

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

**March 31, 2011 Meeting**

10:00 AM – 12:45 PM, State Transportation Building, MPO Conference Room, Suite 2150, 10 Park Plaza, Boston

Clinton Bench, Chair, representing Jeffrey Mullan, Secretary and Chief Executive Officer, Massachusetts Department of Transportation (MassDOT)

**Decisions**

The Transportation Planning and Programming Committee did not take any votes at this meeting.

**Meeting Agenda**

**1. Public Comments**

Judy LaRocca, Chair of the Bruce Freeman Rail Trail Advisory Committee, Town of Concord, asked the MPO to keep the *Bruce Freeman Rail Trail, Phase 2* project in the Long-Range Transportation Plan (LRTP) and to move it to an earlier element of the Transportation Improvement Program (TIP), such as federal fiscal year (FFY) 2015.

She discussed potential usage of the trail and benefits having to do with air quality and connections to public transit. She stated that the trail would provide a connection to the Fitchburg commuter rail line at the West Concord Station. She noted that the trail would run parallel to Route 2A in Acton, where a bottleneck at the rotary results in idling traffic releasing emissions at peak traffic hours, and that the trail would provide an alternate path to transit for drivers. She also noted that that trail would attract off-peak users going to destinations in Acton and Concord, such as to local businesses, schools, and playing fields.

She stated that an MPO staff memorandum (released for this meeting and attached) under-estimates the potential usage of the trail for two reasons: congestion at the rotary during peak hours is an incentive for drivers to seek an alternate route to rail, and there is no bus service in Acton or Concord to meet off-peak demand. (The memorandum was discussed later in this meeting.)

She asked the MPO to consider readiness and the overwhelming municipal and public support for the trail. Phase 1 is complete and has attracted many users, she reported. The 25% design is complete for Phase 2A and 2C, and funding has been allocated to complete the 100% design. The 25% design is underway on Phase 2B. During the public comment period for the last LRTP, 1,300 people signed a petition in support of the project.

## **2. Chair's Report – Clinton Bench, MassDOT**

At the chair's request, Paul Regan, MBTA Advisory Board, reported on the Advisory Board's recommendations regarding the proposed MBTA budget. The MBTA must close a \$127 million budget gap and the agency proposes doing this by selling its North Station garage (for at least \$45 million) and revenue stream from 100 parking facilities (which could generate \$30-35 million per year), as well as by restructuring its debt.

The MBTA Advisory Board is recommending alternative measures to restructuring the debt. One would involve the merger of the MBTA Transit Police with the State Police. Another would transfer future capital needs for ferry services to the Massachusetts Port Authority. And another would create efficiencies by transferring local transit contracts to the Office of the Transit Administrator. The MBTA is required to pass a budget by its next MassDOT Board meeting.

C. Bench then reported that MassDOT's Office of Transportation Planning has posted RFPs for work to be done to complete the Statewide Strategic Transportation Plan, in work which will be conducted over the next 12-18 months. This work began with the youMove Massachusetts campaign. MassDOT has also posted an RFP for work to complete with the Statewide Transit Plan. Both plans are required under MassDOT's enabling legislation.

C. Bench also reported that Frank DePaolo has been appointed as the Acting Administrator of the MassDOT Highway Division following the resignation of Frank Tramontozzi. MassDOT is conducting a nationwide search to fill the position.

In regards to the recent news about a light fixture that fell from the ceiling of the Central Artery Tunnel, C. Bench noted that Secretary Mullan has given assurance that the tunnel was never unsafe for use and that all light fixtures have since been inspected and are safe.

## **3. Subcommittee Chairs' Report – Eric Bourassa, Metropolitan Area Planning Council (MAPC)**

The Clean Air and Mobility Program Subcommittee met last week and will be bringing recommendations for the funding of Clean Air and Mobility projects to the Committee for the meeting of April 14.

## **4. Regional Transportation Advisory Council Report – Laura Wiener, Regional Transportation Advisory Council**

The Advisory Council's subcommittee for the LRTP will meet next week to discuss their recommendations to the MPO. The full Advisory Council will meet on April 13. On the agenda will be presentations on transportation enhancements and possibly positive train control.

**5. Director's Report** – *Karl Quackenbush, Acting Director, Central Transportation Planning Staff (CTPS)*

K. Quackenbush drew members' attention to the calendar of upcoming MPO meetings and noted that the Unified Planning Work Program (UPWP) subcommittee is currently scheduled to meet on April 21 to discuss potential projects for the next UPWP.

**6. Meeting Minutes** – *Pam Wolfe, Manager of Certification Activities, MPO Staff*

This item was not addressed.

**7. Long-Range Transportation Plan Discussion** – *Anne McGahan, Plan Manager, MPO Staff*

Members were provided with tables showing the Universe of Projects for the LRTP and tables depicting investment categories for proposed projects. (See attached.) A. McGahan described the materials in the tables. The Universe of Projects table shows proposed projects that meet needs identified in the LRTP Needs Assessment and indicates whether the projects meet an MPO policy. The investment category tables show program areas evaluated based upon the MPO's visions and policies, and a ranking of programs based on those that support the most vision and policies.

The investment categories in the tables are as follows (listed in order of those that meet the most MPO visions and policies):

- *Modernization – Transit*: Upgrades the existing system to current design standards
- *Clean Air and Mobility*
- *State of Good Repair and Maintenance – Transit*: Maintains and repairs the existing system
- *Modernization – Roadway*: Upgrades the existing system to current design standards
- *Expansion – Transit*: Extends or adds capacity to the existing system
- *Expansion – Bike/Ped*
- *Management and Operations – Transit*: Intelligent Transportation (ITS) projects and low-cost capital improvements for system efficiency
- *State of Good Repair and Maintenance – Roadway*: Maintains and repairs the existing system
- *Management and Operations – Roadway*: ITS projects and low-cost capital improvements for system efficiency
- *Expansion – Freight*
- *Expansion – Roadway*

The investment categories can help the MPO to determine the split of projects among categories. In past plans, the MPO had a split of 70% maintenance projects and 30% expansion projects. Staff is proposing to dedicate a larger portion of the split to maintenance and modernization for the new plan and to allocate funds for programs, not just for specific projects. When members determine what the split will be, staff can rank the projects within the investment categories.

These investment categories coincide with the categories staff used last fall to develop charts that show past TIP programming in terms of funding categories. Those charts were redistributed for members' discussion. (See attached.)

Members discussed the material.

Jim Gillooly, City of Boston, suggested that it would be helpful if staff provided project cost information along with percentages for making decisions about the split.

Members discussed the difficulty of making decisions about the split now given the uncertainty of future federal funding. E. Bourassa and P. Regan remarked upon the challenging fiscal climate given that it appears that Congress is not increasing funding for transportation. P. Regan stated that the next five years could be very challenging for the MPO and the best the MPO may be able to hope for is level funding. The MPO may face funding cuts if the federal transportation legislation is not reauthorized soon, or if federal earmarks are rescinded. The Commonwealth also must continue to pay off Grant Anticipation Notes (GANS) for the Central Artery/Tunnel project and the Accelerated Bridge Program.

Lourenço Dantas, Massachusetts Port Authority raised a question about how the MPO's travel demand model could be used to determine the set of projects that would have the best impact in terms of improving air quality and mobility and other MPO goals. K. Quackenbush stated that staff is prepared to conduct model runs on two sets of transportation projects. He noted, however, that the modeling will only be partially applicable for the MPO's decision-making process because certain factors cannot be modeled, the model runs will not isolate the impacts of specific projects, and some projects do not lend themselves to being modeled. He stated that the model results could be supplemented with other analyses. The MPO may identify thematic packages for consideration using the investment categories.

Members then discussed the financial information for the LRTP which was distributed by MassDOT. (See attached.) The document outlines the total amount of funds expected to be available to the MPO for programming in the LRTP broken down by five year time bands.

C. Bench provided the following information regarding these figures:

- a 3% annual inflation rate is factored into the figures starting at 2016
- Regional Discretionary Funding is reduced by over fifty percent in the 2016-20 time band (relative to the last LRTP) due to GANS payments associated with the Accelerated Bridge Program
- Regional Discretionary Funding increases in the 2021-25 time band due to the end of GANS payments in 2022; still the amount of funding is less relative to the last LRTP
- due to other state needs, there will need to be a collaborative process to determine if the funds currently allocated under the Regional Discretionary Funding



category in the 2021-25 time band should be distributed back to the underfunded Statewide Maintenance category

Mark Guenard, MassDOT, added that these financials are based on figures set in 2007 based on SAFETEA-LU assumptions and that it is possible that there could be a reduction of funds when the transportation legislation is reauthorized. The financials also include \$40 million in redistribution funds, based upon past guidance from the Federal Highway Administration (FHWA) and practice.

A. McGahan cautioned members not to program 100% of funds in the LRTP since some funding would need to be available to program TIP projects, including projects in programs the MPO might support. She suggested that members consider putting proposed projects in investment categories. P. Wolfe added that members may wish to consider which investment categories would help the MPO get closer to achieving its goals.

Members then began to review the projects in the current LRTP. They focused first on projects in the West Corridor. (The members reviewed projects in three other corridors at a previous meeting.)

David Anderson, MassDOT Highway Division, and Arthur Frost, MassDOT Highway District 3, provided an update on the *Framingham – Route 126/Route 135 Grade Separation* project. Beta Group is evaluating three design alternatives for this project. Many people are concerned because these alternatives would drastically alter the character of downtown Framingham. The cost of the alternatives is not yet determined. The no build alternative remains a valid alternative.

J. Gillooly asked staff to add the *Boston – Boylston Street* project to the West Corridor. (The project is included in the Central Corridor.)

D. Anderson provided an update on the *Newton and Needham – Needham Street/Highland Avenue* project. MassDOT has taken over the project design from a developer and is paying a consultant to develop a functional design report. Formerly the project was split between the Towns of Newton and Needham. Now the project is combined and includes a historic bridge connecting the two roadway segments.

Members then discussed a memorandum from Cathy Buckley, MPO Staff, regarding estimated ridership on proposed multi-use trails, and a map depicting the location of multi-use trails in the MPO region. (See attached.) These materials were prepared at members' request.

K. Quackenbush discussed the method staff used to estimate usage on proposed trails. Staff conducts counts of riders on existing trails in the region. For this memorandum, staff developed relationships between those counts and population and employment demographics for the areas within two miles of the trails. Those relationships were then applied to the demographic characteristics of the proposed trail areas to estimate what the usage might be on those trails. The estimates, which provide a general order of magnitude

of usage, are provided in Table 3 of the attached memorandum from C. Buckley. To develop the estimates, staff used counts from one July morning. It is expected that there would be a higher fraction of utilitarian users (non-recreational) at that peak, weekday travel time than on a weekend day.

P. Regan commented that ridership would likely be lower if the counts were taken at another time of year than summer.

L. Dantas noted that the information staff provided suggests that the Northern Strand Trail would attract much higher usage than the other proposed trails: Border to Boston, Bruce Freeman, and Assabet River. He noted that this information is helpful for prioritizing trail projects.

K. Quackenbush advocated for taking more than one approach when evaluating potential usage of trail projects. If the MPO would like more information, he recommended that staff develop and apply a second method.

David Koses, City of Newton, asked if the figures on Table 3 represent the maximum potential usage on the trails. K. Quackenbush clarified that that is not necessarily the case. In collecting the base data used in this analysis, staff counted at points along trails, but it is not known if those were peak travel points.

P. Regan recommended comparing trail usage to usage on other modes. He stated that the trail ridership figures are extremely low considering the investment required for trail projects. He also stated that funding trail projects would not be the way for the MPO to maximize the impact of its available funds.

J. LaRocca made several points in response to members' comments. In regard to the idea that commuter use of trails would drop off in the winter, she noted that plowing the trails is an option, as is done on the Minuteman Bikeway. Regarding the Northern Strand appearing as the best trail, she noted that it would not rank highest if one considered the percentage of the area population that would use it. And regarding the idea that the potential trail ridership figures presented by staff represent maximum trail usage, she stated that consideration would have to be given to a trail's location to other transportation modes and areas of congestion (such as the Concord Rotary). C. Bench asked staff to take those comments into consideration when developing other methods for evaluating trail usage.

E. Bourassa asked why staff used counts from a hot July day, and noted that trail usage is probably higher in the spring and the fall. K. Quackenbush replied that staff does counts in the spring and fall as well. Sean Pfalzer, MPO staff, added that the particular day was chosen because staff had counts for each trail facility for that day, thus a comparison could be made.

D. Koses noted that a lack of lighting on trails could be a deterrent for people using the facilities for commuting.

Christine Stickney, Town of Braintree, noted that cost estimates for trails would be necessary for evaluating the projects; only two trails under consideration have cost estimates. Staff reported that cost estimates are not available for all trail projects.

K. Quackenbush provided more information about the map of trails in the MPO region. He noted that the map includes all existing linear trails and the locations of some shared use trails managed by the Department of Conservation and Recreation. The four trails contained in the current LRTP are shown in red. Other proposed facilities are not depicted on the map.

J. Gillooly requested that staff provide a close-up of the central urban area.

Members then moved on to discuss projects in the North and Southwest Corridors.

D. Anderson provided an update on the *Reading, Stoneham, and Woburn – I-93/I-95 Interchange* project. It has a notice to proceed on the 25% design.

He also provided an update on the *Canton – I-95/I-93 Interchange* project. MassDOT has submitted an interchange justification report and design exception report to FHWA. Federal approvals are coming in. MassDOT is funding the design of the interchange and is contemplating taking over the design of the University Avenue off-ramp, which is no longer being done by a developer.

A. McGahan asked if there are other projects in the environmental review process that are not in the LRTP. D. Anderson and District staff offered to provide more information about the status of those projects. P. Wolfe stated that staff will be in contact with MassDOT staff to prepare the updates for the MPO.

Pamela Haznar, MassDOT District 5, pointed out that the *Weymouth and Duxbury – Route 3 Add-a-Lane* project is a priority for District 5. She reported that the breakdown lane is being used as a travel lane at peak hours.

A. Frost spoke of another project, the *Natick – Route 9/Route 27* project, which has a cost estimate of \$16 million.

E. Bourassa asked about the process for evaluating the global warming impacts of the projects. A. McGahan replied that staff will model carbon dioxide reductions from projects for the build and no-build scenarios of the LRTP. Staff is working with MassDOT to determine how the regional data on reductions will be incorporated so that MassDOT can meet its statewide reduction targets. (MPOs do not have individual reduction targets.)

E. Bourassa expressed concern that the methods used would not capture impacts from secondary land use. For example, it would not take into account projects that would make it easier for people to live farther from the urban core.

**8. Members Items**

P. Wolfe noted that staff will try to have additional material to support an LRTP discussion at the April 17 Committee meeting, but may need more time and may ask to hold that discussion on April 21 instead.

R. Reed distributed an article regarding the state and federal gas tax.

**9. Adjourn**

**Transportation Planning and Programming Committee Meeting Attendance**  
**Thursday, March 31, 2011, 10:00 AM**

**Member Agencies**

MassDOT  
MassDOT Highway  
  
City of Boston  
  
City of Newton  
City of Somerville  
MAPC  
  
MassPort  
MBTA  
MBTA Advisory Board  
Regional Transportation  
Advisory Council  
Town of Bedford  
Town of Braintree  
Town of Framingham  
Town of Hopkinton

**Representatives and Alternates**

Clinton Bench  
David Anderson  
John Romano  
Jim Gillooly  
Tom Kadzis  
David Koses  
Tom Bent  
Eric Bourassa  
Eric Halvorsen  
Lourenço Dantas  
Ron Morgan  
Paul Regan  
Laura Wiener  
Steve Olanoff  
Richard Reed  
Christine Stickney  
Ginger Esty  
Mary Pratt

**MPO Staff/CTPS**

Michael Callahan  
Maureen Kelly  
Robin Mannion  
Anne McGahan  
Hayes Morrison  
Sean Pfalzer  
Karl Quackenbush  
Alicia Wilson  
Pam Wolfe

**Other Attendees**

Arthur Frost  
Mark Guenard  
Pamela Hazner  
Erin Kinahan  
Timothy Kochan  
Judy LaRocca  
  
Mary Ann Murray  
  
Joe Onorato  
Karen Pearson

MassDOT District 3  
MassDOT  
MassDOT District 5  
MassDOT District 6  
MassDOT District 5  
Bruce Freeman Rail Trail  
Advisory Committee  
Access Advisory Committee to  
the MBTA  
MassDOT District 4  
MassDOT Office of  
Transportation Planning

SOUTHWEST CORRIDOR HIGHWAY UNIVERSE	CTPS Corridor Study and/or Recommendation	Highway Project with PRC Approval	Project Under MassDOT Environmental Review	Major Highway Project Pending, On Hold or Inactive	Project Programmed in the MPO's Current LRTP	Construction Funds In FFYs 2011-14 TIP	Public Comment	MassDOT CIP High Priority Path	Meets Plan Identified Need	Cost
<b>Former Long Range Transportation Plan Projects currently programmed and/or under construction</b>										
Route 128 Additional Lanes (Randolph to Wellesley)		x			x	x				
Pulaski Blvd (Bellingham)		x			x					\$9.5
<b>Former Long Range Transportation Plan Universe of Roadway Projects</b>										
I-95/I-93 Interchange (Canton)	x	x	x		x		x		x	\$216.0
I-95 Northbound/Dedham St. Ramp/Dedham St. Corridor	x	x			x		x		x	\$9.0
Route 126 (Corridorwide) (meets need in Bellingham)							x		x	
Route 27 (Corridorwide) (meets need in Sharon)							x		x	
Route 1 Intersection Signalization (Corridorwide)	x						x		x	
Route 138 (Canton, Milton, Stoughton)	x								x	
Route 1 South (Dedham, Norwood, Westwood, West Roxbury)	x								x	
I-95 Capacity Improvements (Canton to Foxborough)	x								x	
I-495 Capacity Improvements (Littleton to Wrentham)	x						x			
Route 24/I-93 Interchange (Randolph)	x						x		x	
Veteran's Memorial Drive Extension/Route 16 Bypass (Milford)							x		x	\$5.0
East-West Connector Road (Canton)							x			\$8.0
<b>Former Long Range Transportation Plan Universe of Bicycle and Pedestrian Projects</b>										
Bicycle and Pedestrian Improvements in the vicinity of Forest Hills Station (Jamaica Plain)	x									
Bicycle and Pedestrian Improvements in the vicinity of Norfolk Commuter Rail (Norfolk)	x									
Bicycle and Pedestrian Improvements in downtown Franklin (Franklin)	x									

SOUTHWEST CORRIDOR HIGHWAY NEEDS ASSESSMENT	Maintenance, Modernization and Efficiency	Livability and Economic Benefit	Mobility	Environment and Climate Change	Transportation Equity	Safety and Security
<b>Former Long Range Transportation Plan Projects currently programmed and/or under construction</b>						
Route 128 Additional Lanes (Randolph to Wellesley)						
Pulaski Blvd (Bellingham)						
<b>Former Long Range Transportation Plan Universe of Roadway Projects</b>						
<b>I-95/I-93 Interchange (Canton)</b>	x	x	x			x
<b>I-95 Northbound/Dedham St. Ramp/Dedham St. Corridor</b>		x	x			
Route 126 (Corridorwide)	x	x	x			
Route 27 (Corridorwide)	x		x			
Route 1 Intersection Signalization (Corridorwide)	x		x			
Route 138 (Canton, Milton, Stoughton)	x	x	x			
Route 1 South (Dedham, Norwood, Westwood, West Roxbury)	x	x	x			
I-95 Capacity Improvements (Canton to Foxborough)			x			
Route 24/I-93 Interchange (Randolph)	x		x			x
Veteran's Memorial Drive Extension/Route 16 Bypass			x			
<b>Former Long Range Transportation Plan Universe of Bicycle and Pedestrian Projects</b>						

The projects included in this table are those from this corridor's Highway Universe that meet a Plan identified need. An initial evaluation was performed using criteria derived from the MPO's visions and policies.

