Federal Transit Administration Region I
Volpe Center, 55 Broadway, Suite 920
Cambridge, MA 02142-1093

Dear Administrator Doyle:

I am writing in response to your January 13, 2010 letter informing the Massachusetts Bay Transportation Authority (MBTA) that the proposed $8.4 million Lynn Commuter Ferry Terminal Project will not be a candidate for funding under the American Recovery and Reinvestment Act (ARRA).

The Lynn Ferry project on Blossom Street is fully permitted, has a reliable cost estimate and can be built within the ARRA timeframe. It is also an important economic development project for the City of Lynn, providing new transit service to Boston for residents on the North Shore and playing a critical role in providing access to the waterfront. It will put people to work today and support job growth in the future. For these reasons, we continue to support the Lynn Ferry project.

Without ARRA funding, we will not be able to move forward with construction. While we are disappointed in your decision not to approve this project for ARRA funding, we will continue to work with the Federal Transit Administration to make this project ready for future funding opportunities.

Sincerely,

Jeffrey B. Mullan
Secretary and Chief Executive Officer

William A. Mitchell, Jr.,
Acting General Manager and
Acting Rail & Transit Administrator

U.S. Department
of Transportation
**Federal Transit
Administration**

REGION I
Connecticut, Maine,
Massachusetts,
New Hampshire,
Rhode Island, Vermont

Volpe Center
55 Broadway, Suite 920
Cambridge, MA 02142-1093
617-494-2055
617-494-2865 (fax)

January 13, 2010

Mr. William A. Mitchell, Jr.
Acting General Manager
Massachusetts Bay Transportation Authority
Ten Park Plaza
Boston, MA 02116

Re: **Lynn Ferry Terminal – American Recovery and Reinvestment Act Funds (ARRA)**

Dear Mr. Mitchell:

The Federal Transit Administration (FTA) has reviewed the Massachusetts Bay Transportation Authority's (MBTA) draft proposal for the construction of a new ferry terminal at Blossom Street in Lynn, Massachusetts. The purpose of the project is to build a series of landside improvements (installation of a new bulkhead and docking system) to support a new ferry service from Lynn to Long Wharf in Boston, Massachusetts. The MBTA on behalf of the Massachusetts Department of Transportation (Mass DOT) has proposed the use of $8,400,000 of ARRA funds for the construction of these landside improvements. The Economic Development Industrial Corporation of Lynn is the proposed operator of the ferry service.

In addition to the proposal, the FTA reviewed two planning studies ("Findings of Feasibility Lynn-Boston Commuter Water Study" prepared by the Research and Special Programs Administration (RSPA) and "Manual Demand Forecasts for Water Transportation Alternatives" prepared by the Central Transportation Planning Staff (CTPS)). Based on our evaluation of all three documents, the MBTA's proposal for new ferry services is inconsistent with the CTPS and RSPA studies. The following are excerpts that highlight this issue:

- "A commuter boat route from Lynn to Boston would be run as an alternative to the Salem route discussed above. It is unlikely that both routes would be run simultaneously unless one proved to be unexpectedly successful." – CTPS Study (Salem service in operation)

- "Many residents use the Blue Line service because of its fare and frequency advantages, accessing the service by driving and parking on-site or nearby." RSPA Study (questions the need for a new ferry service for Lynn residents)

- "At present, the total number of Lynn residents employed at South Boston locations within convenient walking distance of the World Trade Center Pier is about 200 at most. With a very high 50% share, a boat from Lynn would capture no more than 100 of these. With future development this could increase to about 300." – CTPS Study (terminus proposed at Long Wharf mirroring the alignment of the Blue Line)

- "The model forecasted that all trips in the second case would be diverted form buses and commuter rail." – RSPA Study

- Fare Assumptions
  - Proposal - $5.40 (no subsidy/annual profit of $81,000)
  - RSPA - $2.00 (analysis indicates a subsidy of approximately $4.20 is needed)

FTA also wants to note that during a recent site visit to Blossom Street, we observed a challenging vehicle access issue. The raised median along Route 1A/Lynnway presents a physical barrier for potential riders traveling south to access Blossom Street. In order to access the site, potential riders must reverse directions along Route 1A. Potential transit patrons must travel approximately 500 feet past Blossom Street, make a U turn at the next lighted intersection and then travel north along Route 1A to arrive at Blossom Street.

Based on the above, the FTA has determined that the proposed Lynn ferry service is not supported by existing planning analysis and therefore should not be a candidate for ARRA funds. If the parties are still interested in pursuing future public transportation options in the Lynn area, FTA recommends an update of the existing planning studies (i.e., evaluation of the existing transportation network, updated ridership forecast, comprehensive examination of capital needs, refined service plan, financial analysis of operating and capital expenses, etc.). The FTA is available to assist in this planning activity.

Please be aware, the ARRA funds continue to be available for more viable highway and/or transit projects on the North Shore or other areas of the Commonwealth.

Please let us know if you have any questions.

Sincerely,

Richard H. Doyle
Regional Administrator

Cc: J. Mullan, Secretary and CEO Mass DOT

ARRA
FFY2010 Project List

NO.	PROJECT	REGION	COST	STATUS
602086	LANESBOROUGH- RECONSTRUCTION ON ROUTE 7/ROUTE 8 CONNECTOR ROAD, INCLUDES MAINTENANCE OF BRIDGE NO. L-03-022	BERKSHIRE	$10,212,674	Advertised
602493	BELLINGHAM- RECONSTRUCTION & SIGNAL UPGRADES ON PULASKI BOULEVARD, FROM MOODY STREET TO FRANKLIN T.L., INCLUDES REHAB OF B-06-012, PULASKI BOULEVARD OVER PETER'S RIVER	BOSTON REGION	$12,982,190	Advertised
605633	BOSTON - RESURFACING AT VARIOUS LOCATIONS	BOSTON REGION	$21,500,000	Advertised
FLEX	MBTA TRANSIT FLEX (KEY BUS ROUTES)	BOSTON REGION	$10,000,000	Advertised
604916	NORWOOD- IMPROVEMENTS & SIGNALIZATION AT PLEASANT STREET AND MORSE STREET	BOSTON REGION	$1,217,610	Advertised
602027	BRAINTREE- RESURFACING & RELATED WORK ON ROUTE 37, FROM PEACH STREET TO THE HOLBROOK T.L.	BOSTON REGION	$2,700,000	Advertised
FLEX	WONDERLAND STATION GARAGE	BOSTON REGION	$22,700,000	Advertised
605068	OAKHAM- BRIDGE BETTERMENT, O-02-005, ROUTE 122 (WORCESTER ROAD) OVER MUDDY POND BROOK	CENTRAL MASS	$1,500,000	Advertised
605579	GARDNER- RESURFACING & RELATED WORK ON ROUTE 140	MONTACHUSETT	$2,575,000	Advertised
604958	BRIDGEWATER- RECONSTRUCTION OF NORTH STREET, FROM PLEASANT STREET (ROUTE 104) TO VILLAGE GATE DRIVE	OLD COLONY	$1,420,820	Advertised
604718	CHESTERFIELD- RECONSTRUCTION OF EAST STREET INCLUDES CULVERT REPLACEMENT	PIONEER VALLEY	$3,305,000	Advertised
605709	CHICOPEE - RESURFACING AND RELATED WORK ON BURNETT ROAD FROM NEW LOMBARD ROAD TO LUDLOW TOWN LINE	PIONEER VALLEY	$1,100,000	Advertised
605643	HOLYOKE- RESURFACING & RELATED WORK ON WESTFIELD ROAD (ROUTE 202), FROM ASHLEY ROAD TO OLD COUNTY ROAD	PIONEER VALLEY	$1,545,000	Advertised
604437	LUDLOW - INTERSECTION IMPROVEMENTS CHAPIN AND EAST	PIONEER VALLEY	$220,028	Advertised
605673	SOUTH HADLEY- RESURFACING & RELATED WORK ON HADLEY STREET (ROUTE 47)	PIONEER VALLEY	$1,500,000	Advertised
603543	SPRINGFIELD- LANDSCAPING ON COLUMBUS AVENUE (EAST & WEST) ALONG ROUTE I-91 RAMP RELOCATION	PIONEER VALLEY	$1,800,000	Advertised
605648	AMHERST ROUTE 116 RESURFACING - S. OF ROUTE 9 TO HAMPSHIRE COLLEGE ENTRANCE	PIONEER VALLEY	$2,300,000	Advertised
605098	FALL RIVER - RTE. 24 OVER BEDFORD ST	SOUTHEAST MASS	$3,643,893	Advertised
605194	WAREHAM- RESURFACING & RELATED WORK ON ROUTE 6 & 28	SOUTHEAST MASS	$734,950	Advertised
605710	HARDWICK- RESURFACING & RELATED WORK ON ROUTE 32, FROM 3,000 FT EAST OF ROUTE 32A TO BARRE T.L.	CENTRAL MASS	$2,412,700	Advertised
FLEX	RTA TRANSIT FLEX (OPERATING HOLD HARMLESS)	ALL REGIONS	$7,070,570	Advertised
605695	PITTSFIELD- RESURFACING ON FIRST STREET, BARKER ROAD, HOLMES ROAD & VALENTINE ROAD	BERKSHIRE	$2,718,270	Programmed
605672	ARLINGTON- CAMBRIDGE- SOMERVILLE- ALEWIFE GREENWAY CORRIDOR RESTORATION (AKA MINUTEMAN BIKE PATH CONNECTOR)	BOSTON REGION	$3,648,900	Programmed
605662	BOSTON, NEWTON, WATERTOWN - NONANTUM ROAD IMPROVEMENTS	BOSTON REGION	$7,926,360	Programmed
604991	FRAMINGHAM- NATICK- RESURFACING & RELATED WORK ON ROUTE 9	BOSTON REGION	$12,505,270	Programmed
FLEX	LYNN- IMPROVEMENTS AT BLOSSOM STREET FERRY TERMINAL	BOSTON REGION	$8,400,000	Programmed
	MASSACHUSETTS EMERGENCY TRANSPORTATION FIBER OPTIC NETWORK (METFON)	BOSTON REGION	$2,000,508	Programmed
605122	MEDFORD- IMPROVEMENTS & REALIGNMENT ON CLIPPERSHIP DRIVE	BOSTON REGION	$1,000,000	Programmed