Projects that are indicated in **bold**, are projects that were included in the JOURNEY to 2030 Plan.

SOUTHWEST CORRIDOR TRANSIT UNIVERSE	PMT Transit Enhancement Project	PMT Transit Expansion Project	PMT Transit SGR Project	In MBTA's Draft FY 2012-2016 CIP SGR List	In MBTA's Draft FY 2012-2016 CIP Enhancement	In MBTA's Draft FY 2012-2016 CIP Expansion Project	Transit Project Recommended from MPO's	Transit Project in the Current L RTP	Public Comment	Meets Plan Identified Need	Cost (in millions)
Accessibility											
Enhancements											
BRT on Bus Routes 23, 28, 31, 32, 39	x				x					x	
Expansion											
Extend Fairmount Commuter Rail Line to Route 128		x									
Extend Franklin Commuter Rail Line to Milford		x								x	
Operate Weekday Commuter Rail Service to Foxboro		x								x	
Replace 3 Insufficient Freight Bridges on New Bedford/Fall River Freight Line		x				x				x	\$19.6
South Coast Rail Design and Engineering		x				x				x	
Orange Line Extension from Forest Hills to Needham									x		
Commuter Rail Line fom Needham Junction to Millis									x		
Maintenance Facilities											
Commuter Rail Readville Facility Remediation				x						x	\$4.8
Parking											
Parking Capacity Increases at 15 Commuter Rail Stations	x									x	
Parking Capacity Increases at 2 Orange Line Stations	x									x	
Stations											
Add Northbound Commuter Rail Platform at Ruggles Station	x									x	
Back Bay Station Lobby Ventilation			x	x						x	\$1.4
Dudley Square Station Improvements	x				x						\$0.3
Back Bay Station Roofing Project			x	x						x	
Support Infrastructure											
Orange Line AC & DC Breaker Upgrade			x	x						x	\$40.2
Orange Line Power Improvements			x	x						x	\$6.5
Rehabilitate 2 Neponset River Bridges			x	x						x	\$17.5
Shoreline Bridge Rehabilitation (Providence Line)			x	x						x	\$1.0
Track and Signals											
Add Second Track to Single-Track Commuter Rail Segments on Franklin and Stoughton Lines	x									x	
Timber Tie Replacement at Interlocking on the Attleboro Line				x						x	\$0.6
Vehicles											
New Orange Car Design and Engineering			x	x						x	\$13.7
New Orange Line Car Procurement			x							x	

SOUTHWEST CORRIDOR TRANSIT NEEDS EVALUATION	Maintenance, Modernization and Efficiency	Livability and Economic Benefit	Mobility	Environment and Climate Change	Transportation Equity	Safety and Security
Accessibility						
Enhancements						
BRT on Bus Routes 23, 28, 31, 32, 39	x	x	x		x	
Expansion						
Extend Franklin Commuter Rail Line to Milford			x			
Operate Weekday Commuter Rail Service to Foxboro		x	x			
Replace 3 Insufficient Freight Bridges on New Bedford/Fall River Freight Line	x		x			x
South Coast Rail Design and Engineering						
Maintenance Facilities						
Commuter Rail Readville Facility Remediation	x					
Parking						
Parking Capacity Increases at 15 Commuter Rail Stations		x	x	x		
Parking Capacity Increases at 2 Orange Line Stations		x	x	x		
Stations						
Add Northbound Commuter Rail Platform at Ruggles Station	x		x		x	
Back Bay Station Lobby Ventilation	x					x
Back Bay Station Roofing Project	x					
Support Infrastructure						
Orange Line AC & DC Breaker Upgrade	x					
Orange Line Power Improvements	x					
Rehabilitate 2 Neponset River Bridges	x					x
Shoreline Bridge Rehabilitation (Providence Line)	x					x
Track and Signals						
Add Second Track to Single-Track Commuter Rail Segments on Franklin and Stoughton Lines	x		x		x	
Timber Tie Replacement at Interlocking on the Attleboro Line	x					x
Vehicles						
New Orange Car Design and Engineering						
New Orange Line Car Procurement	x					

The projects included in this table are those from this corridor's Transit Universe that meet a Plan identified need. An initial evaluation was performed using criteria derived from the MPO's visions and policies.

SOUTHEAST CORRIDOR HIGHWAY UNIVERSE	CTPS Corridor Study and/or Recommendation	Highway Project with PRC Approval	Project Under MassDOT Environmental Review	Major Highway Project Pending, On Hold or Inactive	Project Programmed in the MPO's Current LRTP	Construction Funds In FFYs 2011-14 TIP	Public Comment	MassDOT CIP High Priority Path	Meets Plan Identified Need	Cost (in millions)
<b>Former Long Range Transportation Plan Projects currently programmed and/or under construction</b>										
Route 18 (Weymouth)		x	x		x	x				\$26.1
Route 139 (Marshfield)		x			x	x				\$5.7
East-West Connector Road (Weymouth)		x	x		x	x				\$15.0
Fore River Bridge (Quincy and Braintree)		x	x		x	x				\$255.0
<b>Former Long Range Transportation Plan Universe of Roadway Projects</b>										
Route 3 Add-A-Lane (Weymouth to Duxbury)				x	x*		x		x	\$227.8
I-93/Route 3 Interchange (Braintree Split)	x				x		x		x	\$36.0
Route 53 Final Phase (Hanover)		x			x		x		x	\$1.0
Completion of the S. Weymouth Naval Air Station - Widening Reservoir Park Drive and Hingham Street (Rockland)	x								x	
I-93/Route 24 Interchange (Randolph)	x						x		x	
Route 3/Union St. (Rockland)							x		x	
Route 24 Capacity Improvements (Raynham to Randolph)	x								x	
I-93 Capacity Improvements (Boston to Braintree)	x								x	
Route 138 Corridor (Canton, Milton, Stoughton)	x								x	
Route 53 (Quincy, Braintree, Weymouth, Hingham, Norwell, Hanover, Pembroke, Duxbury, Kingston)	x								x	
South Boston Roadway Improvements (State Freight Plan)	x								x	\$40.0
Conley Rail Service (South Boston) (Massport Study)	x								x	
T Under D (South Boston) (Massport Study)	x								x	
Clivendon Extension Bridge (Quincy)							x			
Track 61 Rail Improvement (Boston) (State Freight Plan)							x		x	\$9.5
Port of Boston Improvement Dredging Project (Boston, Everett, Chelsea) (State Freight Plan)									x	\$308.0
<b>Former Long Range Transportation Plan Universe of Bicycle and Pedestrian Projects</b>										
Bicycle and Pedestrian Improvements in Duxbury Village (Duxbury)	x									
Bicycle and Pedestrian Improvements in Holbrook Town Center (Holbrook)	x									
Bicycle and Pedestrian Improvements in Jackson Square	x									

SOUTHEAST CORRIDOR HIGHWAY NEEDS EVALUATION	Maintenance, Modernization and Efficiency	Livability and Economic Benefit	Mobility	Environment and Climate Change	Transportation Equity	Safety and Security
<b>Former Long Range Transportation Plan Projects currently programmed and/or under construction</b>						
<b>Former Long Range Transportation Plan Universe of Roadway Projects</b>						
<b>Route 3 Add-A-Lane (Weymouth to Duxbury)*</b>	x		x			
<b>I-93/Route 3 Interchange (Braintree Split)</b>	x		x			x
<b>Route 53 Final Phase (Hanover)</b>	x		x			
Completion of the S. Weymouth Naval Air Station - Widening Reservoir Park Drive and Hingham Street (Rockland)		x	x			
I-93/Route 24 Interchange (Braintree)	x		x			x
Route 3/Union St. (Rockland)	x					x
Route 24 Capacity Improvements (Raynham to Randolph)			x			
I-93 Capacity Improvements (Boston to Braintree)			x			
Route 138 Corridor (Canton, Milton, Stoughton)	x	x	x			
Route 53 (Quincy, Braintree, Weymouth, Hingham, Norwell, Hanover, Pembroke, Duxbury, Kingston)	x		x			
South Boston Roadway Improvements (State Freight Plan)		x	x			
Conley Rail Service (South Boston) (Massport Study)		x	x			
T Under D (South Boston) (Massport Study)	x	x	x	x		
Track 61 Rail Improvement (Boston)		x	x			
Port of Boston Improvement Dredging Project	x	x	x			
<b>Former Long Range Transportation Plan Universe of Bicycle and Pedestrian Projects</b>						

\* Included as an Illustrative Project

The projects included in this table are those from this corridor's Highway Universe that meet a Plan identified need. An initial evaluation was performed using criteria derived from the MPO's visions and policies.

Projects that are indicated in **bold**, are projects that were included in the JOURNEY to 2030 Plan.



**SOUTHEAST CORRIDOR TRANSIT  
UNIVERSE**

	PMT Transit Enhancement Project	PMT Transit Expansion Project	PMT Transit SGR Project	In MBTA's Draft FY 2012-2016 CIP SGR List	In MBTA's Draft FY 2012-2016 CIP Enhancement Project List	In MBTA's Draft FY 2012-2016 CIP Expansion Project List	Transit Project Recommended from MPO's CMP	Transit Project in the Current L RTP	Public Comment	Meets Plan Identified Need	Cost (in millions)
<b>Accessibility</b>											
Wollaston Accessibility	x				x					x	\$0.75
<b>Communications/Technology</b>											
<b>Enhancements</b>											
BRT on Bus Routes 23 and 28	x				x					x	
Fairmount Line Improvements Phase II	x				x					x	\$45.2
<b>Expansion</b>											
Extend Commuter Rail from Middleborough to Wareham	x							x	x		
South Coast Rail Design and Engineering		x				x				x	
Replace 3 Insufficient Freight Bridges on New Bedford/Fall		x				x				x	\$19.6
Improved Ferry Service from South Shore Communities to Boston									x		
Red Line Extension to Weymouth									x		
<b>Maintenance Facilities</b>											
<b>Parking</b>											
Parking Capacity Increase at Hingham Ferry Terminal	x										
Parking Capacity Increases at 4 Red Line Stations	x									x	
Parking Capacity Increases at 5 Commuter Rail Stations	x									x	
Red Line South Shore Parking Garage Rehabilitation at 3			x	x						x	\$28.1
<b>Stations</b>											
Ashmont Station Upgrade Phase II					x						\$13.8
<b>Support Infrastructure</b>											
MBTA Ferry System Dock Improvements			x	x						x	\$1.3
Red Line DC Cable Upgrade Phase I Andrew-Kendall			x	x						x	\$25.1
Red Line Traction Power Upgrade			x	x						x	\$16.4
<b>Track and Signals</b>											
Add Second Track to Single-Track Commuter Rail Segments on	x									x	
Columbia Junction Upgrades			x	x						x	\$57.9
Old Colony Line Tie Replacement Project			x	x						x	\$57.3
Red Line Signal Cable Replacement			x	x						x	\$12.4
<b>Vehicles</b>											
Catamaran for Quincy Harbor			x	x						x	\$4.2
Ferry Boat Improvements			x	x						x	\$1.3
New Red Line Cars Design and Engineering			x	x						x	\$13.7
New Red Line Car Procurement	x		x							x	
Red Line No. 1 Car Reinvest.			x	x						x	\$6.9
Red Line No. 2 Car Overhaul			x	x						x	\$10.6

**SOUTHEAST CORRIDOR TRANSIT NEEDS  
EVALUATION**

	Maintenance, Modernization and Efficiency	Livability and Economic Benefit	Mobility	Environment and Climate Change	Transportation Equity	Safety and Security
<b>Accessibility</b>						
Wollaston Accessibility	x	x				x
<b>Communications/Technology</b>						
<b>Enhancements</b>						
BRT on Bus Routes 23 and 28	x	x	x			x
Fairmount Line Improvements Phase II		x	x	x		x
<b>Expansion</b>						
Extend Commuter Rail from Middleborough to Wareham			x			
South Coast Rail Design and Engineering						
Replace 3 Insufficient Freight Bridges on New Bedford/Fall	x		x			x
<b>Maintenance Facilities</b>						
<b>Parking</b>						
Parking Capacity Increases at 4 Red Line Stations		x	x	x		
Parking Capacity Increases at 5 Commuter Rail Stations		x	x	x		
Red Line South Shore Parking Garage Rehabilitation at 3	x					
<b>Stations</b>						
<b>Support Infrastructure</b>						
MBTA Ferry System Dock Improvements	x					
Red Line DC Cable Upgrade Phase I Andrew-Kendall	x					
Red Line Traction Power Upgrade	x					
<b>Track and Signals</b>						
Add Second Track to Single-Track Commuter Rail Segments on	x		x			
Columbia Junction Upgrades	x					x
Old Colony Line Tie Replacement Project	x					x
Red Line Signal Cable Replacement	x					x
<b>Vehicles</b>						
Catamaran for Quincy Harbor	x					
Ferry Boat Improvements	x					
New Red Line Cars Design and Engineering						
New Red Line Car Procurement	x					
Red Line No. 1 Car Reinvest.	x					
Red Line No. 2 Car Overhaul	x					

The projects included in this table are those from this corridor's Transit Universe that meet a Plan identified need. An initial evaluation was performed using criteria derived from the MPO's visions and policies.

**NORTHWEST CORRIDOR HIGHWAY  
UNIVERSE**

	CTPS Corridor Study and/or Recommendation	Highway Project with PRC Approval	Project Under MassDOT Environmental Review	Major Highway Project Pending, On Hold or Inactive	Project Programmed in the MPO's Current LRTP	Construction Funds In FFYs 2011-14 TIP	Public Comment	MassDOT CIP High Priority Path	Meets Plan Identified Need	Cost (in millions)
<b>Former Long Range Transportation Plan Projects currently programmed and/or under construction</b>										
Crosby's Corner (Concord and Lincoln)		x	x		x	x	x			\$73.0
Assembly Square Roadway Improvements (Somerville)		x			x	x	x			\$15.4
<b>Former Long Range Transportation Plan Universe of Roadway Projects</b>										
Middlesex Turnpike Phase III (Bedford, Billerica, Burlington)		x	x		x		x		x	\$20.8
Trapelo Road (Belmont)		x			x		x			\$11.5
McGrath Highway-Gilman Street Bridge (Somerville)	x						x			
Route 20 (Boston, Watertown, Waltham)	x								x	
Route 128 HOV (Wellesley to Woburn)	x								x	
Concord Rotary/Route 2 (Concord)	x	x		x	x*		x		x	\$43.3
Route 2 Interchange (Littleton)							x		x	
Route 2/Route 16 Interchange (Arlington and Cambridge)	x						x		x	
Route 2 Capacity Improvements (Acton to Lexington)	x								x	
Wiggins Avenue Extension (Bedford)							x			
Depress I-93 (Somerville)							x			
I-93/Mystic Avenue Interchange (Somerville)	x								x	\$138.6
Longfellow Bridge (Boston, Cambridge)	x		x		x				x	\$310.0
Extend I-93 High-Occupancy Vehicle Lane into the City (Somerville)							x		x	
I-495 Capacity Improvements (Littleton to Wrentham)	x						x			
<b>Former Long Range Transportation Plan Universe of Bicycle and Pedestrian Projects</b>										
Bruce Freeman Rail Trail		x			x		x	x	x	\$18.7
Assabet River Rail Trail		x			x		x		x	\$18.1

\* Included as an Illustrative Project.

**NORTHWEST CORRIDOR HIGHWAY  
NEEDS EVALUATION**

	Maintenance, Modernization and Efficiency	Livability and Economic Benefit	Mobility	Environment and Climate Change	Transportation Equity	Safety and Security
<b>Former Long Range Transportation Plan Projects currently programmed and/or under construction</b>						
<b>Former Long Range Transportation Plan Universe of Roadway Projects</b>						
<b>Middlesex Turnpike Phase III (Bedford, Billerica, Burlington)</b>	x	x	x			x
Route 20 (Boston, Watertown, Waltham)	x		x			x
Route 128 HOV (Wellesley to Woburn)			x	x		
<b>Concord Rotary/Route 2 (Concord)*</b>	x		x			x
Route 2 Interchange (Littleton)			x			
Route 2/Route 16 Interchange (Arlington and Cambridge)	x		x			x
Route 2 Capacity Improvements (Acton to Lexington)			x			
I-93/Mystic Avenue Interchange (Somerville)	x	x	x		x	
Extend I-93 High-Occupancy Vehicle Lane into the City (Somerville)			x	x		
<b>Longfellow Bridge (Boston, Cambridge)</b>	x					x
<i>Trapelo Road (Belmont)</i>	x	x		x		x
<b>Former Long Range Transportation Plan Universe of Bicycle and Pedestrian Projects</b>						
<b>Bruce Freeman Rail Trail</b>		x		x		
<b>Assabet River Rail Trail</b>		x		x		

\* Included as an Illustrative Project.

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Projects that are indicated in **bold**, are projects that were included in the JOURNEY to 2030 Plan.

Projects that are indicated in *italics*, are projects that were included in the JOURNEY to 2030 Plan but did not address a need identified in the Needs Assessment.

**NORTHWEST CORRIDOR TRANSIT  
UNIVERSE**

	PMT Transit Enhancement Project	PMT Transit Expansion Project	PMT Transit SGR Project	In MBTA's Draft FY 2012-2016 CIP SGR List	In MBTA's Draft FY 2012-2016 CIP Enhancement Project List	In MBTA's Draft FY 2012-2016 CIP Expansion Project List	Transit Project Recommended from MPO's CMP	Transit Project in the Current L RTP	Public Comment	Meets Plan Identified Need	Cost (in millions)
<b>Accessibility</b>											
Science Park Station Accessibility	x				x					x	\$10.5
<b>Communications/Technology</b>											
<b>Enhancements</b>											
Fitchburg Line Improvements	x				x						\$90.1
BRT on Routes 1,71,73,77										x	
<b>Expansion</b>											
Green Line Extension to Medford Hillside/Union Square		x				x		x		x	\$949.8
New Orange Line Station at Assembly Square	x							x		x	\$53.0
Red Line Extension to Arlington/Lexington		x									
Fitchburg Line Extension to Gardner		x							x		
Build New Busways to Alewife Station (Cambridge)									x		
Connect Fitchburg Commuter Rail with Red Line at Alewife									x		
Extend Trackless Trolley #71 from Watertown to Newton Corner									x		
<b>Maintenance Facilities</b>											
<b>Parking</b>											
Alewife Garage Improvements	x				x					x	\$16.4
Lechmere Parking Improvements	x									x	
Parking Improvements at 11 Commuter Rail Stations	x									x	
<b>Stations</b>											
<b>Support Infrastructure</b>											
Red Line Traction Power Upgrade			x	x						x	\$16.4
Red Line DC Cable Upgrade Phase I, Andrew-Kendall			x	x						x	\$25.1
Trackless Trolley Overhead Replacement			x	x						x	\$35.4
Trackless Trolley Catenary Improvements			x	x						x	\$1.2
Fitchburg Line Main Street Bridge Repair in Concord			x	x						x	\$6.2
Fitchburg Line Red Bridge Replacement			x	x						x	\$10.0
Fitchburg Line Layover Facility Upgrades			x							x	
<b>Track and Signals</b>											
Red Line Signal Cable Replacement			x	x						x	\$12.4
Red Line Track and Switch Upgrades			x							x	
Green Line Lechmere Signals			x	x						x	\$3.7
Fitchburg Line Interlocking Project	x				x						\$2.3
Fitchburg Line Double Tracking		x			x					x	\$15.9
Red Line Floating Slab Work			x	x						x	\$27.5
<b>Vehicles</b>											
Red Line No. 1 Car Reinvestment			x	x						x	\$6.9
Red Line No. 2 Car Overhaul			x	x						x	\$10.6
New Red Line Car Design and Engineering			x	x						x	\$13.7
New Red Line Car Procurement			x							x	

**NORTHWEST CORRIDOR TRANSIT NEEDS  
EVALUATION**

	Maintenance, Modernization and Efficiency	Livability and Economic Benefit	Mobility	Environment and Climate Change	Transportation Equity	Safety and Security
<b>Accessibility</b>						
Science Park Station Accessibility	x	x				x
<b>Communications/Technology</b>						
<b>Enhancements</b>						
BRT on Routes 1,71,73,77	x	x	x		x	
<b>Expansion</b>						
Green Line Extension to Medford Hillside/Union Square		x	x	x	x	
New Orange Line Station at Assembly Square		x	x	x	x	
<b>Maintenance Facilities</b>						
<b>Parking</b>						
Alewife Garage Improvements	x					
Lechmere Parking Improvements	x					
Parking Expansion at 11 Commuter Rail Stations	x		x			
<b>Stations</b>						
<b>Support Infrastructure</b>						
Red Line Traction Power Upgrade	x					
Red Line DC Cable Upgrade Phase I, Andrew-Kendall	x					
Trackless Trolley Overhead Replacement	x					x
Trackless Trolley Catenary Improvements	x					x
Fitchburg Line Main Street Bridge Repair in Concord	x					x
Fitchburg Line Red Bridge Replacement	x					x
Fitchburg Line Layover Facility Upgrades	x					
<b>Track and Signals</b>						
Red Line Signal Cable Replacement	x					
Red Line Track and Switch Upgrades	x					x
Green Line Lechmere Signals	x					x
Fitchburg Line Double Tracking	x		x	x		
Red Line Floating Slab Work	x					x
<b>Vehicles</b>						
Red Line No. 1 Car Reinvestment	x					
Red Line No. 2 Car Overhaul	x					
New Red Line Car Design and Engineering						
New Red Line Car Procurement	x					

The projects included in this table are those from this corridor's Transit Universe that meet a Plan identified need. An initial evaluation was performed using criteria derived from the MPO's visions and policies.

Projects that are indicated in **bold**, are projects that were included in the JOURNEY to 2030 Plan.

WEST CORRIDOR HIGHWAY UNIVERSE	CTPS Corridor Study and/or Recommendation	Highway Project with PRC Approval	Project Under MassDOT Environmental Review	Major Highway Project Pending, On Hold or Inactive	Project Programmed in the MPO's Current LRTP	Construction Funds In FFYs 2011-14 TIP	Public Comment	MassDOT CIP High Priority Path	Meets Plan Identified Need	Cost (in millions)
<b>Former Long Range Transportation Plan Projects currently programmed and/or under construction</b>										
Route 128 Additional Lanes (Randolph to Wellesley)		x			x	x				
Route 85 (Washington Street) Upgrade (Hudson)		x			x	x	x			\$10.7
Resurfacing and related work on Route 9 (Framingham and Natick)		x			x					\$12.0
<b>Former Long Range Transportation Plan Universe of Roadway Projects</b>										
Route 126/Route 135 Grade Separation (Framingham)			x		x		x		x	\$58.5
Needham Street/Highland Avenue (Newton)		x			x		x		x	\$18.4
Route 126 (Bellingham to Framingham)	x								x	
Route 9/Route 126 Interchange (Framingham)							x		x	
I-495/I-290/Route 85 Interchange (Marlborough, Hudson)		x		x	x*		x		x	\$37.4
Boundary St./Goddard St. (Marlborough, Northborough)		x					x			\$3.5
Route 128 HOV (Wellesley to Woburn)	x								x	
Route 135 Grade Separation (Ashland)									x	
Route 9/Temple St. (Framingham)									x	
I-495/South Street New Interchange (Hopkinton)							x			
New Route 128 Ramp to Riverside Station (Newton)							x			
Route 16/27 (Sherborn)		x					x			
Route 9/I-495 Interchange (Westborough)							x			
I-495 Capacity Improvements (Littleton to Wrentham)	x						x			
I-90/Interchange 17 (Newton)	x									
I-95/Kendrick Street Interchange (Needham)										
Route 30/I-90 Interchange (Weston)							x			
Route 9 Capacity Improvements (Brookline, Newton)	x						x		x	
Fenway Park Improvements (Boston)							x			\$35.1
<b>Former Long Range Transportation Plan Universe of Bicycle and Pedestrian Projects</b>										
Assabet River Rail Trail (Hudson to Acton)		x			x		x		x	\$18.1
Cordaville Road/Route 85 Rehabilitation (Southborough)										

\* Included as an Illustrative Project

WEST CORRIDOR HIGHWAY NEEDS EVALUATION	Maintenance, Modernization and Efficiency	Livability and Economic Benefit	Mobility	Environment and Climate Change	Transportation Equity	Safety and Security
<b>Former Long Range Transportation Plan Projects currently programmed and/or under construction</b>						
<b>Former Long Range Transportation Plan Universe of Roadway Projects</b>						
<b>Route 126/Route 135 Grade Separation (Framingham)</b>	x	x	x	x	x	x
<b>Needham Street/Highland Avenue (Newton)</b>	x	x	x			
Route 126 (Bellingham to Framingham)	x	x	x			
Route 9/Route 126 Interchange (Framingham)	x		x			
<b>I-495/I-290/Route 85 Interchange (Marlborough, Hudson)*</b>	x		x			x
Route 128 HOV (Wellesley to Woburn)			x	x		
Route 135 Grade Separations (Ashland)	x		x			
Route 9/Temple Street (Framingham)	x		x			
Route 9 Capacity Improvements (Brookline, Newton)	x	x	x			
<b>Former Long Range Transportation Plan Universe of Bicycle and Pedestrian Projects</b>						
<b>Assabet River Rail Trail (Hudson to Acton)</b>		x		x		

\* Included as an Illustrative Project

The projects included in this table are those from this corridor's Highway Universe that meet a Plan identified need. An initial evaluation was performed using criteria derived from the MPO's visions and policies.

Projects that are indicated in **bold**, are projects that were included in the JOURNEY to 2030 Plan.

## WEST CORRIDOR TRANSIT UNIVERSE

	PMT Transit Enhancement Project	PMT Transit Expansion Project	PMT Transit SGR Project	In MBTA's Draft FY 2012-2016 CIP SGR List	In MBTA's Draft FY 2012-2016 CIP Enhancement Project List	In MBTA's Draft FY 2012-2016 CIP Expansion Project List	Transit Project Recommended from MPO's CMP	Transit Project in the Current LRTP	Public Comment	Meets Plan Identified Need	Cost (in millions)
<b>Accessibility</b>											
Light Rail Accessibility Program - Boston College Station					x					x	\$3.0
Light Rail Accessibility Program - Phase II - Surface Stations	x				x					x	\$5.0
<b>Enhancements</b>											
Green Line Improvements (use of 3-car trains)	x									x	
BRT on Route 57	x									x	
Worcester Commuter Rail Improvements	x									x	
<b>Expansion</b>											
Green Line D Branch Extension to Needham Junction Commuter Rail Station		x							x		
New Worcester Line Commuter Rail Station in Allston	x								x	x	
Silver Line West Extension to Allston and Longwood Medical Area (Boston)									x		
Commuter Rail Station on I-495 in MetroWest Area (Westborough)									x		
Commuter Rail from Framingham to Leominster									x		
Orange Line Extension from Forest Hills to Needham									x	x	
Operate High Frequency Service from Riverside to South Station and JFK Station									x		
<b>Maintenance Facilities</b>											
Riverside Car House Improvements				x						x	\$4.3
<b>Parking</b>											
Parking improvements at 13 Commuter Rail Stations	x									x	
Parking improvements at 3 Green Line Stations	x									x	
<b>Stations</b>											
Yawkey Station Enhancements	x				x						\$9.4
<b>Support Infrastructure</b>											
Green Line Catenary Replacement			x							x	
Green Line Power Study				x						x	\$1.9
<b>Track and Signals</b>											
Green Line Frog Replacement Program			x	x						x	\$5.0
Green Line Grade Crossing Upgrades			x							x	
Green Line Positive Train Control	x				x						\$1.1
Green Line Signal Replacement			x							x	
Green Line Tie Replacement			x							x	
Worcester Commuter Rail Signal Improvements	x									x	
<b>Vehicles</b>											
Green Line No. 7 Car Overhaul			x	x						x	\$92.2
Green Line No. 8 Car Upgrades			x	x						x	\$11.8

## WEST CORRIDOR TRANSIT NEEDS EVALUATION

	Maintenance, Modernization and Efficiency	Livability and Economic Benefit	Mobility	Environment and Climate Change	Transportation Equity	Safety and Security
<b>Accessibility</b>						
Light Rail Accessibility Program - Boston College Station	x	x				x
Light Rail Accessibility Program - Phase II - Surface Stations	x	x				x
<b>Enhancements</b>						
Green Line Improvements (use of 3-car trains)	x		x			
BRT on Route 57	x	x	x		x	
Worcester Commuter Rail Improvements	x		x	x		
<b>Expansion</b>						
New Worcester Line Commuter Rail Station in Allston		x	x		x	
Orange Line Extension from Forest Hills to Needham			x			
<b>Maintenance Facilities</b>						
Riverside Car House Improvements	x					
<b>Parking</b>						
Parking improvements at 13 Commuter Rail Stations	x		x			
Parking improvements at 3 Green Line Stations	x		x			
<b>Stations</b>						
<b>Support Infrastructure</b>						
Green Line Catenary Replacement	x					x
Green Line Power Study						
<b>Track and Signals</b>						
Green Line Frog Replacement Program	x					x
Green Line Grade Crossing Upgrades	x					x
Green Line Signal Replacement	x					x
Green Line Tie Replacement	x					x
Worcester Commuter Rail Signal Improvements	x					x
<b>Vehicles</b>						
Green Line No. 7 Car Overhaul	x					
Green Line No. 8 Car Upgrades	x					

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**NORTHEAST CORRIDOR HIGHWAY  
UNIVERSE**

	CTPS Corridor Study and/or Recommendation	Highway Project with PRC Approval	Project Under MassDOT Environmental Review	Major Highway Project Pending, On Hold or Inactive	Project Programmed in the MPO's Current LRTP	Construction Funds in FFYs 2011-14 TIP	Public Comment	MassDOT CIP High Priority Path	Meets Plan Identified Need	Cost (in millions)
<b>Long Range Transportation Plan Projects currently programmed and/or under construction</b>										
Route 128/Route 35 and Route 62 (Danvers)		x			x	x				\$27.1
Consolidated Rental Car Facility Logan Airport (Boston)		x			x					\$337.0
Route 16/Revere Beach Parkway Bridges (Everett, Medford, and Revere)		x			x	x				\$41.3
<b>Long Range Transportation Plan Universe of Roadway Projects</b>										
Route 1 add-a-lane (Malden, Saugus, Revere)		x	x		x		x		x	\$150.0
Route 1 Capacity Improvements (Lynnfield, Peabody, Saugus)	x								x	
Route 1/Route 114 Corridor (Danvers, Peabody)							x		x	\$110.9
Route 1/Route 16 Interchange (Revere)	x								x	\$7.4
Route 1A/Route 16 (Revere)	x								x	\$109.7
Route 1A/Chelsea Street Bridge Connection (Boston)	x								x	
Route 1A/Boardman Street Grade Separation (Boston)	x			x					x	\$16.0
Gloucester Rotary (Gloucester)							x			
Route 128 Capacity Improvements (Beverly to Peabody)	x								x	
Route 16/Revere Beach Parkway Roadway Improvements							x		x	\$109.5
Mahoney Circle Grade Separation (Revere)				x					x	\$35.6
East Boston Haul Road (Boston)	x			x	x				x	\$19.5
Commercial St./Tremont St. (Salem)							x			\$0.8
Essex St. Conversion (Salem, Beverly)							x			\$2.3
Route 128/Brimbal Ave. Interchange (Beverly)		x		x			x			\$26.0
Route 114/I-95 Improvements (Danvers)				x					x	\$68.2
Bridge Street (Salem)	x	x	x		x					\$10.8
<b>Long Range Transportation Plan Universe of Bicycle and Pedestrian Projects</b>										
Northern Strand (Revere, Saugus, Lynn, Everett, Malden)	x							x	x	
Border to Boston Trail (Newburyport to Boston)	x							x	x	

**NORTHEAST CORRIDOR HIGHWAY NEEDS  
EVALUATION**

	Maintenance, Modernization and Efficiency	Livability and Economic Benefit	Mobility	Environment and Climate Change	Transportation Equity	Safety and Security
<b>Long Range Transportation Plan Projects currently programmed and/or under construction</b>						
<b>Long Range Transportation Plan Universe of Roadway Projects</b>						
<b>Route 1 Add-a-Lane (Malden, Saugus, and Revere)</b>	x	x	x		x	x
Route 1 Capacity Improvements (Lynnfield, Peabody, Saugus)			x			
Route 1/Route 114 Corridor (Danvers, Peabody)	x		x		x	x
Route 1/Route 16 Interchange (Revere)	x		x		x	
Route 1A/Route 16 (Revere)	x		x		x	
Route 1A/Chelsea Street Bridge Connection (Boston)	x		x			
Route 1A/Boardman Street Grade Separation (Boston)	x		x			
Route 128 Capacity Improvements (Beverly to Peabody)			x			x
Route 16/Revere Beach Parkway Roadway Improvements (Everett, Medford, and Revere)	x		x		x	x
Mahoney Circle Grade Separation (Revere)	x		x		x	x
<b>East Boston Haul Road*</b>	x	x	x		x	
Route 114/I-95 (128) Improvements (Peabody)			x		x	x
<i>Bridge Street (Salem)</i>		x	x			
<b>Long Range Transportation Plan Universe of Bicycle and Pedestrian Projects</b>						
Northern Strand (Revere, Saugus, Lynn, Everett, Malden)		x		x		
Border to Boston Trail (Newburyport to Boston)		x		x		

\* East Boston Haul Road will be funded by the Massachusetts Port Authority.