ARRA
FFY2010 Project List

NO.	PROJECT	REGION	COST	STATUS
604664	QUINCY- CENTER CONCOURSE IMPROVEMENTS ON REVERE ROAD (MCGRATH HIGHWAY - PHASE II)	BOSTON REGION	$7,197,469	Programmed
605968	QUINCY- CENTER CONCOURSE IMPROVEMENTS (BUILDING DEMOLITION)	BOSTON REGION	$1,026,150	Programmed
605680	SOMERVILLE - ASSEMBLY SQUARE ACCESS IMPROVEMENTS	BOSTON REGION	$15,205,910	Programmed
603288	SOMERVILLE- RECONSTRUCTION ON WASHINGTON STREET, FROM BOSTON C.L. TO MCGRATH HIGHWAY (ROUTE 28)	BOSTON REGION	$1,615,990	Programmed
603318	WESTFIELD - MAIN STREET (RTE. 20) AND PARK SQUARE HIGHWAY IMPROVEMENTS	PIONEER VALLEY	$5,440,281	Programmed
602759	ATTLEBORO - ROUTE 152 (N. MAIN ST.) RECONSTRUCTION, PHASE II	SOUTHEAST MASS	$1,845,300	Programmed
602942	ORANGE- IMPROVEMENTS ALONG ROUTE 2, INCLUDES REHAB OF O-03-022	FRANKLIN REGION	$19,868,037	Programmed
605756	LYNNFIELD- WAKEFIELD- SIGNAL & INTERSECTION IMPROVEMENTS AT WALNUT STREET & I-95, SALEM STREET & AUDUBON ROAD AT I-95	BOSTON REGION	$6,718,955	Programmed
604474	DOUGLAS- SUTTON- UXBRIDGE- RESURFACING & RELATED WORK ON ROUTE 146 (PROVIDENCE PIKE)	CENTRAL MASS	$9,980,770	Programmed
			$98,698,170	

605383	DANVERS- PEABODY- RESURFACING & RELATED WORK ON ROUTE 114	BOSTON REGION	$3,300,000	Replacement
FLEX	Bridge Rehabilitation - Dean Road	BOSTON REGION	$785,577	Replacement
FLEX	Wedgemere Commuter rail accessibility enhancement	BOSTON REGION	$2,000,000	Replacement
FLEX	Red Line Floating Slab Work	BOSTON REGION	$3,526,123	Replacement
			$9,611,700	**REMAINING FUNDS**
			$0	