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**NORTHEAST CORRIDOR TRANSIT  
UNIVERSE**

	PMT Transit Enhancement Project	PMT Transit Expansion Project	PMT Transit SGR Project	In MBTA's Draft FY 2012-2016 CIP SGR List	In MBTA's Draft FY 2012-2016 CIP Enhancement Project List	In MBTA's Draft FY 2012-2016 CIP Expansion Project List	Transit Project Recommended from MPO's CMP	Transit Project in the Current LRTP	Public Comment	Meets Plan Identified Need	Cost (in millions)
<b>Accessibility</b>											
<b>Communications/Technology</b>											
<b>Enhancements</b>											
BRT on Route 111	x									x	
<b>Expansion</b>											
Extend Blue Line to Lynn		x						x*		x	\$782.5
Extend Blue Line from Lynn to Salem									x		
Commuter Rail Line from Salem to Danvers									x		
New Station at South Salem on Rockport/Newburyport Line									x		
Restore East Boston Ferry									x		
Wonderland Connector (Revere)									x		
<b>Maintenance Facilities</b>											
Newburyport Layover Facility Ventilation Fans			x							x	
Orient Heights Maintenance Facility Renovation Phase III				x						x	\$7.5
<b>Parking</b>											
Beverly Parking Garage Improvements	x				x						\$16.0
Parking Capacity Increases at 4 Commuter Rail Stations	x									x	
Parking Capacity Increases at 2 Blue Line Stations	x									x	
Salem Parking Garage Improvements	x				x						\$28.0
Wonderland TOD Parking Garage	x				x			x		x	\$52.0
<b>Stations</b>											
Blue Line Platform Rehabilitation				x							\$3.6
Blue Line Government Center Station Modernization					x						\$44.0
Blue Line Orient Heights Station Modernization					x						\$23.0
Blue Line Station Infrastructure Improvements					x						\$3.5
Rockport Station Improvements	x				x						\$0.5
Wonderland Transit Plaza					x					x	\$13.0
<b>Support Infrastructure</b>											
Beverly Draw Bridge Rehabilitation			x	x						x	\$6.6
<b>Track and Signals</b>											
Newburyport/Rockport Line Signal Upgrades			x								
Orient Heights Track Work			x	x						x	\$10.8
<b>Vehicles</b>											

\* Included as an Illustrative Project

**NORTHEAST CORRIDOR TRANSIT  
NEEDS EVALUATION**

	Maintenance, Modernization and Efficiency	Livability and Economic Benefit	Mobility	Environment and Climate Change	Transportation Equity	Safety and Security
<b>Accessibility</b>						
<b>Communications/Technology</b>						
<b>Enhancements</b>						
BRT on Route 111	x	x	x		x	
<b>Expansion</b>						
<b>Extend Blue Line to Lynn*</b>		x	x	x	x	
<b>Maintenance Facilities</b>						
Newburyport Layover Facility Ventilation Fans	x					
Orient Heights Maintenance Facility Renovation Phase III	x					
<b>Parking</b>						
Parking Capacity Increases at 4 Commuter Rail Stations		x	x	x		
Parking Capacity Increases at 2 Blue Line Stations		x	x	x	x	
<b>Wonderland TOD Parking Garage</b>		<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>	
<b>Stations</b>						
Wonderland Transit Plaza		x			x	
<b>Support Infrastructure</b>						
Beverly Draw Bridge Rehabilitation	x		x			x
<b>Track and Signals</b>						
Orient Heights Track Work	x					x
<b>Vehicles</b>						

Projects that are indicated in **bold**, are projects that were included in the JOURNEY to 2030 Plan.  
\* Included as an Illustrative Project

The projects included in this table are those from this corridor's Transit Universe that meet a Plan identified need. An initial evaluation was performed using criteria derived from the MPO's visions and policies.

**NORTH CORRIDOR HIGHWAY UNIVERSE**

	CTPS Corridor Study and/or Recommendation, or Other Study	Highway Project with PRC Approval	Project Under MassDOT Environmental Review	Major Highway Project Pending, On Hold or Inactive	Project Programmed in the MPO's Current LRTP	Construction Funds in FFYs 2011-14 TIP	Public Comment	MassDOT CIP High Priority Path	Meets Plan Identified Need	Cost (in millions)
<b>Long Range Transportation Plan Projects currently programmed and/or under construction</b>										
Route 16/Revere Beach Parkway Bridges (Everett, Medford, and Revere)		x			x	x				\$41.3
<b>Long Range Transportation Plan Universe Roadway Projects</b>										
I-93/I-95 Interchange (Woburn, Reading, Stoneham, and Revere)		x	x		x		x		x	\$233.6
Route 1 Add-a-Lane (Malden, Saugus, and Revere)		x	x		x		x		x	\$150.0
Middlesex Turnpike Phase III (Bedford, Burlington, Billerica)		x	x		x		x		x	\$20.8
I-93/Route 129 Interchange Improvements (Wilmington and Reading)				x						\$20.5
Interstate 93 Capacity Improvements (Somerville to Woburn)	x								x	
Route 16/Revere Beach Parkway Roadway Improvements (Everett, Medford, and Revere)							x		x	\$109.5
I-93/Route 125/Ballardvale Road (Wilmington)		x		x						
Tri Town I-93/Lowell Junction Interchange (Andover, Tewksbury, and Wilmington)		x	x				x			
New Boston Street Bridge (Woburn)		x			x		x			\$4.9
Montvale Avenue (Woburn)		x			x		x			\$3.7
Telecom City Boulevard (Everett, Malden, and Medford)							x			\$17.8
Route 128 Capacity Improvements (Lynnfield to Reading)	x								x	
Route 128 HOV (Wellesley to Woburn)	x								x	
Route 16/I-93 Connection (Medford)							x			\$20.8
Cambridge Street Improvements (Burlington, Woburn, Winchester)	x						x		x	\$4.3
Sullivan Square (Boston)	x	x			x		x		x	\$43.3
Rutherford Avenue (Boston)	x	x			x		x			\$49.2
Charlestown Haul Road (Boston)	x						x		x	
Route 60 Improvements (Malden, Medford)	x								x	
<b>Long Range Transportation Plan Universe of Bicycle and Pedestrian Projects</b>										
Northern Strand (Revere, Saugus, Lynn, Everett, Malden)	x							x	x	

**NORTH CORRIDOR HIGHWAY NEEDS EVALUATION**

	Maintenance, Modernization and Efficiency	Livability and Economic Benefit	Mobility	Environment and Climate Change	Transportation Equity	Safety and Security
<b>Long Range Transportation Plan Projects currently programmed and/or under construction</b>						
<b>Long Range Transportation Plan Universe of Roadway Projects</b>						
<b>I-93/I-95 Interchange (Woburn, Reading, Stoneham, and Revere)</b>	x		x			x
<b>Route 1 Add-a-Lane (Malden, Saugus, and Revere)</b>	x	x	x		x	x
<b>Middlesex Turnpike Phase III (Bedford, Burlington, Billerica)</b>	x	x	x			x
Interstate 93 Capacity Improvements (Somerville to Woburn)			x			x
Route 16/Revere Beach Parkway Roadway Improvements (Everett, Medford, and Revere)	x		x		x	x
Route 128 Capacity Improvements (Lynnfield to Reading)			x			x
Route 128 HOV (Wellesley to Woburn)			x	x		
Cambridge Street Improvements (Burlington, Woburn, Winchester)			x			
<b>Sullivan Square (Boston)</b>	x	x	x		x	x
Route 60 Improvements (Malden, Medford)	x		x			
Charlestown Haul Road (Boston)	x	x	x		x	
<i>New Boston Street Bridge (Woburn)</i>			x			
<i>Montvale Avenue (Woburn)</i>			x			
<i>Rutherford Avenue (Boston)</i>		x				x
<b>Long Range Transportation Plan Universe of Bicycle and Pedestrian Projects</b>						
Northern Strand (Revere, Saugus, Lynn, Everett, Malden)		x		x		

The projects included in this table are those from this corridor's Highway Universe that meet a Plan identified need. An initial evaluation was performed using criteria derived from the MPO's visions and policies.

Projects that are indicated in **bold**, are projects that were included in the JOURNEY to 2030 Plan.

Projects that are indicated in *italics*, are projects that were included in the JOURNEY to 2030 Plan but did not address a need identified in the



## NORTH CORRIDOR TRANSIT UNIVERSE

	PMT Transit Enhancement Project	PMT Transit Expansion Project	PMT Transit SGR Project	In MBTA's Draft FY 2012-2016 CIP SGR List	In MBTA's Draft FY 2012-2016 CIP Enhancement Project List	In MBTA's Draft FY 2012-2016 CIP Expansion Project List	Transit Project Recommended from MPO's CMP	Transit Project in the Current LRTP	Public Comment	Meets Plan Identified Need	Cost (in millions)
<b>Accessibility</b>											
Station Elevator/Escalator Replacement and Modernization Program					x					x	\$118.4
Wedgemere Station access					x					x	\$1.3
<b>Communications/Technology</b>											
Automated Fair Collection, Phase II (CharlieCards on commuter rail)					x						\$10.0
<b>Enhancements</b>											
Improved Bus Amenities and System Identity for Bus Routes	x									x	
<b>Expansion</b>											
Green Line Extension College Ave to Route 16		x				x		x		x	\$136.6
Lowell Commuter Rail Line Extension (Nashua/Manchester)		x								x	
Urban Ring, Phase 2		x						x*	x	x	\$2,920.3
Extend Blue Line from Bowdoin to West Medford										x	
Orange Line North Extension from Oak Grove to Reading/Route 128										x	
<b>Maintenance Facilities</b>											
Move Bradford Layover Facility on Haverhill Line with Plaistow		x									x
Wellington Maintenance Facility Improvements				x							x
<b>Parking</b>											
<b>Stations</b>											
Rapid transit station midlife rehab upgrades					x					x	\$12.1
Winchester Station Renovation					x					x	
<b>Support Infrastructure</b>											
Haverhill Line (Andover Station) - Bike Signage and Shelter								x			
Haverhill Line (Bradford Station) - Bike Signage								x			
Lowell Line (Lowell Station) - Bike Racks and Shelter								x			
Lowell Line (Winchester Center Station) - Bike Racks								x			
Merrimack River Bridge Rehab				x							\$8.6
Orange Line (Oak Grove Station) - Bike Shelter Improvements								x			
Orange Line Power Improvements						x				x	\$6.5
Rehab of Three Shawsheen River Bridges				x						x	\$13.1
<b>Track and Signals</b>											
Haverhill Line Double Tracking	x									x	\$17.0
Additional Haverhill Line Double Tracking						x				x	\$9.7
Orange Line North Signal System Upgrade						x				x	
<b>Vehicles</b>											
Orange Line Car Procurement			x							x	

\* Included as an Illustrative Project

## NORTH CORRIDOR TRANSIT NEEDS EVALUATION

	Maintenance, Modernization and Efficiency	Livability and Economic Benefit	Mobility	Environment and Climate Change	Transportation Equity	Safety and Security
<b>Accessibility</b>						
Station Elevator/Escalator Replacement and Modernization Program	x					x
Wedgemere Station access	x	x				x
<b>Communications/Technology</b>						
<b>Enhancements</b>						
Improved Bus Amenities and System Identity for Bus Routes	x	x			x	
<b>Expansion</b>						
<b>Green Line Extension College Ave to Route 16</b>		x	x	x	x	
Lowell Commuter Rail Line Extension (Nashua/Manchester)			x	x		
<b>Urban Ring, Phase 2*</b>		x	x	x	x	
<b>Maintenance Facilities</b>						
Move Bradford Layover Facility on Haverhill Line with Plaistow	x					
Wellington Maintenance Facility Improvements	x					
<b>Parking</b>						
<b>Stations</b>						
Rapid transit station midlife rehab upgrades	x					x
Winchester Station Renovation	x					
<b>Support Infrastructure</b>						
Merrimack River Bridge Rehab	x					x
Orange Line Power Improvements	x					
Rehab of Three Shawsheen River Bridges	x					x
<b>Track and Signals</b>						
Haverhill Line Double Tracking	x		x	x		
Additional Haverhill Line Double Tracking	x		x	x		
Orange Line North Signal System Upgrade	x					x
<b>Vehicles</b>						
Orange Line Car Procurement	x					x

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\* Included as an Illustrative Project

The projects included in this table are those from this corridor's Transit Universe that meet a Plan identified need. An initial evaluation was performed using criteria derived from the MPO's visions and policies.

**CENTRAL AREA HIGHWAY UNIVERSE**

	CTPS Corridor Study and/or Recommendation, or Other Study	Highway Project with PRC Approval	Project Under MassDOT Environmental Review	Major Highway Project Pending, On Hold or Inactive	Project Programmed in the MPO's Current LRTP	Construction Funds in FFYs 2011-14 TIP	Corridor(s)	Public Comment	MassDOT CIP High Priority Path	Meets Plan Identified Need	Cost (in millions)
<b>Long Range Transportation Plan Projects currently programmed and/or under construction</b>											
Consolidated Rental Car Facility Logan Airport (Boston)		x			x		NE				\$337.0
Route 16/Revere Beach Parkway Bridges (Everett, Medford, and Revere)		x			x	x	NE/N				\$41.3
Assembly Square Roadway Improvements (Somerville)		x			x	x	NW	x			\$15.4
<b>Long Range Transportation Plan Universe Roadway Projects</b>											
Route 1 Add-a-Lane (Malden, Saugus, and Revere)		x	x		x		NE/N	x		x	\$150.0
Interstate 93 Capacity Improvements (Somerville to Woburn)	x						N			x	
Route 1/Route 16 Interchange (Revere)	x						NE			x	\$7.4
Route 1A/Route 16 (Revere)	x						NE			x	\$109.7
Route 1A/Chelsea Street Bridge Connection (Boston)	x						NE			x	
Route 1A/Boardman Street Grade Separation (Boston)	x			x			NE			x	\$16.0
Mahoney Circle Grade Separation (Revere)				x			NE			x	\$35.6
East Boston Haul Road (Boston)	x			x	x		NE			x	\$19.5
Route 16/Revere Beach Parkway Roadway Improvements (Everett, Telecom City Boulevard (Everett, Malden, and Medford)							NE/N	x		x	\$109.5
Route 16/I-93 Connection (Medford)							N	x			\$17.8
Sullivan Square (Boston)	x	x			x		N	x		x	\$43.3
Rutherford Avenue (Boston)	x	x			x		N	x			\$49.2
Charlestown Haul Road (Boston)	x						N	x		x	
Route 60 Improvements (Malden, Medford)	x						N			x	
McGrath Highway-Gilman Street Bridge (Somerville)	x						NW	x			
Route 9 Capacity Improvements (Brookline, Newton)	x						W	x		x	
Route 20 (Boston, Watertown, Waltham)	x						NW			x	
Route 2/Route 16 Interchange (Arlington and Cambridge)	x						NW	x		x	
Depress I-93 (Somerville)							NW	x			
I-93/Mystic Avenue Interchange (Somerville)	x						NW			x	\$138.6
Longfellow Bridge (Boston, Cambridge)	x		x		x		NW			x	\$310.0
Extend I-93 High-Occupancy Vehicle Lane into the City (Somerville)							NW	x		x	
I-93 Capacity Improvements (Boston to Braintree)	x						SE			x	
Conley Rail Service (South Boston) (Massport Study)	x						SE			x	
South Boston Roadway Improvements (State Freight Plan)	x						SE			x	\$40.0
T Under D (South Boston) (Massport Study)	x						SE			x	
Track 61 Rail Improvement (Boston) (State Freight Plan)	x						SE	x		x	\$9.5
Port of Boston Improvement Dredging Project (Boston, Chelsea) (State Freight Plan)	x						SE			x	\$308.0
Fenway Park Improvements (Boston)							W	x			\$35.1
Improvements to Commonwealth Ave (Boston)		x					W	x			\$23.0
Reconstruction of Causeway St. (Boston)		x					BP	x			\$10.4
Boylston Street (Boston)							BP	x			\$15.0
Northern Avenue Roadways (Boston)							BP	x			
<b>Long Range Transportation Plan Universe of Bicycle and Pedestrian Projects</b>											
Northern Strand (Revere, Saugus, Lynn, Everett, Malden)	x						NE/N		x	x	
Bicycle and Pedestrian Improvements in the vicinity of Forest Hills Station (Jamaica Plain)	x						BP				
Border to Boston Trail (Newburyport to Boston)	x						NE		x	x	

**CENTRAL AREA HIGHWAY NEEDS EVALUATION**

	Maintenance, Modernization and Efficiency	Livability and Economic Benefit	Mobility	Environment and Climate Change	Transportation Equity	Safety and Security
<b>Long Range Transportation Plan Projects currently programmed and/or under construction</b>						
<b>Long Range Transportation Plan Universe of Roadway Projects</b>						
<b>Route 1 Add-a-Lane (Malden, Saugus, and Revere)</b>	x	x	x		x	x
Interstate 93 Capacity Improvements (Somerville to Woburn)			x			x
Route 16/Revere Beach Parkway Roadway Improvements (Everett, Sullivan Square (Boston)	x	x	x		x	x
Route 60 Improvements (Malden, Medford)	x		x		x	
Charlestown Haul Road (Boston)	x	x	x		x	
<i>Rutherford Avenue (Boston)</i>		x				x
Route 1/Route 16 Interchange (Revere)	x		x		x	
Route 1A/Route 16 (Revere)	x		x		x	
Route 1A/Chelsea Street Bridge Connection (Boston)	x		x			
Route 1A/Boardman Street Grade Separation (Boston)	x		x			
Mahoney Circle Grade Separation (Revere)	x		x		x	x
<b>East Boston Haul Road*</b>	x	x	x		x	
Route 9 Capacity Improvements (Brookline, Newton)	x	x	x			
Route 20 (Boston, Watertown, Waltham)	x		x			x
Route 2/Route 16 Interchange (Arlington and Cambridge)	x		x			x
I-93/Mystic Avenue Interchange (Somerville)	x	x	x		x	
Extend I-93 High-Occupancy Vehicle Lane into the City (Somerville)			x	x		
<b>Longfellow Bridge (Boston, Cambridge)</b>	x					x
I-93 Capacity Improvements (Boston to Braintree)			x			
South Boston Roadway Improvements (State Freight Plan)		x	x			
Conley Rail Service (South Boston) (Massport Study)		x	x			
T Under D (South Boston) (Massport Study)	x	x	x	x		
Track 61 Rail Improvement (Boston)		x	x			
Port of Boston Improvement Dredging Project	x	x	x			
<b>Long Range Transportation Plan Universe of Bicycle and Pedestrian Projects</b>						
Northern Strand (Revere, Saugus, Lynn, Everett, Malden)		x			x	
Border to Boston Trail (Newburyport to Boston)		x			x	

The projects included in this table are those from this corridor's Highway Universe that meet a Plan identified need. An initial evaluation was performed using criteria derived from the MPO's visions and policies.

Projects that are indicated in **bold**, are projects that were included in the JOURNEY to 2030 Plan.

Projects that are indicated in *italics*, are projects that were included in the JOURNEY to 2030 Plan but did not address a need identified in the Needs Assessment.