	REMOVE
	COST ADJUSTMENT
	REPLACEMENT

MBTA FEDERAL FORMULA PROGRAM
Federal Fiscal Year 2010

Section 5307		Before Amendment	Amendment 3 January 2010	After Amendment
Systemwide	Locomotive and Coach Procurement	12,000,000		12,000,000
Systemwide	ITS Initiatives	5,000,000	(3,200,000)	1,800,000
Systemwide	Power Improvements	7,000,000		7,000,000
Systemwide	Station Rehab	8,000,000		8,000,000
Green Line	MBTA Accessibility Program (LRAP)	12,000,000		12,000,000
Blue Line	Blue Line Vehicles	-		-
Systemwide	Station Management Program	-		-
Bus	CNG Bus Overhaul Program	10,000,000		10,000,000
Bus	Everett Maintenance Facility	5,000,000		5,000,000
Systemwide	Redundant Operations Control Center	-		-
Systemwide	Elevator Replacement /Rehabilitation	5,000,000		5,000,000
Systemwide	Grant Application Notes (GANs) Program	18,000,000		18,000,000
Systemwide	MBTA Enhancement Program			-
Systemwide	Preventive Maintenance	10,000,000		10,000,000
Systemwide	Bus and Train Arrival LCD Signage	2,400,000		2,400,000
Orange Line	Orange Line Vehicles	-	**1,600,000**	1,600,000
Systemwide	Maintenace Facilities - Equipment	-		-
Commuter Rail	Commuter Rail Systems Upgrades	3,600,000		3,600,000
Systemwide	Specialized Non-Revenue Vehicles	4,000,000	**1,600,000**	5,600,000
Systemwide	Parking Program	5,000,000		5,000,000
Systemwide	Station Accessibility Program **(1)**	16,000,000		16,000,000
Commuter Rail	Commuter Rail Accessibility	5,000,000		5,000,000
Systemwide	Environmental Program	2,000,000		2,000,000
Ferry System	Ferry System Enhancements	4,000,000		4,000,000
				-
Section 5307 Total		**134,000,000**	**-**	**134,000,000**
				-

Section 5309			
Blue Line	Blue Line Modernization	8,500,000	8,500,000
Red Line	Red Line No. 2 Car Overhaul	14,000,000	14,000,000
Systemwide	Kawasaki Coaches	2,000,000	2,000,000
Systemwide	Locomotive and Coach Procurement	8,000,000	8,000,000
Green Line	Positive Train Control	1,000,000	1,000,000
Subway	Station Platform Program	7,000,000	7,000,000
Commuter Rail	CRASP	8,500,000	8,500,000
Subway	Subway Vehicle Programs	22,000,000	22,000,000
			-
Section 5309 Total		**71,000,000**	**71,000,000**
			-
Section 5309 Infrastructure Program			
Red Line	Columbia Junction	7,000,000	7,000,000
Systemwide	Power Improvements		-
Systemwide	Bridge and Tunnel Program	6,000,000	6,000,000
Systemwide	Track Upgrades	5,000,000	5,000,000
Systemwide	Signal Systems Upgrades	5,000,000	5,000,000
Section 5309 Infrastructure Program Total		**23,000,000**	**23,000,000**
Section 5309 Total		**94,000,000**	**94,000,000**
Grand Total		**228,000,000**	**228,000,000**

(1) To include Symphony/Hynes/Wollaston and Science Park

Moving Massachusetts Forward.
massDOT

Massachusetts Department of Transportation

Transit Commitments
January 2010 Status Report

January 21, 2010

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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 four outstanding State Implementation Plan (SIP) transportation control measure (TCM) projects: (1) improvements to the Fairmount Line, (2) the siting and construction of 1,000 new commuter parking spaces, (3) the design of the Red Line/Blue Line Connector, and (4) 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. 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 staring November 2009."*

This is the third of the required status reports, to be presented at the Boston MPO's Transportation Planning and Programming Committee at their January 21, 2010 meeting. This report builds on the *State Implementation Plan Transit Commitments 2009 Status Report*, submitted to the Massachusetts Department of Environmental Protection on July 1, 2009. This report will be posted on the website of the Massachusetts Department of Transportation.