**CENTRAL AREA TRANSIT UNIVERSE**

	PMT Transit Enhancement Project	PMT Transit Expansion Project	PMT Transit SGR Project	In MBTA's Draft FY 2012-2016 CIP SGR List	In MBTA's Draft FY 2012-2016 CIP Enhancement Project List	In MBTA's Draft FY 2012-2016 CIP Expansion Project List	Transit Project Recommended from MPO's CMP	Transit Project in the Current LRTP	Corridor(s)	Public Comment	Meets Plan Identified Need	Cost (in millions)
<b>Accessibility</b>												
Light Rail Accessibility Program - Boston College Station					x				W/C		x	\$3.0
Light Rail Accessibility Program - Phase II - Surface Stations	x				x				W/C		x	\$5.0
Science Park Station Accessibility	x				x				NW/C		x	\$10.5
<b>Communications/Technology</b>												
<b>Enhancements</b>												
BRT on Bus Route 23, 28, 31, 32, 39	x				x				SW/SE/C		x	
Fairmount Line Improvements Phase II	x				x				SE/C		x	\$45.2
Green Line Improvements (use of 3-car trains)	x								W/C		x	
<b>Expansion</b>												
Green Line Extension to Medford Hillside/Union Square		x				x		x	NW/C		x	\$949.8
Urban Ring, Phase 2*		x						x*	All	x	x	\$2,920.3
South Station Track Expansion*								x*	C		x	\$150.0
<b>Maintenance Facilities</b>												
Orient Heights Maintenance Facility Renovation Phase III					x				NE/C		x	\$7.5
<b>Parking</b>												
Alewife Garage Improvements	x				x				NW/C		x	\$16.4
Lechmere Parking Improvements	x								NW/C		x	
Parking Capacity Increases at 2 Orange Line Stations	x								SW/C		x	
Parking Capacity Increases at 2 Blue Line Stations	x								NE/C		x	
Wonderland TOD Parking Garage	x				x				NE/C		x	\$52.0
<b>Stations</b>												
New Worcester Line Commuter Rail Station in Allston	x								W/C	x	x	
Add Northbound Commuter Rail Platform at Ruggles Station	x								SW/C		x	
Ashmont Station Upgrade Phase II					x				SE/C			\$13.8
Back Bay Station Lobby Ventilation				x	x				SW/C		x	\$1.4
Back Bay Station Roofing Project				x	x				SW/C		x	
Blue Line Platform Rehabilitation					x				NE/C		x	\$3.6
Blue Line Government Center Station Modernization						x			NE/C			\$44.0
Blue Line Orient Heights Station Modernization						x			NE/C			\$23.0
Blue Line Station Infrastructure Improvements						x			NE/C			\$3.5
Dudley Square Station Improvements	x				x				SW/C			\$0.3
Wonderland Transit Plaza						x			NE/C		x	\$13.0
Yawkey Station Enhancements	x				x				W/C			\$9.4
<b>Support Infrastructure</b>												
Green Line Catenary Replacement				x					W/C		x	
Green Line Power Study					x				W/C		x	\$1.9
Orange Line AC and DC Breaker Upgrade				x	x				SW/C		x	\$40.2
Orange Line Power Improvements				x	x				SW/C		x	\$6.5
Red Line DC Cable Upgrade Phase I Andrew-Kendall				x	x				NW/SE/C		x	\$25.1
Red Line Traction Power Upgrade				x	x				NW/SE/C		x	\$16.4
Trackless Trolley Catenary improvements				x	x				NW/C		x	\$1.2
Trackless Trolley Overhead Replacement				x	x				NW/C		x	\$35.4
<b>Track and Signals</b>												
Columbia Junction Upgrades				x	x				SE/C		x	\$57.9
Green Line Frog Replacement Program				x	x				W/C		x	\$5.0
Green Line Grade Crossing Upgrades				x					W/C		x	
Green Line Lechmere Signals				x	x				NW/C		x	\$3.7
Green Line Positive Train Control	x					x			W/C			\$1.1
Green Line Signal Replacement				x					W/C		x	
Green Line Tie Replacement				x					W/C		x	
Orient Heights Track Work				x	x				NE/C		x	\$10.8
Red Line Floating Slab Work				x	x				NW/C		x	\$27.5
Red Line Signal Cable Replacement				x	x				NW/SE/C		x	\$12.4
Red Line Track and Switch Upgrades				x					NW/C		x	
<b>Vehicles</b>												
Green Line No. 7 Overhaul				x	x						x	\$92.2
Green Line No. 8 Car Upgrades				x	x				W/C		x	\$11.8
New Orange and Red Line Car Design and Engineering				x	x				E/C		x	\$13.7
New Red and Orange Line Car Procurements				x					E/C		x	
Red Line No. 1 Car Reinvest.				x	x				NW/SE/C		x	\$6.9
Red Line No. 2 Car Overhaul				x	x				NW/SE/C		x	\$10.6

**CENTRAL AREA TRANSIT NEEDS EVALUATION**

	Maintenance, Modernization and Efficiency	Livability and Economic Benefit	Mobility	Environment and Climate Change	Transportation Equity	Safety and Security
<b>Accessibility</b>						
Light Rail Accessibility Program - Boston College Station	x	x				x
Light Rail Accessibility Program - Phase II - Surface Stations	x	x				x
Science Park Station Accessibility	x	x				x
<b>Communications/Technology</b>						
<b>Enhancements</b>						
BRT on Bus Route 23, 28, 31, 32, 39	x	x	x		x	
Fairmount Line Improvements Phase II		x	x	x	x	
Green Line Improvements (use of 3-car trains)	x		x			
<b>Expansion</b>						
<b>Green Line Extension to Medford Hillside/Union Square</b>		x	x	x	x	
<b>Urban Ring, Phase 2*</b>		x	x	x	x	
<b>South Station Track Expansion*</b>		x	x	x	x	
<b>Maintenance Facilities</b>						
Orient Heights Maintenance Facility Renovation Phase III	x					
<b>Parking</b>						
Alewife Garage Improvements	x					
Lechmere Parking Improvements	x					
Parking Capacity Increases at 2 Orange Line Stations		x	x	x		
Parking Capacity Increases at 2 Blue Line Stations		x	x	x	x	
<b>Wonderland TOD Parking Garage</b>		x	x	x	x	
<b>Stations</b>						
New Worcester Line Commuter Rail Station in Allston		x	x		x	
Add Northbound Commuter Rail Platform at Ruggles Station	x		x		x	
Back Bay Station Lobby Ventilation	x					x
Back Bay Station Roofing Project	x					
Blue Line Platform Rehabilitation	x					
Wonderland Transit Plaza		x			x	
<b>Support Infrastructure</b>						
Green Line Catenary Replacement	x					x
Green Line Power Study	x					
Orange Line AC and DC Breaker Upgrade	x					
Orange Line Power Improvements	x					
Red Line DC Cable Upgrade Phase I Andrew-Kendall	x					
Red Line Traction Power Upgrade	x					
Trackless Trolley Catenary improvements	x					x
Trackless Trolley Overhead Replacement	x					x
<b>Track and Signals</b>						
Columbia Junction Upgrades	x					x
Green Line Frog Replacement Program	x					x
Green Line Grade Crossing Upgrades	x					x
Green Line Lechmere Signals	x					x
Green Line Signal Replacement	x					x
Green Line Tie Replacement	x					x
Orient Heights Track Work	x					x
Red Line Floating Slab Work	x					x
Red Line Signal Cable Replacement	x					
Red Line Track and Switch Upgrades	x					x
<b>Vehicles</b>						
Green Line No. 7 Overhaul	x					
Green Line No. 8 Car Upgrades	x					
New Orange and Red Line Car Design and Engineering						
New Red and Orange Line Car Procurements	x					
Red Line No. 1 Car Reinvest.	x					
Red Line No. 2 Car Overhaul	x					

\* Included as an Illustrative Project

The projects included in this table are those from this corridor's Transit Universe that meet a Plan identified need. An initial evaluation was performed using criteria derived from the MPO's visions and policies.

Projects that are indicated in **bold**, are projects that were included in the JOURNEY to 2030 Plan.



**SYSTEMWIDE TRANSIT UNIVERSE**

	PMT Transit Enhancement Project	PMT Transit Expansion Project	PMT Transit SGR Project	In MBTA's Draft FY 2012-2016 CIP SGR List	In MBTA's Draft FY 2012-2016 CIP Enhancement Project List	In MBTA's Draft FY 2012-2016 CIP Expansion Project List	Transit Project Recommended from MPO's CMP	Transit Project in the Current L RTP	Meets Plan Identified Need
<b>Accessibility</b>									
Accessibility Program	x				x				x
Elevator Program	x				x				x
Escalator Program	x				x				x
Wayfinding Program	x				x				
<b>Communications/Technology</b>									
Automated Bus Passenger Counters		x			x				
Bid/Dispatch - Advanced Scheduling System	x				x				
Computer Technology Upgrades	x				x				
Train & Bus Arrival Announcements	x				x				
<b>Enhancements</b>									
Daily Operations Resource Management System		x			x				
Homeland Security	x				x				
Key Bus Routes Project	x				x				x
<b>Expansion</b>									
<b>Maintenance Facilities</b>									
Bus Facilities Upgrade			x	x					x
Bus Facility Analysis					x				x
Carwash Upgrades Systemwide			x	x					x
Commuter Rail Maintenance Facilities Upgrades			x	x					x
Maintenance Facilities Upgrades			x	x					x
MBTA Bus Facility Rehab & Improvements			x	x					x
Subway Facility Improvements			x	x					x
<b>Parking</b>									
Enhanced Bicycle Parking Facilities	x				x				x
Parking Upgrades	x				x				
<b>Stations</b>									
Commuter Rail - Various Stations Projects	x				x				
Commuter Rail Stations Upgrades			x	x					x
Emergency Station Lighting Program			x	x					x
Station Management Project - Phase II	x				x				
Subway Station Platform Improvement Program			x	x					x
Subway Station Rehabilitation			x	x					x
<b>Support Infrastructure</b>									
Bridge Program			x	x					x
Commuter Rail - Bridge Projects			x	x					x
Environmental Compliance Management	x				x				
Groundwater Remediation			x	x					x
MBTA Systemwide Fencing			x	x					x
MBTA Tunnel Signage Project	x				x				
Power Program			x	x					x
Rectifier Transformer Replacement			x	x					x
Rehab Traction Power Substations			x	x					x
Renewable Wind Energy Project					x				
Substation Control Battery Set Replacement Program			x	x					x
Systemwide Fire Suppression Systems			x	x					x
Systemwide Tunnel Lighting			x	x					x
Tunnel Dewatering Pump Station Rehabilitation Program			x	x					x
Tunnel Rehabilitation			x	x					x
Unit Substation Upgrades			x	x					x
<b>Track and Signals</b>									
Systemwide Signal Maintenance			x	x					x
Systemwide Track Maintenance			x	x					x
Yard Switch Replacement and Track Reconstruction			x	x					x
<b>Vehicles</b>									
Bus Fleet Rehabilitation (2004/2005 fleet)			x	x					x
Commuter Rail Coach Procurement			x	x					x
Commuter Rail Locomotive Procurement			x	x					x
Commuter Rail Locomotive Top Deck Overhaul			x	x					x
Commuter Rail Positive Train Control Efforts	x				x				
Kawasaki Commuter Rail Coach Overhaul			x	x					x
Procurement of 480 Buses			x	x					x
RIDE Vehicle Program			x	x					x
Snow Fighting Equipment			x	x					x
Systemwide Non-Revenue Vehicle Program			x	x					x

**SYSTEMWIDE TRANSIT NEEDS EVALUATION**

	Maintenance, Modernization and Efficiency	Livability and Economic Benefit	Mobility	Environment and Climate Change	Transportation Equity	Safety and Security
<b>Accessibility</b>						
Accessibility Program	x	x				x
Elevator Program	x	x				x
Escalator Program	x	x				x
<b>Communications/Technology</b>						
<b>Enhancements</b>						
Key Bus Routes Project - bus stop amenities and customer service	x	x				
<b>Expansion</b>						
<b>Maintenance Facilities</b>						
Bus Facilities Upgrade and Rehabilitation	x					
Bus Facility Needs Assessment	x					
Carwash Upgrades Systemwide	x					
Commuter Rail Maintenance Facilities Upgrades	x					
Maintenance Facilities Upgrades	x					
MBTA Bus Facility Rehab & Improvements	x					
Subway Facility Improvements	x					
<b>Parking</b>						
Enhanced Bicycle Parking Facilities		x	x	x		
<b>Stations</b>						
Commuter Rail Stations Upgrades and Renovation	x	x				
Emergency Station Lighting Program	x					x
Subway Station Platform Improvement Program	x					x
Subway Station Rehabilitation	x	x				
<b>Support Infrastructure</b>						
Bridge Program	x					x
Commuter Rail - Bridge Projects	x					x
Groundwater Remediation				x		
MBTA Systemwide Fencing	x					x
Power Program	x					
Rectifier Transformer Replacement	x					
Rehab Traction Power Substations	x					
Substation Control Battery Set Replacement Program	x					
Systemwide Fire Suppression Systems	x					x
Systemwide Tunnel Lighting	x					x
Tunnel Dewatering Pump Station Rehabilitation Program	x					x
Tunnel Rehabilitation	x					x
Unit Substation Upgrades	x					
<b>Track and Signals</b>						
Systemwide Signal Maintenance	x					x
Systemwide Track Maintenance	x					x
Yard Switch Replacement and Track Reconstruction	x					
<b>Vehicles</b>						
Bus Fleet Rehabilitation (2004/2005 fleet)	x					x
Commuter Rail Coach Procurement	x		x			
Commuter Rail Locomotive Procurement	x			x		
Commuter Rail Locomotive Top Deck Overhaul	x					
Kawasaki Commuter Rail Coach Overhaul	x	x				
Procurement of 480 Buses	x					
RIDE Vehicle Program	x	x				
Snow Fighting Equipment	x					
Systemwide Non-Revenue Vehicle Program	x					

The projects included in this table are those from this corridor's Highway Universe that meet a Plan identified need. An initial evaluation was performed using criteria derived from the MPO's visions and policies.







PATHS TO A SUSTAINABLE REGION - Projects and Programs by Investment Category

Corridor	Municipality	Projects and Programs	Maintenance, Modernization and Efficiency	Livability and Economic Benefit	Mobility	Environment	Climate Change	Transportation Equity	Safety and Security	Comments
			Use low-cost strategies Efficiency through ITS and M&O Invest in technology before expansion Achieve SGR Strengthen connections; close gaps	Support MetroFuture development plans Promote healthy transportation, complete streets Promote context-sensitive design Support state-of-practice parking Support economic vitality	Improve access to transit Improve transit service Expand transit Address constraints and bottlenecks	Promote fleet modernization Support high-occupancy vehicle travel and non-motorized modes Protect resources and health; avoid air and water impacts; reduce emissions, including brownfields Promote energy conservation and alternative sources Support meeting GHG emission reduction targets	Reduce VMT Increase transit/bike/ped options and TDM Protect critical infrastructure Reduce energy use	Address equity needs; minimize burdens (air, safety, community) Reduce transit trip times; increase capacity Improve heavily used networks before expanding	Implement all-hazards planning Reduce safety and security deficiencies Support ITS Protect critical infrastructure; address vulnerabilities Improve Bike/Ped safety Reduce crash severity	
<b>Management &amp; Operations: ITS and low-cost capital improvements for system efficiencies</b>										
<b>Management &amp; Operations - Transit</b>										
	MBTA	Communications/Technology								
	MBTA	Green Line Power Study								
<b>Management &amp; Operations - Roadway</b>										
NE, N		Route 1 Intersection Signalization (Corridorwide)								
W	Brookline, Newton	Route 9 Capacity Improvements · This project would involve several improvements to signals, sidewalks, and pedestrian crossings along Route 9. It would also involve some minor widening at the Woodward St. intersection and striping a third lane from that intersection to the east along Route 9.								
NW	Arlington and Cambridge	Route 2/Route 16 Interchange · This project implements access and traffic operation improvement recommendations outlined in the MPO's UPWP Alewife Traffic Operations and Access Study, Phase II.								
<b>Management &amp; Operations - Freight</b>										
<b>Management &amp; Operations - Additional Projects for Consideration</b>										
	Regionwide	Expand METFON fiberoptic network								
	Regionwide	Expand MIVIS								
	Regionwide	Interface MassDOT-MSP communication for real-time information								
	Regionwide	Interconnect Existing Operations Centers								
	Regionwide	Expand Traffic Sensor Network								
	Regionwide	Upgrade Traffic Signal Equipment (demand responsive systems)								
	Regionwide	Implement TSP for MBTA Bus Routes								
	Regionwide	Integrated Corridor Management								
	Regionwide	Arterial Traffic Monitoring								
	Regionwide	Traffic Management at Special Events								
	Regionwide	Enhanced Emergency Response System (ERS)								
	Regionwide	Enhance Mass 511 system								
	Regionwide	Deploy and manage Dynamic Message Signs								
	Regionwide	Integrate Weather Information into the ERS								
	Regionwide	Implement Work Zone Monitoring								
	Regionwide	Employ Critical Infrastructure Surveillance								























PATHS TO A SUSTAINABLE REGION - Projects and Programs by Investment Category

Corridor	Municipality	Projects and Programs	Maintenance, Modernization and Efficiency	Livability and Economic Benefit	Mobility	Environment	Climate Change	Transportation Equity	Safety and Security	Comments
			Use low-cost strategies Efficiency through ITS and M&O Invest in technology before expansion Achieve SGR Strengthen connections; close gaps	Support MetroFuture development plans Promote healthy transportation, complete streets Promote context-sensitive design Support state-of-practice parking Support economic vitality	Improve access to transit Improve transit service Expand transit Address constraints and bottlenecks	Promote fleet modernization Support high-occupancy vehicle travel and non-motorized modes Protect resources and health; avoid air and water impacts; reduce emissions, including brownfields Promote energy conservation and alternative sources Support meeting GHG emission reduction targets	Reduce VMT Increase transit/bike/ped options and TDM Protect critical infrastructure Reduce energy use	Address equity needs; minimize burdens (air, safety, community) Reduce transit trip times; increase capacity Improve heavily used networks before expanding Implement all-hazards planning	Reduce safety and security deficiencies Support ITS Protect critical infrastructure; address vulnerabilities Improve Bike/Ped safety Reduce crash severity	

Expansion

Expansion - Transit											
NE	MBTA	Extend Blue Line to Lynn · This project involves constructing an extension of the Blue Line 4.5 miles from Wonderland Station to Lynn Station. The project would support economic development in Lynn. It would result in improved connectivity from the North Shore to Logan Airport.									
	MBTA	Green Line Extension College Ave to Route 16 · This project involves constructing the College Avenue to Route 16 segment of the Green Line Extension. Phase 1 of the project involves constructing the Green Line from Lechmere to College Ave., with a spur to Union Square in Somerville.									
	MBTA	Green Line Extension to Medford Hillside/Union Square · This project involves extending the Green Line beyond Lechmere to College Avenue in Medford Hillside (about 4 miles) and Union Square in Somerville (about .5 miles). This project would improve transit access in the Northwest Corridor and support economic development and smart growth.									
	MBTA	Lowell Commuter Rail Line Extension (Nashua/Manchester)									
	MBTA	New Orange Line Station at Assembly Square · This project involves the construction of a new Orange Line station at Assembly Square in Somerville. The project will support economic development at the Assembly Square site.									
	MBTA	New Worcester Line Commuter Rail Station in Allston · This project would involve constructing a new commuter rail station on the Framingham/Worcester commuter rail line in either Allston or Brighton. Commuter rail service in this area was discontinued in 1959.									
	MBTA	Orange Line Extension from Forest Hills to Needham									
	MBTA	Parking Capacity Increases at 2 Blue Line Stations									
	MBTA	Parking Increases at 2 Orange Line Stations									
	MBTA	Parking Capacity Increases at 4 Commuter Rail Stations									
	MBTA	Parking Expansion at 11 Commuter Rail Stations									
	Boston	Russia Wharf Ferry Terminal · This project would consist of implementing a new ferry route in Boston Inner Harbor, from the existing terminal at the Charlestown Navy Yard to a new terminal at Russia Wharf, which is located in Fort Point Channel at Congress Street. The construction at Russia Wharf is a CA/T legal commitment.									
	MBTA	South Station Track Expansion · South Station is currently at capacity; additional track space is required to expand commuter rail service needed to accommodate future ridership demand. Up to 5 additional tracks are proposed and would be constructed after relocation of the U.S. Postal Service facility.									

