I. FAIRMOUNT LINE IMPROVEMENT PROJECT

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 MBTA 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 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.

Project Cost

The total estimate for the Fairmount Line Improvements SIP Project is $138,105,000.

Project Funding

In August 2007, MassDOT and the MBTA executed a contract to transfer approximately $39 million in Commonwealth bond funds from MassDOT to the MBTA to support the costs of (1) signal work, (2) reconstructing three major bridges on the line (the Columbia road, Quincy Street, and Massachusetts Avenue bridges), (3) designing three others (the Talbot Avenue, Woodrow Avenue, and Neponset River bridges), and (4) designing the remaining three new stations (the Newmarket, Talbot, and Blue Hill Avenue stations). A supplemental funding agreement providing $23,756,574 in Commonwealth bond funding has been executed for the cost of construction of the Four Corners Station, a construction contract was executed by the Acting General Manager during the week of January 11.

SIP Deadline

"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)."

Project Status

Systems

The upgrades to the interlocking and signal system 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 work currently scheduled to be completed in 2010. The design of the Talbot Avenue, Woodrow Avenue, and Neponset River bridges is 100% complete and construction is expected to begin in the spring of 2010. Talbot Avenue and Woodrow Avenue will be constructed under the same construction contract as the Talbot Avenue Station with the project construction bid advertisement anticipated for January/February 2010 with finalization of the state funding agreement. The Neponset River Bridge will be a stand-alone construction project occurring at the same time.

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.

New Stations

The MBTA has completed the design of **Four Corners Station.** Construction bids were opened in October 2009. The MBTA Board of directors approved authorization of a $17.7 million construction contract award to S & R Construction at its December 2009 meeting. The contract was executed by the Acting General Manager during the week January 11, 2010. The construction of the Four Corners Station will begin in the spring of 2010 and is anticipated to continue for 24 to 27 months. This construction projection suggests that this station will be completed three to six months after the SIP deadline of December 31, 2011.

Currently, **Talbot Avenue Station** is at 100% design and the MBTA anticipates putting the project out to bid for construction in January/February 2010. This construction package will also include the rehabilitation of the Talbot Avenue and Woodrow Avenue Bridges. An approximately two-year construction period is anticipated. MassDOT and the MBTA currently estimate that the completion of this station will be delayed past the December 31, 2011 SIP deadline by approximately six to nine months.

Newmarket Station is currently at 100% design. The construction of this station will be advertised shortly. MassDOT and the MBTA currently estimate that the completion of this station will be delayed past the December 31, 2011 SIP deadline by approximately six to nine months.

Blue Hill Avenue/Cummins Highway is at 60% design, but concerns raised by abutters about negative local impacts compelled the MBTA to review potential alternative locations for Mattapan Station. A technical assessment of an alternative station site in the River Street area has been completed, and the MBTA has once again determined that the Blue Hill Avenue/Cummins Highway location is the best site for a Mattapan-area station. MassDOT and the MBTA are now readying to meet with community members to attempt to find a positive resolution to the issue. Depending on the outcome of this civic engagement effort, the MBTA hopes to complete final design of a Mattapan station in 2010 and maintain the schedule for meeting the December 2011 deadline.

<u>Potential Challenges</u>

Should the construction projections for the Four Corners, Talbot, and Newmarket Stations prove accurate, the delay would trigger the need for MassDOT to collaborate with DEP to publicly develop a mitigation proposal for the interim months. In addition, abutter concerns about the preferred location for a Mattapan station may impact the final completion schedule for the overall Fairmount project.

II. CONSTRUCTION OF 1,000 NEW PARKING SPACES

Project Description

The MBTA will construct 1,000 new parking spaces within the area of the Boston Region Metropolitan Planning Organization to encourage commuters and other travelers to make use of the public transit network for trips into downtown Boston. MassDOT and the MBTA have identified the Beverly Commuter Rail Station and the Salem Commuter Rail Station as good candidates for new parking structures. The MBTA is also implementing new parking spaces at other locations throughout the area of the Boston Region MPO.

Project Cost

Beverly cost estimate (concept level): $20,300,000
Salem cost estimate (pre-30%): $45,000,000

Project Funding

MassDOT will fund the costs of the Beverly and Salem parking projects . The costs of other parking projects will be supported by the MBTA.