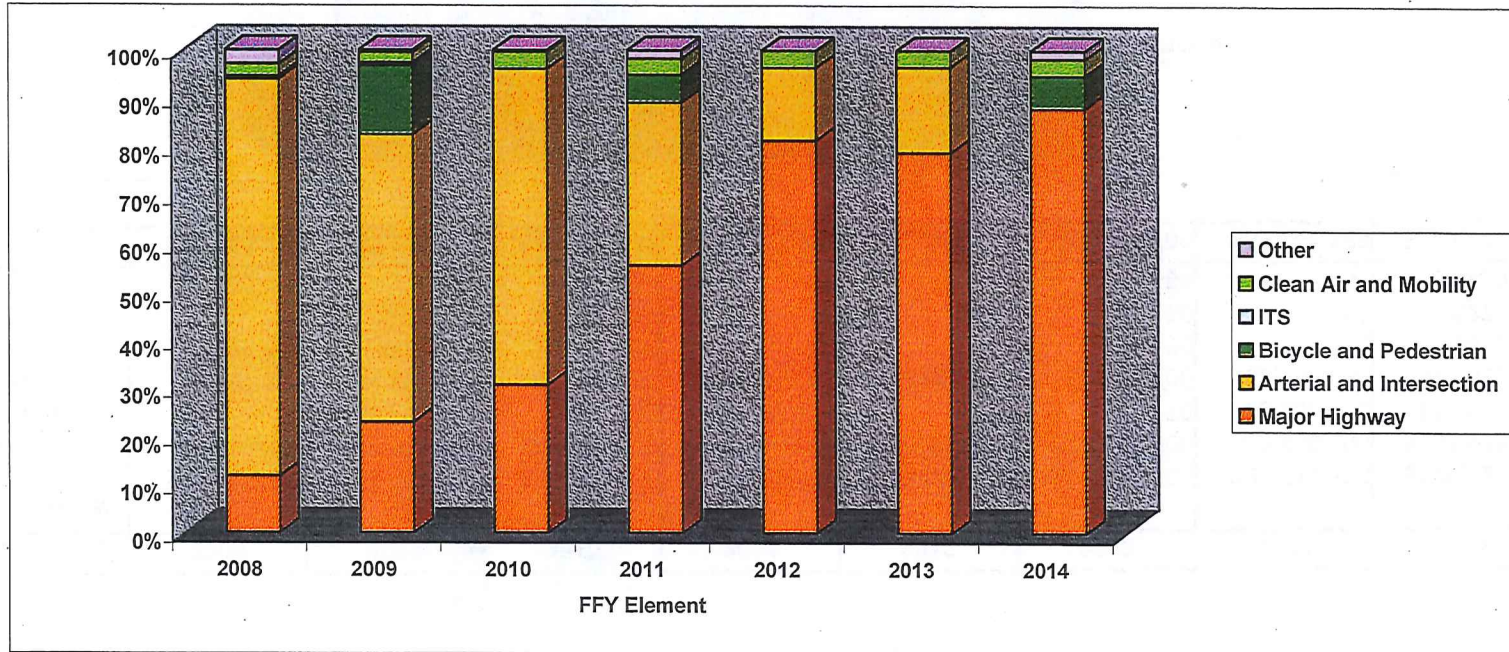






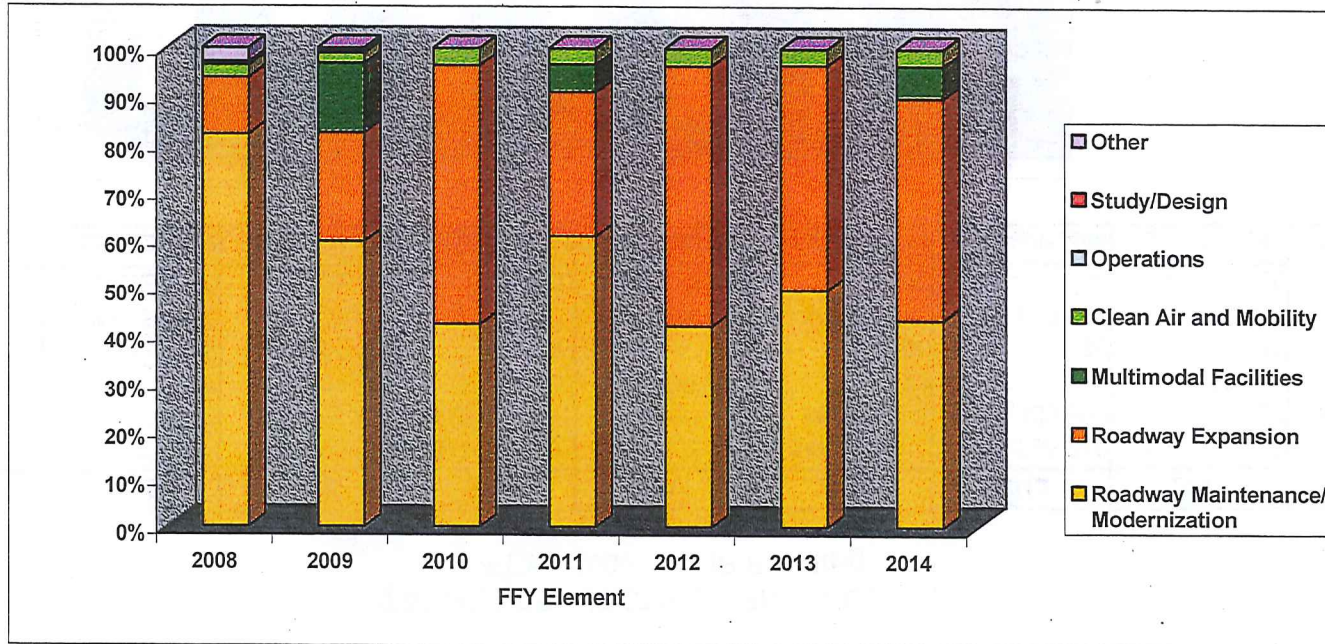
**TARGET PROJECTS BY PROJECT TYPE  
FFYs 2008-14 TIP Funding**

Project Type	2008	2009	2010	2011	2012	2013	2014	Total	%
Major Highway	\$7,630,000	\$14,959,389	\$17,000,000	\$33,336,197	\$44,796,710	\$45,296,710	\$49,914,368	\$212,933,374	51.34%
Arterial and Intersection	\$53,417,219	\$38,862,412	\$36,160,630	\$19,997,140	\$8,248,404	\$10,139,690	\$0	\$166,825,495	40.22%
Bicycle and Pedestrian	\$0	\$9,300,000	\$0	\$3,487,611	\$0	\$0	\$3,850,000	\$16,637,611	4.01%
ITS	\$405,000	\$405,000	\$0	\$0	\$0	\$0	\$0	\$810,000	0.20%
Clean Air and Mobility	\$1,657,255	\$1,426,503	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000	\$13,083,758	3.15%
Other	\$1,920,000	\$271,800	\$180,000	\$1,076,235	\$0	\$0	\$1,000,000	\$4,448,035	1.07%
<b>Total</b>	<b>\$65,029,474</b>	<b>\$65,225,104</b>	<b>\$55,340,630</b>	<b>\$59,897,183</b>	<b>\$55,045,114</b>	<b>\$57,436,400</b>	<b>\$56,764,368</b>	<b>\$414,738,273</b>	<b>100.00%</b>



**TARGET PROJECTS BY PROJECT PURPOSE  
FFYs 2008-14 TIP Funding**

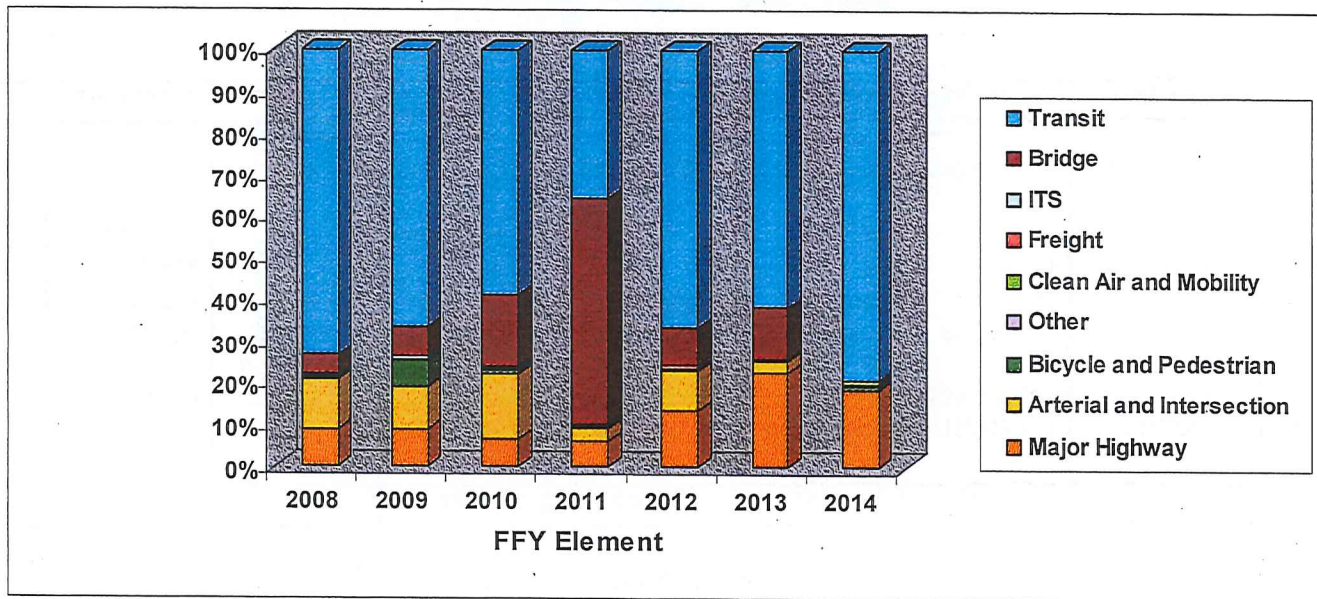
Project Purpose	2008	2009	2010	2011	2012	2013	2014	Total	%
Roadway Maintenance/Modernization	\$53,417,219	\$38,862,412	\$23,340,630	\$36,409,572	\$23,045,114	\$28,436,400	\$24,514,368	\$228,025,715	54.98%
Roadway Expansion	\$7,630,000	\$14,959,389	\$30,000,000	\$18,000,000	\$30,000,000	\$27,000,000	\$26,400,000	\$153,989,389	37.13%
Multimodal Facilities	\$0	\$9,300,000	\$0	\$3,487,611	\$0	\$0	\$3,850,000	\$16,637,611	4.01%
Clean Air and Mobility	\$1,657,255	\$1,426,503	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000	\$13,083,758	3.15%
Operations	\$405,000	\$405,000	\$0	\$0	\$0	\$0	\$0	\$810,000	0.20%
Study/Design	\$0	\$271,800	\$0	\$0	\$0	\$0	\$0	\$271,800	0.07%
Other	\$1,920,000	\$0	\$0	\$0	\$0	\$0	\$0	\$1,920,000	0.46%
<b>Total</b>	<b>\$65,029,474</b>	<b>\$65,225,104</b>	<b>\$55,340,630</b>	<b>\$59,897,183</b>	<b>\$55,045,114</b>	<b>\$57,436,400</b>	<b>\$56,764,368</b>	<b>\$414,738,273</b>	<b>100.00%</b>





### TOTAL TIP PROJECTS BY PROJECT TYPE FFYs 2008-14 TIP Funding

Project Type	2008	2009	2010	2011	2012	2013	2014	Total	%
Major Highway	\$46,043,143	\$74,836,088	\$59,522,700	\$69,286,947	\$57,860,470	\$105,091,240	\$66,869,808	\$479,510,396	10.43%
Arterial and Intersection	\$60,988,737	\$82,464,044	\$141,047,527	\$33,941,427	\$42,277,243	\$12,720,000	\$0	\$373,438,978	8.12%
Bicycle and Pedestrian	\$0	\$52,127,456	\$5,286,413	\$6,671,000	\$0	\$0	\$3,850,000	\$67,934,869	1.48%
Other	\$2,638,000	\$1,489,800	\$6,599,330	\$2,374,935	\$0	\$0	\$2,124,874	\$15,226,939	0.33%
Clean Air and Mobility	\$1,657,255	\$1,426,503	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000	\$13,083,758	0.28%
Freight	\$0	\$0	\$0	\$0	\$3,124,213	\$0	\$0	\$3,124,213	0.07%
ITS	\$2,370,933	\$7,405,000	\$1,700,000	\$0	\$0	\$0	\$0	\$11,475,933	0.25%
Bridge	\$23,552,564	\$57,421,965	\$153,712,669	\$593,037,841	\$38,000,000	\$56,843,990	\$0	\$922,569,029	20.06%
Transit	\$379,459,041	\$553,770,538	\$528,122,754	\$389,072,695	\$287,434,306	\$287,434,306	\$287,434,306	\$2,712,727,945	58.98%
<b>Total</b>	<b>\$516,709,673</b>	<b>\$830,941,394</b>	<b>\$897,991,393</b>	<b>\$1,096,384,845</b>	<b>\$430,696,232</b>	<b>\$464,089,536</b>	<b>\$362,278,988</b>	<b>\$4,599,092,060</b>	<b>100.00%</b>







**TOTAL TIP FUNDING  
FFYs 2008-14**

Funding Category	2008	2009	2010	2011	2012	2013	2014	Total	%
CMAQ	\$16,240,946	\$17,670,623	\$42,083,300	\$18,987,611	\$2,000,000	\$2,000,000	\$5,850,000	\$104,832,480	2.28%
NHS	\$7,630,000	\$14,959,389	\$32,500,000	\$18,000,000	\$30,000,000	\$27,000,000	\$26,400,000	\$156,489,389	3.40%
STP	\$40,359,123	\$28,026,582	\$30,530,620	\$17,536,627	\$15,200,000	\$24,139,690	\$19,217,658	\$175,010,300	3.81%
HSIP	\$0	\$4,296,710	\$4,296,710	\$4,296,710	\$4,296,710	\$4,296,710	\$4,296,710	\$25,780,260	0.56%
Enhancement	\$799,405	\$271,800	\$930,000	\$1,076,235	\$3,548,404	\$0	\$1,000,000	\$7,625,844	0.17%
Earmark	\$15,632,748	<b>\$42,534,656</b>	<b>\$78,611,686</b>	<b>\$21,606,125</b>	\$37,153,052	\$2,580,310	\$1,124,874	<b>\$199,243,449</b>	4.33%
Bridge	\$23,552,564	\$53,256,965	\$127,972,544	\$588,726,341	\$38,000,000	\$56,843,990	\$0	\$888,352,404	19.32%
IM	\$33,726,346	\$25,844,040	\$26,573,950	\$35,502,000	\$8,393,600	\$56,866,530	\$15,393,840	\$202,300,306	4.40%
NHSPP	\$4,506,000	\$13,261,943	\$0	\$0	\$4,670,160	\$2,928,000	\$1,561,600	\$26,927,703	0.59%
Highway ARRA	\$0	\$89,994,648	\$147,618,746	\$0	\$0	\$0	\$0	\$237,613,394	5.17%
Section 5307	\$183,521,216	<b>\$188,752,405</b>	<b>\$169,934,306</b>	\$169,934,306	\$169,934,306	\$169,934,306	\$169,934,306	<b>\$1,221,945,151</b>	26.57%
Section 5309	\$187,431,886	<b>\$169,163,559</b>	<b>\$130,171,000</b>	<b>\$218,547,890</b>	\$117,500,000	\$117,500,000	\$117,500,000	<b>\$1,057,814,335</b>	23.00%
Transit ARRA	\$0	\$179,414,256	\$80,784,353	\$0	\$0	\$0	\$0	\$260,198,609	5.66%
Other	\$3,309,439	\$3,493,819	\$25,984,178	<b>\$2,171,000</b>	\$0	\$0	\$0	<b>\$34,958,436</b>	0.76%
<b>Total</b>	<b>\$516,709,673</b>	<b>\$830,941,394</b>	<b>\$897,991,393</b>	<b>\$1,096,384,845</b>	<b>\$430,696,232</b>	<b>\$464,089,536</b>	<b>\$362,278,988</b>	<b>\$4,599,092,060</b>	<b>100.00%</b>

Project Type	2008	2009	2010	2011	2012	2013	2014	Total	%
Major Highway	\$46,043,143	\$74,836,088	\$59,522,700	<b>\$69,286,947</b>	\$57,860,470	\$105,091,240	\$66,869,808	<b>\$479,510,396</b>	10.43%
Arterial and Intersection	\$60,988,737	\$82,464,044	<b>\$141,047,527</b>	<b>\$33,941,427</b>	\$42,277,243	\$12,720,000	\$0	<b>\$373,438,978</b>	8.12%
Bicycle and Pedestrian	\$0	\$52,127,456	\$5,286,413	<b>\$6,671,000</b>	\$0	\$0	\$3,850,000	<b>\$67,934,869</b>	1.48%
Other	\$2,638,000	\$1,489,800	\$6,599,330	<b>\$2,374,935</b>	\$0	\$0	\$2,124,874	<b>\$15,226,939</b>	0.33%
Clean Air and Mobility	\$1,657,255	\$1,426,503	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000	\$13,083,758	0.28%
Freight	\$0	\$0	\$0	<b>\$0</b>	\$3,124,213	\$0	\$0	<b>\$3,124,213</b>	0.07%
ITS	\$2,370,933	\$7,405,000	\$1,700,000	\$0	\$0	\$0	\$0	\$11,475,933	0.25%
Bridge	\$23,552,564	\$57,421,965	\$153,712,669	<b>\$593,037,841</b>	\$38,000,000	\$56,843,990	\$0	<b>\$922,569,029</b>	20.06%
Transit	\$379,459,041	<b>\$553,770,538</b>	<b>\$528,122,754</b>	<b>\$389,072,695</b>	\$287,434,306	\$287,434,306	\$287,434,306	<b>\$2,712,727,945</b>	58.98%
<b>Total</b>	<b>\$516,709,673</b>	<b>\$830,941,394</b>	<b>\$897,991,393</b>	<b>\$1,096,384,845</b>	<b>\$430,696,232</b>	<b>\$464,089,536</b>	<b>\$362,278,988</b>	<b>\$4,599,092,060</b>	<b>100.00%</b>

Project Purpose	2008	2009	2010	2011	2012	2013	2014	Total	%
Roadway Maintenance/ Modernization	\$121,967,811	\$193,283,903	\$301,613,621	<b>\$666,400,527</b>	\$99,261,926	\$119,655,230	\$42,594,682	<b>\$1,544,777,699</b>	33.59%
Roadway Expansion	\$7,630,000	\$14,959,389	\$47,500,000	\$22,500,000	\$42,000,000	\$55,000,000	\$26,400,000	\$215,989,389	4.70%
Multimodal Facilities	\$11,167,192	<b>\$50,893,394</b>	<b>\$78,673,969</b>	<b>\$65,553,628</b>	\$0	\$0	\$3,850,000	<b>\$210,138,183</b>	4.57%
Clean Air and Mobility Study/Design	\$1,657,255	\$1,426,503	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000	\$2,000,000	\$13,083,758	0.28%
Other	\$5,229,439	\$9,893,520	\$7,239,709	\$0	\$0	\$0	\$0	\$22,362,668	0.49%
Operations	\$2,370,933	\$7,405,000	\$28,374,353	\$0	\$0	\$0	\$0	\$38,150,286	0.83%
Transit Maintenance/ Modernization	\$364,982,410	<b>\$481,324,860</b>	<b>\$420,219,254</b>	<b>\$330,190,067</b>	\$287,434,306	\$287,434,306	\$287,434,306	<b>\$2,459,019,509</b>	53.47%
Transit Expansion	\$0	\$67,405,648	<b>\$2,500,000</b>	\$0	\$0	\$0	\$0	<b>\$69,905,648</b>	1.52%
<b>Total</b>	<b>\$516,709,673</b>	<b>\$830,941,394</b>	<b>\$897,991,393</b>	<b>\$1,096,384,845</b>	<b>\$430,696,232</b>	<b>\$464,089,536</b>	<b>\$362,278,988</b>	<b>\$4,599,092,060</b>	<b>100.00%</b>





Hello:

Attached are two tables that we hope you find useful as you prepare the financial components of the 2011 - 2035 Regional Transportation Plans.

The first table provides estimated total availability of highway funding for the state for each year grouped by five-year increments. The estimates in this table are based on the following assumptions:

- Federal funding (OA and redistribution) and state match for the period of 2011 - 2014 reflect current STIP allocations and funding for FFY 2015 is assumed to be equal to estimates for FFY 2014.
- Beginning in 2016 and each year thereafter federal funding is assumed to grow at a rate of 3% per year.
- Deductions for statewide items that cannot be allocated individually to the MPOs - Central Artery and ABP GANs repayments, Planning, and Extra Work Orders/Cost Adjustments - are taken from total available funding, leaving an amount of available federal funding to be allocated in the regional plans.
- Assumed funding for Major Infrastructure Projects, the NHS/IM Programs, the Federal Aid Bridge Program, and Infrastructure Maintenance mirrors the assumptions made for federal funding - 2011-2015 reflect STIP amounts, and thereafter programs are adjusted by a rate of 3% per year.
- The Balance Available for the Statewide Road and Bridge Program is a function of the other assumptions made in the financial plan and represents federal funding after deducting statewide line items and GANS repayments. For 2011-2015, this amount reflects the regional targets provided in the STIP; from 2016 to 2021 it fluctuates based upon the assumed 3% growth in revenue and programs costs, as well as the repayment schedule of the ABP GANs; in 2022, the amount balloons to reflect the end of GANs repayments and thereafter it grows at a rate of 3% per year.
- The Non-Federal Aid Program is based upon the existing program and held constant at current amounts for 2011 - 2015. Beginning in 2016 and thereafter, NFA funding is adjusted at a rate of 3% per year..

The second table collapses and totals the funding by category into five-year increments. The bottom section of this table shows a regional allocation of estimated funding availability for the specific MPO. These funds have been allocated among the regions based upon the following assumptions:

FFY 2011 - 2035 Regional Transportation Plan Funding (thousands)

ESTIMATED FEDERAL FUNDING																										
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	TOTAL
Core Program Federal Funds Available (1)	\$560,000	\$560,000	\$560,000	\$560,000	\$560,000	\$576,800	\$594,104	\$611,927	\$630,285	\$649,193	\$668,669	\$688,729	\$709,391	\$730,673	\$752,593	\$775,171	\$798,426	\$822,379	\$847,050	\$872,462	\$898,636	\$925,595	\$953,363	\$981,963	\$1,011,422	\$18,298,832
Assumed Redistribution (1)	\$0	\$40,000	\$40,000	\$40,000	\$40,000	\$41,200	\$42,436	\$43,709	\$45,020	\$46,371	\$47,762	\$49,195	\$50,671	\$52,191	\$53,757	\$55,369	\$57,030	\$58,741	\$60,504	\$62,319	\$64,188	\$66,114	\$68,097	\$70,140	\$72,244	\$1,267,059
<b>Total Federal Funds Available</b>	<b>\$560,000</b>	<b>\$600,000</b>	<b>\$600,000</b>	<b>\$600,000</b>	<b>\$600,000</b>	<b>\$618,000</b>	<b>\$636,540</b>	<b>\$655,636</b>	<b>\$675,305</b>	<b>\$695,564</b>	<b>\$716,431</b>	<b>\$737,924</b>	<b>\$760,062</b>	<b>\$782,864</b>	<b>\$806,350</b>	<b>\$830,540</b>	<b>\$855,457</b>	<b>\$881,120</b>	<b>\$907,554</b>	<b>\$934,780</b>	<b>\$962,824</b>	<b>\$991,709</b>	<b>\$1,021,460</b>	<b>\$1,052,104</b>	<b>\$1,083,667</b>	<b>\$19,565,891</b>
Less GANS Payments	\$159,365	\$165,960	\$176,555	\$183,795	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$208,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,793,675
Federal Funds Available for SWRB	\$400,635	\$434,040	\$423,445	\$416,205	\$450,000	\$468,000	\$486,540	\$505,636	\$525,305	\$545,564	\$508,431	\$737,924	\$760,062	\$782,864	\$806,350	\$830,540	\$855,457	\$881,120	\$907,554	\$934,780	\$962,824	\$991,709	\$1,021,460	\$1,052,104	\$1,083,667	\$17,772,216
<b>Total Funds Available Including State Match</b>	<b>\$489,043</b>	<b>\$524,862</b>	<b>\$511,056</b>	<b>\$504,066</b>	<b>\$546,310</b>	<b>\$574,806</b>	<b>\$597,675</b>	<b>\$621,230</b>	<b>\$645,492</b>	<b>\$670,482</b>	<b>\$623,721</b>	<b>\$910,233</b>	<b>\$937,540</b>	<b>\$965,666</b>	<b>\$994,636</b>	<b>\$1,024,475</b>	<b>\$1,055,210</b>	<b>\$1,086,866</b>	<b>\$1,119,472</b>	<b>\$1,153,056</b>	<b>\$1,187,648</b>	<b>\$1,223,277</b>	<b>\$1,259,975</b>	<b>\$1,297,775</b>	<b>\$1,336,708</b>	<b>\$21,861,280</b>
Less Major Infrastructure Project	\$2,750	\$40,000	\$40,000	\$40,000	\$40,000	\$41,200	\$42,436	\$43,709	\$45,020	\$46,371	\$47,762	\$49,195	\$50,671	\$52,191	\$53,757	\$55,369	\$57,030	\$58,741	\$60,504	\$62,319	\$64,188	\$66,114	\$68,097	\$70,140	\$72,244	\$1,269,809
Less Major Infrastructure Project Needs - HPP	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Less NHS/Interstate Maintenance Program	\$84,500	\$82,000	\$79,179	\$79,179	\$79,178	\$81,553	\$84,000	\$86,520	\$89,116	\$91,789	\$94,543	\$97,379	\$100,300	\$103,309	\$106,409	\$109,601	\$112,889	\$116,276	\$119,764	\$123,357	\$127,057	\$130,869	\$134,795	\$138,839	\$143,004	\$2,595,405
Less Federal Aid Bridge Needs	\$127,733	\$123,045	\$127,733	\$127,733	\$127,733	\$131,565	\$135,512	\$139,577	\$143,765	\$148,078	\$152,520	\$157,095	\$161,808	\$166,663	\$171,662	\$176,812	\$182,117	\$187,580	\$193,208	\$199,004	\$204,974	\$211,123	\$217,457	\$223,981	\$230,700	\$4,169,178
Less Statewide Items:																										
Planning	\$23,000	\$23,000	\$23,000	\$23,000	\$23,000	\$23,690	\$24,401	\$25,133	\$25,887	\$26,663	\$27,463	\$28,287	\$29,136	\$30,010	\$30,910	\$31,837	\$32,793	\$33,776	\$34,790	\$35,833	\$36,908	\$38,015	\$39,156	\$40,331	\$41,541	\$751,559
Extra Work Orders	\$41,350	\$43,750	\$43,750	\$45,000	\$45,000	\$46,350	\$47,741	\$49,173	\$50,648	\$52,167	\$53,732	\$55,344	\$57,005	\$58,715	\$60,476	\$62,291	\$64,159	\$66,084	\$68,067	\$70,109	\$72,212	\$74,378	\$76,609	\$78,908	\$81,275	\$1,464,292
Infrastructure Maintenance	\$70,308	\$84,158	\$63,783	\$55,533	\$55,533	\$56,959	\$58,428	\$59,741	\$53,499	\$55,104	\$56,757	\$58,460	\$60,213	\$62,020	\$63,880	\$65,797	\$67,771	\$69,804	\$71,898	\$74,056	\$76,277	\$78,565	\$80,922	\$83,349	\$85,850	\$1,665,661
<b>Total Statewide Items</b>	<b>\$134,658</b>	<b>\$150,908</b>	<b>\$130,533</b>	<b>\$123,533</b>	<b>\$123,533</b>	<b>\$126,999</b>	<b>\$130,569</b>	<b>\$131,046</b>	<b>\$130,033</b>	<b>\$133,934</b>	<b>\$137,952</b>	<b>\$142,091</b>	<b>\$146,354</b>	<b>\$150,744</b>	<b>\$155,267</b>	<b>\$159,925</b>	<b>\$164,722</b>	<b>\$169,664</b>	<b>\$174,754</b>	<b>\$179,997</b>	<b>\$185,397</b>	<b>\$190,958</b>	<b>\$196,687</b>	<b>\$202,588</b>	<b>\$208,665</b>	<b>\$3,881,512</b>
<b>BALANCE AVAILABLE FOR SWRE</b>	<b>\$139,402</b>	<b>\$128,909</b>	<b>\$133,611</b>	<b>\$133,621</b>	<b>\$175,866</b>	<b>\$193,489</b>	<b>\$205,158</b>	<b>\$220,378</b>	<b>\$237,558</b>	<b>\$250,310</b>	<b>\$190,944</b>	<b>\$464,473</b>	<b>\$478,407</b>	<b>\$492,759</b>	<b>\$507,542</b>	<b>\$522,768</b>	<b>\$538,451</b>	<b>\$554,605</b>	<b>\$571,243</b>	<b>\$588,380</b>	<b>\$606,031</b>	<b>\$624,212</b>	<b>\$642,939</b>	<b>\$662,227</b>	<b>\$682,094</b>	<b>\$9,945,376</b>

ESTIMATED NON-FEDERAL FUNDING

<b>TOTAL ESTIMATED NFA FUNDS AVAILABLE</b>	<b>\$150,000</b>	<b>\$150,000</b>	<b>\$150,000</b>	<b>\$150,000</b>	<b>\$150,000</b>	<b>\$154,500</b>	<b>\$159,135</b>	<b>\$163,909</b>	<b>\$168,826</b>	<b>\$173,891</b>	<b>\$179,108</b>	<b>\$184,481</b>	<b>\$190,016</b>	<b>\$195,716</b>	<b>\$201,587</b>	<b>\$207,635</b>	<b>\$213,864</b>	<b>\$220,280</b>	<b>\$226,888</b>	<b>\$233,695</b>	<b>\$240,706</b>	<b>\$247,927</b>	<b>\$255,365</b>	<b>\$263,026</b>	<b>\$270,917</b>	<b>\$4,901,473</b>
Roads	\$82,400	\$84,872	\$87,418	\$90,041	\$92,742	\$95,524	\$98,390	\$101,342	\$104,382	\$107,513	\$110,739	\$114,061	\$117,483	\$121,007	\$124,637	\$128,377	\$132,228	\$136,195	\$140,280	\$144,489	\$148,824	\$153,288	\$157,887	\$162,624	\$167,502	\$3,004,243
Bridges	\$67,600	\$65,128	\$62,582	\$59,959	\$57,258	\$58,976	\$60,745	\$62,567	\$64,444	\$66,378	\$68,369	\$70,420	\$72,533	\$74,709	\$76,950	\$79,259	\$81,636	\$84,085	\$86,608	\$89,206	\$91,882	\$94,639	\$97,478	\$100,402	\$103,414	\$1,897,229
<b>TOTAL AVAILABLE FOR ALLOCATING IN THE RTP</b>	<b>\$574,693</b>	<b>\$608,112</b>	<b>\$594,306</b>	<b>\$586,066</b>	<b>\$628,310</b>	<b>\$659,266</b>	<b>\$684,669</b>	<b>\$710,834</b>	<b>\$737,784</b>	<b>\$765,542</b>	<b>\$721,634</b>	<b>\$1,011,083</b>	<b>\$1,041,415</b>	<b>\$1,072,658</b>	<b>\$1,104,837</b>	<b>\$1,137,982</b>	<b>\$1,172,122</b>	<b>\$1,207,286</b>	<b>\$1,243,504</b>	<b>\$1,280,809</b>	<b>\$1,319,234</b>	<b>\$1,358,811</b>	<b>\$1,399,575</b>	<b>\$1,441,562</b>	<b>\$1,484,809</b>	<b>\$24,546,902</b>

Notes: (1) Core Program Federal Funds Avail and Assumed Redistribution assumes a 3% per year increase after 2015  
 (2) The above figures do not include Local Aid ( Chapter 90, PWED & STRAP )



FFY 2011 - 2035 Regional Transportation Plan Funding (thousands)