SIP Deadline

Before December 31, 2011, construction of the following facilities shall be completed and opened to full public use: 1000 new park and ride parking spaces serving commuter transit facilities within the 101 cities and towns constituting the Boston Metropolitan Planning Organization.

Project Status

Beverly

On June 8, 2008, the MBTA issued a solicitation for a mixed-use development – to include the parking as well as other uses – for appropriate parcels in the vicinity of the Beverly commuter rail station. Proposals were received by the advertised deadline of August 8, 2008, and based on these proposals, MassDOT and the MBTA selected a preferred location on a series of parcels on Rantoul Street in downtown Beverly. Based on that selection, the MBTA completed the federal environmental review of the project. At its meeting on June 4, 2009, the MBTA Board of Directors voted to acquire the property using state and federal funding. Land acquisition was completed over the summer.

No responsive bids were received in Fall 2009 for joint public-private development of the garage facility. An alternative implementation plan is underway to initiate design of a stand-alone garage facility and undertake a Construction Management At Risk procurement under Massachusetts General Laws Chapter 149A. Action is pending for a future MBTA Board of Directors meeting seeking authorization for the Authority to apply with the Inspector General's office to pursue the alternative

procurement option and facilitate meeting the SIP project deadline of December 2011. MassDOT has agreed to assist in the public costs of the Beverly project with the primary requirement that the project meet the overall completion deadlines identified in the SIP. Proposed schedule for implementation includes:

- February 2010 through Summer 2010: Design/Permitting
- Fall 2010: Construction Start
- Spring/Summer 2011: Construction Completion (34 weeks)

Salem

The parking garage at the Salem commuter rail station would contain approximately 750 spaces in a multi-level structure to be shared proportionately between the MBTA and the Department of Capital Asset Management (DCAM). Currently, DCAM proposes to contribute $3 million in exchange for the use of 150 spaces to serve the new Essex County Courthouse complex. The project is estimated to cost approximately $45 million. In addition to the $3 million in DCAM funding, the FTA has earmarked $3.375 million for the project.

The contract amendment to advance design of the 750 space Salem parking garage to 30% was approved by the MBTA and work commenced in early June, 2009. The 30% design was completed in December 2009. The funding agreement is pending to complete the final design. The final design contract scope is scheduled for a future MBTA Board of Directors meeting.

Other Projects

In addition to the projects described above, MassDOT and the MBTA is and will continue to pursue other parking projects that will support the SIP requirement, including the construction of parking at Wonderland Station, at Quincy Shipyard (168 new spaces currently under construction and anticipated for completion in 2010), Savin Hill station (30 new spaces completed), and Sullivan Square station (10 new spaces completed). MassDOT and the MBTA will continue to seek out all viable opportunities to add commuter parking to the MBTA system, while also pursuing large projects like those at Salem, Wonderland, and Beverly.

The Wonderland project is worth particular note because it is advancing quickly, in part due to funding from the American Recovery and Reinvestment Act (ARRA). The availability of ARRA funding is making it possible for more Wonderland parking spaces to be completed more quickly than originally anticipated.

Completion of all of the projects identified here will provide new commuter parking spaces in excess of the 1,000 required by the SIP.

Potential Challenges

The process of identifying appropriate locations in which to construct the required 1,000 new parking spaces has been lengthier than expected. While the effort is now underway and locations for the construction of new large-scale MBTA parking facilities have been identified (to date: the MBTA Commuter Rail stations in Salem and Beverly, as well as a transit-oriented development project at Wonderland Station), the exact timeframe within which all of the 1,000 spaces will be constructed is not fully defined. Current projections suggest that the Wonderland Station project will be in construction at the time of the required SIP deadline of December 31, 2011, but substantial completion will likely occur several months after the deadline. Likewise, both the Salem and Beverly projects may be completed after the required SIP deadline of December 31, 2011. Should construction estimates project that all 1,000 spaces will still likely not be completed by the SIP deadline, the delay would trigger the need for MassDOT to collaborate with DEP to publicly develop a mitigation proposal for the interim months.

III. RED LINE-BLUE LINE CONNECTOR - DESIGN

Project Description

The proposed Red Line/Blue Line Connector – intended to improve mobility and regional transportation access for residents of East Boston and North Shore communities and the residents of Cambridge and the northwestern suburbs, as well as relieve congestion in the central subway – 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 consists 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 will 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 at Bowdoin Station. The exact configurations of both the Charles/MGH platform and the new Blue Line station have not yet been determined.

Project Cost

It is estimated that it will require $30,000,000 to complete the legal commitment (the current consultant contract is for $3,000,000 to complete a Draft Environmental Impact Report by June 2010).

Project Funding

The 'immediate needs' Transportation Bond Bill of 2007 provided state bond funding for the design of the Red Line/Blue Line Connector project. The costs of this project will be supported using funds from that source.

SIP Deadline

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 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 is completing the necessary environmental reviews and conceptual engineering for the project, as described below.

Public Outreach

- Five Working Group meetings have been held with the most recent one on December 14. Additional Working Group meetings will be scheduled every two months until the Draft Environmental Impact Report is submitted.
- A project website has been launched.

Refinement of Alternatives/Conceptual Engineering

- The refinement of 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 eliminated. 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.
- The 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

- Alternatives Analysis will be completed January 2010.

Design

- The conceptual design of the project is underway.

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 Definition of Alternatives Report.

Real Estate Requirements

- Potential real estate impacts will be identified as part of DEIR/EA.

The following major milestones are anticipated over the course of the next year:

- Alternatives Analysis Report – January 2010
- Draft Environmental Impact Report – Spring 2010

By filing an Expanded Environmental Notification Form and having successfully selected a design consultant, MassDOT is advancing the Red Line/Blue Line Connector project. MassDOT currently believes that it is on track to meet the SIP requirement to complete final design for the Red Line/Blue Line Connector by December 31, 2011.

Potential Challenges

There has been some unfavorable press coverage about the Red Line/Blue Line project spending $3 million on a project that does not currently have capital funds for construction. There is the possibility that soliciting proposals for the approximately $25 million required to comply with the legal commitment will generate additional negative publicity given recent reviews of the state of the MBTA's finances.

IV. 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 smart growth initiatives and sustainable development – will extend the Green Line from a relocated Lechmere Station within the MBTA's Lowell Line commuter rail right-of-way to Medford with a branch line along the MBTA's Fitchburg Line commuter rail right-of-way to the vicinity of Union Square in Somerville.

Stations are currently proposed to be located in the vicinity of:

- **Mystic Valley Parkway/Route 16** – Located in the vicinity of the intersection of Mystic Valley Parkway/Route 16 and Boston Avenue in Somerville/Medford, south of the Mystic River. The station platform will be located south of the Mystic Valley Parkway/Route 16 undergrade crossing of the MBTA's Lowell Line commuter rail tracks. Access to the station will be provided via property adjacent to Boston Avenue and Route 16. *This station is proposed to be constructed as part of a second phase of the project, to be completed after the December 31, 2014 legal deadline.*
- **College Avenue/Medford Hillside** – 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 overgrade bridge crossing of the MBTA's Lowell Line commuter rail tracks. Access to the station will be provided from both Boston Avenue and College Avenue.
- **Broadway/Ball Square, Medford/Somerville** – Located at the intersection of Broadway and Boston Avenue on the north side of Ball Square (located in both Somerville and Medford). The station platform will be located on the north side of the Broadway overgrade bridge crossing of the MBTA's Lowell Line commuter rail tracks. Access to the station will be provided from both Boston Avenue and from Broadway.
- **Lowell Street, Somerville** – Located at the Lowell Street bridge overgrade crossing of the MBTA's Lowell Line commuter rail tracks, adjacent to the proposed Somerville Community Path. The station platform will be located on the north side of the Lowell Street Bridge and 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's Lowell Line commuter rail tracks, behind Somerville's City Hall, Public Library, and High School. The station platform will be located on the north side of the Medford Street overgrade bridge crossing of the MBTA's Lowell Line commuter rail tracks. Access to the station will be

provided from Medford Street. The proposed Somerville Community Path will be located in close proximity to the station.