<b>ESTIMATED FEDERAL FUNDING</b>						
	<b>2011 - 2015</b>	<b>2016 - 2020</b>	<b>2021 - 2025</b>	<b>2026 - 2030</b>	<b>2031-2035</b>	<b>TOTAL</b>
Core Program Federal Funds Available (1)	\$2,800,000	\$3,062,310	\$3,550,056	\$4,115,488	\$4,770,978	\$18,298,832
Assumed Redistribution	\$160,000	\$218,736	\$253,575	\$293,963	\$340,784	\$1,267,059
<b>Total Federal Funds Available</b>	<b>\$2,960,000</b>	<b>\$3,281,046</b>	<b>\$3,803,631</b>	<b>\$4,409,451</b>	<b>\$5,111,763</b>	<b>\$19,565,891</b>
Less GANS Payments	\$835,675	\$750,000	\$208,000	\$0	\$0	\$1,793,675
<b>Federal Funds Available for SWRB</b>	<b>\$2,124,325</b>	<b>\$2,531,046</b>	<b>\$3,595,631</b>	<b>\$4,409,451</b>	<b>\$5,111,763</b>	<b>\$17,772,216</b>
<b>Total Funds Available Including State Match</b>	<b>\$2,575,337</b>	<b>\$3,109,685</b>	<b>\$4,431,797</b>	<b>\$5,439,078</b>	<b>\$6,305,383</b>	<b>\$21,861,280</b>
Less Major Infrastructure Project	\$162,750	\$218,736	\$253,575	\$293,963	\$340,784	\$1,269,809
Less Major Infrastructure Project Needs - HPP	\$0	\$0	\$0	\$0	\$0	\$0
Less NHS/Interstate Maintenance Program	\$404,036	\$432,978	\$501,940	\$581,886	\$674,565	\$2,595,405
Less Federal Aid Bridge Needs	\$633,977	\$698,496	\$809,749	\$938,721	\$1,088,235	\$4,169,178
Less Statewide Items:						
Planning	\$115,000	\$125,773	\$145,806	\$169,029	\$195,951	\$751,559
Extra Work Orders	\$218,850	\$218,736	\$253,575	\$293,963	\$340,784	\$1,325,909
Infrastructure Maintenance	\$329,315	\$280,730	\$301,330	\$349,324	\$404,962	\$1,665,661
<b>Total Statewide Items</b>	<b>\$663,165</b>	<b>\$432,978</b>	<b>\$501,940</b>	<b>\$581,886</b>	<b>\$674,565</b>	<b>\$2,854,534</b>
<b>BALANCE AVAILABLE FOR SWRB</b>	<b>\$711,409</b>	<b>\$1,106,893</b>	<b>\$2,134,125</b>	<b>\$2,775,446</b>	<b>\$3,217,503</b>	
<b>Estimated HPP Funding including State Match</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>ESTIMATED NON-FEDERAL FUNDING</b>						
<b>TOTAL ESTIMATED NFA FUNDS AVAILABLE</b>	<b>\$750,000</b>	<b>\$820,261</b>	<b>\$950,908</b>	<b>\$1,102,363</b>	<b>\$1,277,941</b>	<b>\$4,901,473</b>
Roads	\$437,473	\$507,151	\$587,927	\$681,568	\$790,125	\$3,004,243
Bridges	\$312,527	\$313,111	\$362,981	\$420,794	\$487,816	\$1,897,229
<b>TOTAL AVAILABLE FOR ALLOCATING IN THE RTP</b>	<b>\$2,991,487</b>	<b>\$3,558,095</b>	<b>\$4,951,627</b>	<b>\$6,041,703</b>	<b>\$7,003,990</b>	<b>\$24,546,902</b>
<b>Total Available for Programming in the Boston Region RTP</b>						
	<b>2011 - 2015</b>	<b>2016 - 2020</b>	<b>2021 - 2025</b>	<b>2026 - 2030</b>	<b>2031 - 2035</b>	<b>TOTAL</b>
<b>Total Available for Programming in the Boston Region RTP</b>	<b>\$1,178,422</b>	<b>\$1,411,842</b>	<b>\$1,991,972</b>	<b>\$2,438,749</b>	<b>\$2,827,178</b>	<b>\$9,848,163</b>
Major Infrastructure Projects	\$69,929	\$93,985	\$108,954	\$126,308	\$146,425	\$545,600
Federal Aid Bridge Projects	\$193,566	\$213,265	\$247,232	\$286,610	\$332,260	\$1,272,933
NHS/IM Projects	\$145,505	\$155,928	\$180,764	\$209,555	\$242,931	\$934,683
Statewide Maintenance	\$463,750	\$473,064	\$538,050	\$623,748	\$723,095	\$2,821,707
Regional Discretionary Funding	\$305,672	\$475,600	\$916,971	\$1,192,529	\$1,382,468	\$4,273,240
						<b>\$9,848,163</b>



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Jeffrey B. Mullan  
MassDOT Secretary and CEO  
and MPO Chairman

Karl H. Quackenbush  
Acting 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

**To: Transportation Planning and Programming Committee**

**March 28, 2011**

**From: Cathy Ann Buckley**

**Re: Comparative Estimates of Peak-Period Ridership on Proposed  
Multi-use Trails**

This memorandum is in response to a request from the Transportation Planning and Programming Committee made at its March 10, 2011, meeting. Presented here is information regarding the comparative estimated use of trails being proposed in the region's long-range plan.

There are four trails proposed for the long-range plan: Border-to-Boston, Northern Strand, and the Bruce Freeman and Assabet River Rail Trails. All of these proposed trails are components of the state's Bay State Greenway, as identified in the 2008 *Massachusetts Bicycle Transportation Plan*. Estimates of usage of these four trails were done by comparing the population, number of employed residents, and number of employees located near the proposed trails with the comparable numbers for existing trails. Counts on the existing trails were used to estimate future usage on the proposed trails.

The MPO's bicycle-pedestrian database was perused to find data for several trails that were collected simultaneously during a weekday peak period, as that time period would reflect commuter usage. On Tuesday, July 15, 2008, morning peak-period counts were done on the Nashua River Trail, the Minuteman Commuter Bikeway, and the Dr. Paul Dudley White Path in Cambridge and in Boston. The specific locations were as follows:

- Nashua River Rail Trail, Groton, Station Avenue,
- Minuteman Commuter Bikeway, Lexington, the Depot in Lexington Center,
- Dr. Paul Dudley White Path, Cambridge, near and west of Massachusetts Avenue, and
- Dr. Paul Dudley White Path, Boston, near and west of Massachusetts Avenue.

The weather that day was sunny, with temperatures around 80°F.

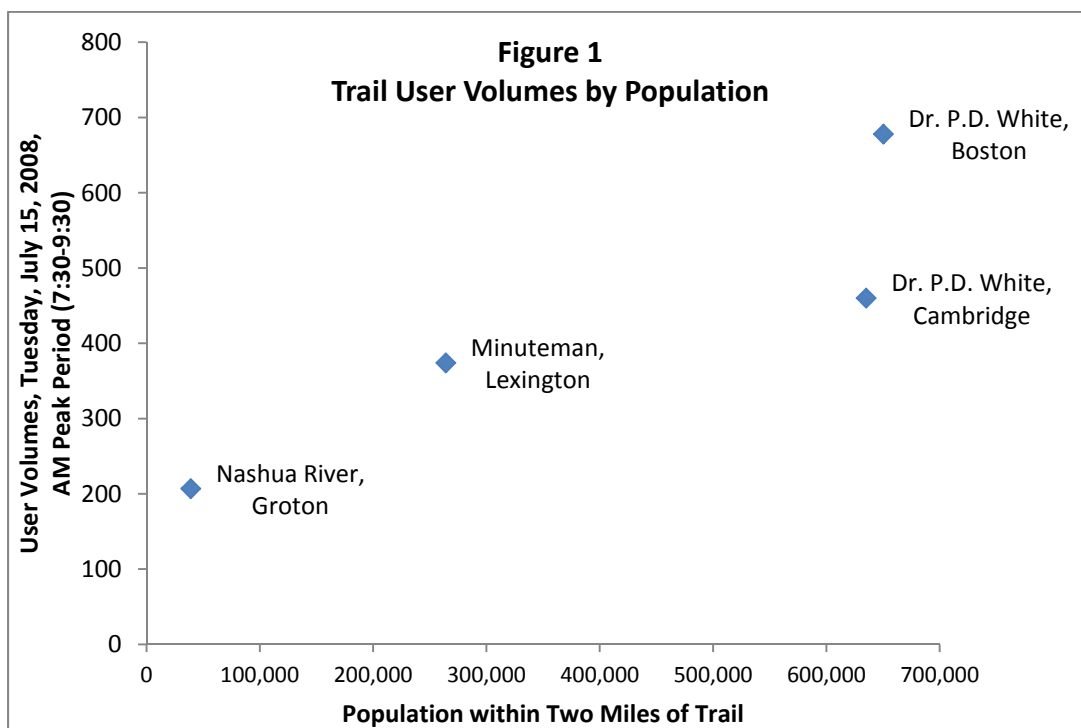
Table 1 indicates morning peak-period volumes of users for each trail (7:30-9:30 AM). Also included are the following for the area defined by two miles from the trail, for its entire length, on either side (four-mile width): population, employed residents, and employees, those working in the area.



Figures 1, 2, and 3 indicate the peak-period volumes as a function of each of the three parameters. As can be seen, the user volumes generally correlate with all three variables. The Nashua River Rail Trail has the lowest number of residents, employed residents, and employees within two miles, and also the lowest user volumes. The Dr. Paul Dudley White Path, Boston, has the highest volumes as well as the highest number of people living and working near the facility.

**Table 1**  
**Trail User Volumes (7:30–9:30 AM), and Population, Number of Employed Residents, and Number of Employees, within Two Miles of Facility**

Trail	Peak Period Users	Population	Employed Residents	Employees
Nashua River Groton	207	39,100	19,900	13,800
Minuteman Lexington	374	264,100	140,300	136,700
Dr. PD White Cambridge	460	635,200	354,700	658,800
Dr. PD White Boston	678	650,400	360,600	671,300



The relationship is not linear. The population, the number of employed residents, and the number of employees along the Minuteman for example, are about an order of magnitude higher than along the Nashua River Trail, while the usage is not quite double. Likewise, the population and

number of employed residents along the Dr. Paul Dudley White Path are over twice those numbers for the Minuteman, and the number of employees along the Dr. Paul Dudley White Path is almost five times that number along the Minuteman. Compared to the volumes on the Minuteman, volumes on the Cambridge side of the Dr. Paul Dudley White are 25 percent higher and those on the Boston side almost twice as high.

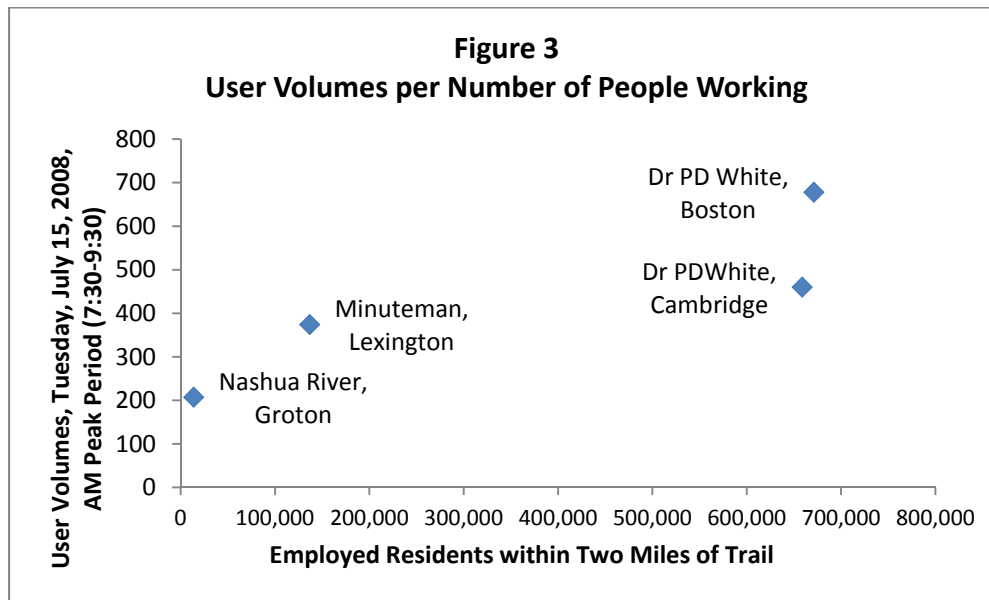
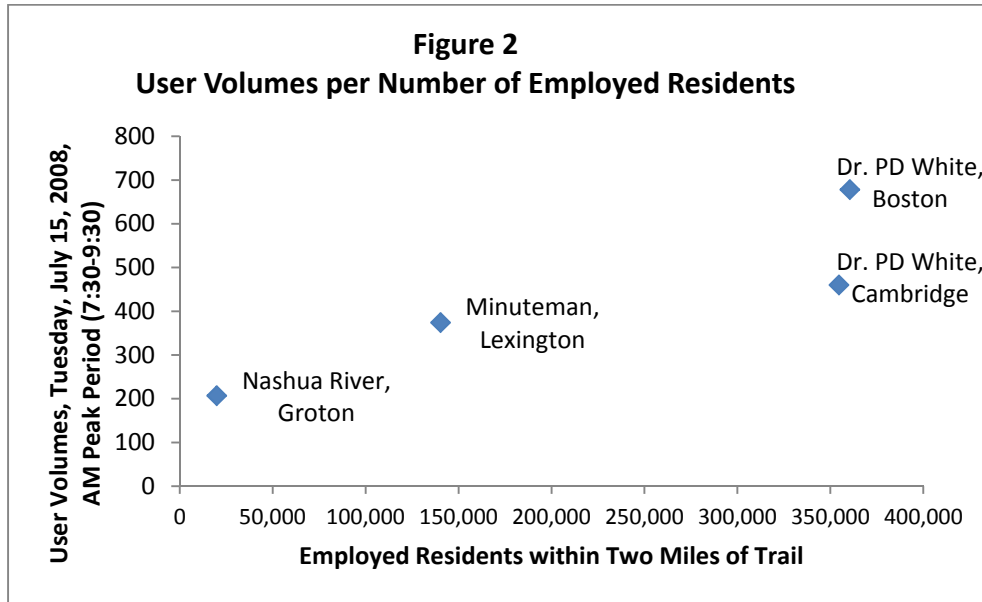


Table 2 shows the population, employed residents, and employees for the four proposed trails, for the area defined by two miles from the facility on the either side (four-mile width).



Usage on these proposed trails can be estimated by comparing the values above with the comparable values on the existing trails and interpolating trail usage volumes. Table 3 indicates estimates of the four trails by interpolating by population, by employed residents and by those employed within the trail's area.

**Table 2**  
**Population, Number of Employed Residents,**  
**and Number of Employees, within Two Miles of Facility**

<b>Proposed Facility</b>	<b>Population</b>	<b>Employed Residents</b>	<b>Employees</b>
<b>Border to Boston</b>	129,200	67,100	63,000
<b>Northern Strand</b>	470,600	244,100	156,100
<b>Bruce Freeman</b>	57,700	26,700	27,400
<b>Assabet River</b>	73,100	37,600	26,100

**Table 3**  
**Trail Usage Estimates, AM Peak Period, Based on Population, Number of Employed**  
**Residents, and Number of Employees, within Two Miles of Facility**

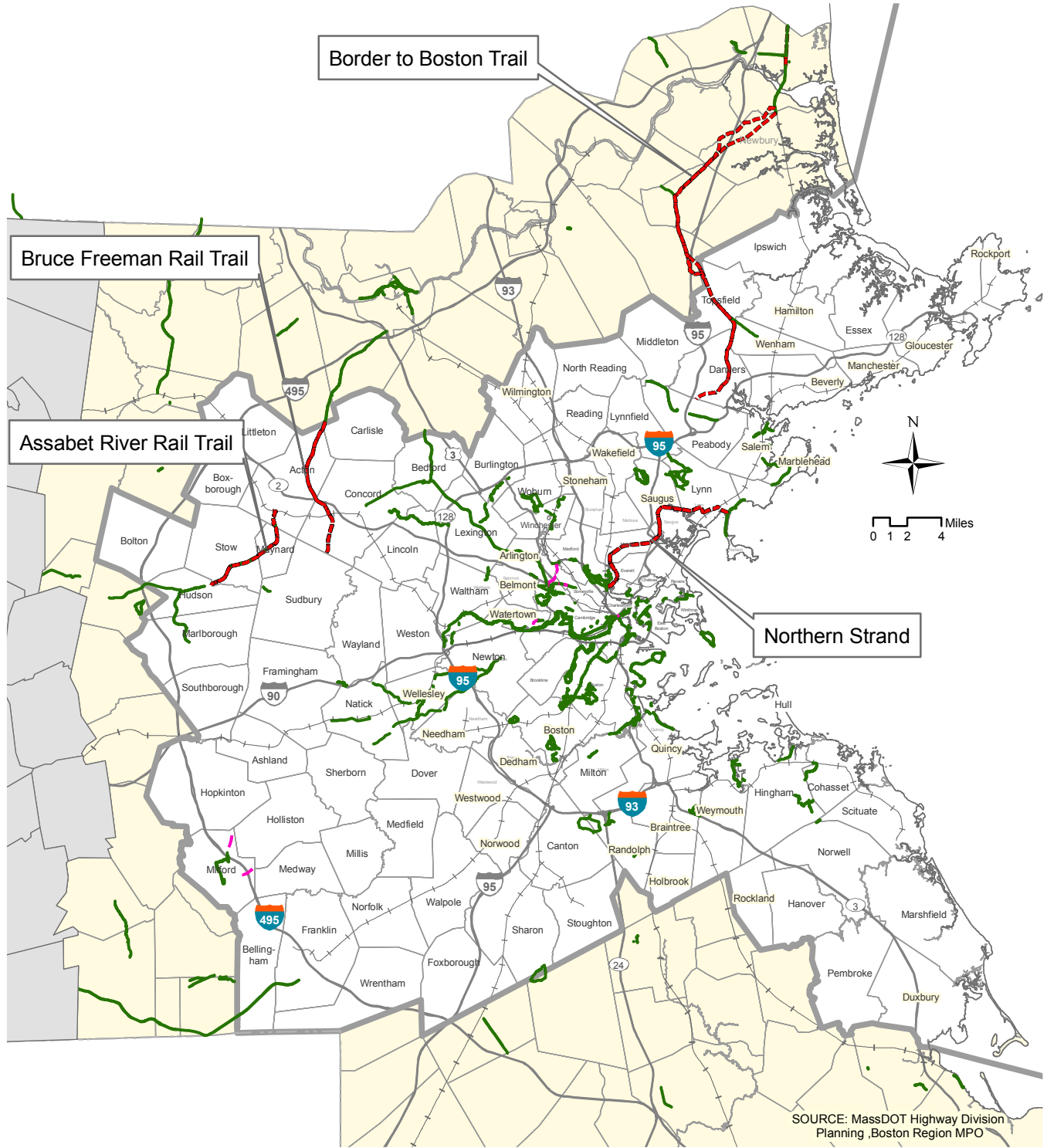
<b>Proposed Facility</b>	<b>By Population</b>	<b>By Employed Residents</b>	<b>By Employees</b>	<b>Average</b>
<b>Border to Boston</b>	280	290	290	290
<b>Northern Strand</b>	510	500	400	470
<b>Bruce Freeman</b>	230	200	210	210
<b>Assabet River</b>	240	220	200	220

The estimates using population, employed residents, and employees yield close results for three of the trails. Only the Northern Strand estimate based on number of employees is lower than those using the other two methods. The average of the three methods for each trail is also shown in the table: 210 peak-period users for the Bruce Freeman Rail Trail, 220 for the Assabet River Rail Trail, 290 for the Border to Boston, and 470 for the Northern Strand.

These estimates ought to be viewed as very rough ones, for several reasons. First, data from only one day were used. Second, counts done at one point on a given trail were used, and volumes vary along the length of a trail. Third, these are estimates of present usage. Given an increasing awareness of such issues as health and climate change, non-motorized mode shares in the future might increase significantly.

CAB/cab

# MPO Trails



## Bicycle and Pedestrian Trails

- Proposed shared-use facility
- Existing shared-use
- - Under construction, or construction funded