- **Brickbottom, Somerville** – Located in the vicinity of Washington and Joy Streets in Somerville's Brickbottom/Inner Belt area. The station platform will be located south of Washington Street's undergrade crossing of the MBTA's Lowell Line commuter rail tracks. Access to the station will be provided via property on Joy Street, with potential access also to occur from the City's proposed Inner Belt development on the east. The proposed 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's Fitchburg Line commuter rail right-of-way east of Prospect Street from both the street and bridge levels. Access to this station will be provided from Prospect Street.

Support Facility

The Green Line Extension will also require the construction of a new light rail maintenance facility for vehicle care and storage in the vicinity of the Green Line Extension. MassDOT has identified a three-part parcel known as Yard 8 – in the Brickbottom/Inner Belt area of Somerville – as the preferred location within the project corridor for the facility. In addition, MassDOT is currently studying two alternative locations for the maintenance/storage facility, known as 'Mirror H' and 'Option L'. MassDOT has prepared a preliminary analysis of these additional sites, which is available on the Green Line Extension project website (www.mass.gov/greenlineextension). MassDOT also presented the information at a public meeting on December 16 in Cambridge.

Project Cost

The DEIR/EA includes concept plans (at the 10% level) for the alternative alignments considered for the Green Line Extension project, as well as detailed capital cost estimates for those alternatives. The capital improvements include, but are not limited to: construction of track, station structures, drainage, utilities, property acquisitions and relocations, vehicle acquisitions, and the construction of a vehicle maintenance facility. The project cost also includes relocating the existing Lechmere Station. The total cost is estimated at $805 million in 2008 dollars, including $76 million for the purchase of new vehicles. The total estimated costs for the project have been increased to include inflation for the implementation period (Year of Expenditure Dollars or "YOE"). The YOE dollar costs for the project are projected to be $932.4 million.

Project Funding

MassDOT intends to pursue federal funding – through the competitive New Starts program managed by FTA – to support the construction of the Green Line Extension project. In 2008, the FTA engaged a Project Management Oversight Consultant (PMOC) to undertake a review of the preliminary cost estimate for the Green Line Extension

Project. The PMOC review identified a number of issues that introduce risk into this preliminary cost estimate. The most significant issues relate to construction methodology and schedule. As a result, FTA is not able to endorse these cost estimates at this time. MassDOT recognizes these issues, which are principally related to the current state of conceptual engineering for the Project, as appropriate to a draft environmental document. MassDOT will continue to work with FTA and the PMOC process to address these issues and ensure FTA endorsement of the Green Line Extension Project cost estimates as the Project develops through preliminary engineering and final design.

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; 2. The Green Line Union Square spur of the Green Line Extension to Medford Hillside.

Project Status

The following work has been completed or is currently on-going in support of the Green Line Extension project:

Public Outreach

- Advisory Groups– 11 held
- Station Workshops (February 2008) – 5 held
- Interagency meetings (ongoing) – 31 held so far
- Neighborhood briefings– 16 held so far
- Public agency and local official briefings (ongoing) – 43 held so far
- Institution and business group meetings (ongoing) – 3 held so far
- Public Meetings – 5 held so far
- Advisory Group Tutorials– 3
- Public Hearing – 1 held for DEIR/EA

Refinement of Alternatives

- Completed

Development of Design Criteria

- Completed

Station Location Program and Siting

- Completed

Support Facility Program and Siting

- Completed

Design of Green Line Vehicles

- Underway (using funding provide by MassDOT, the MBTA and their consultant are currently developing vehicle specifications). The MBTA intends to advertise for vehicle procurement early in 2010.

Alternatives Analysis
- Completed

Conceptual Engineering
- Completed

Design
- Completed

Cost Estimates
- Completed, currently being reviewed by FTA

Construction Staging and Sequencing Plans
- Completed, currently being reviewed by FTA

Real Estate Requirements
- Completed, potential real estate impacts have been identified as part of DEIR/EA. MassDOT will continue to work with the project team and the MBTA to investigate opportunities to minimize property impacts during Preliminary Engineering.

The following major milestones are anticipated for the next few months:
- FTA New Starts Application – Spring 2010
- Submission of a Final Environmental Impact Report – Spring 2010

Potential Challenges

The challenge of siting a northside support facility for the storage and maintenance of Green Line vehicles – a facility integral to the implementation of the Green Line Extension as a whole – has proven formidable. MassDOT is continuing to work on the issue and, with public and municipal input and collaboration, hopes to have a resolution soon.