Appendix A: Other Boston Region Transportation-Planning Projects

This appendix consists of brief descriptions of planning studies that will be conducted in the Boston Region Metropolitan Planning Organization (MPO) area by individual agencies, such as MassDOT and the MBTA, during FFY 2016. MPO funding will not be used for these studies, although in certain instances an agency or one of its consultants may contract with MPO staff (CTPS) to provide support for the preparation of an environmental impact report or a large-scale study. For these projects, CTPS support work is described in Chapters 4 through 7, with a cross-reference to the project listing in this appendix. Likewise, projects listed in this appendix indicate whether there is a CTPS component. An example of this is the Green Line Extension: Completion of New Starts Analysis project. CTPS support work for that project is described in Chapter 6, and the project itself is presented in this appendix.

The projects in this appendix are not subject to the MPO's public participation process. Rather, they follow their own public processes, some of which may be required by the Massachusetts Environmental Policy Act (MEPA). They are included here to provide a more complete picture of all the surface-transportation planning projects occurring in the region.

A.1 OTHER BOSTON REGION TRANSPORTATION-PLANNING PROJECTS

Allston I-90, Massachusetts Turnpike Interchange Improvement Project

Agency: MassDOT

The proposed project consists of an interchange improvement project to address the structural and geometric deficiencies of the I-90 Allston Interchange between Cambridge Street and Commonwealth Avenue in the City of Boston. Context-Sensitive Design alternatives will be discussed and will then be developed for further evaluation in an environmental document that will ensure that the reconstructed interchange and ramp configurations will continue to support the vehicular loading conditions and provide safe and reliable transportation access. The existing viaduct has severely deteriorated, and alternatives under consideration for its replacement will provide MassDOT the opportunity to reconfigure the Allston Interchange, which dates from the 1965 extension of the Massachusetts Turnpike to downtown Boston. This project includes the provision of improving the alignment of I-90 between Cambridge Street and Commonwealth Avenue when all-electronic tolling (AET) is implemented. Provisions for improved access through the project area for alternative modes of transportation will also be considered.

Cape Cod Canal Study

Agency: MassDOT

The purpose of the Cape Cod Canal Transportation Study is to identify improvements to the transportation system in the area surrounding the Cape Cod Canal in Bourne and Sandwich, Massachusetts, including the construction of new Cape Cod Canal crossings. The study will entail the development and analysis of a full range of transportation alternatives to address the identified transportation needs. The alternatives considered will include new Cape Cod Canal crossings; highway, interchange, and non-highway improvements; and other options and design elements that improve access in all modes. The alternatives will be evaluated using criteria that relate to the study's goals and objectives. The study will result in the production of a final report that includes the study's analytical findings; a recommended plan

of future scheduled transportation improvements (short-term, medium-term, and long-term); preliminary cost estimates for these improvements; and a comprehensive implementation plan for the recommended improvements.

CTPS will support the Cape Cod Canal study through the MassDOT Statewide Planning and Research Program Support project (page 7-16).

Central Broadway Streetscape Improvements — Agency: City of Somerville

The City of Somerville initiated its Central Broadway Streetscape project in 2014, studying existing transportation needs, and evaluating and preparing an urban streetscape design that improves safety and function along Central Broadway. The study will result in a preferred design and engineering specification for a multimodal corridor that enhances safety and accessibility along Central Broadway, and stimulates economic development opportunities called for in the "Somerville by Design" neighborhood plan for Winter Hill.

Citywide Mobility Plan — Agency: City of Somerville

In 2015, the City of Somerville will launch a 12-18 month citywide strategic planning process focusing on mobility. Extensive data collection and analysis will be conducted, and deliverables will include customized multimodal level-of-service criteria for Somerville. Street typologies and design standards will be established. Capital and operating budgets will be evaluated, and related policies, programs and projects will be studied and prioritized for consistency with the adopted SomerVision Comprehensive Plan.

Climate Change Adaptation Plan: Phase I, Transportation Asset Vulnerability Assessment — Agency: MassDOT

MassDOT will be conducting a statewide transportation asset-vulnerability assessment. The Office of Transportation Planning is planning to kick off the first phase of the Climate Change Adaptation Plan: Transportation Asset Vulnerability Assessment in summer 2015. This will include developing future climate scenarios for the Commonwealth of Massachusetts as well as a detailed assessment of

the risks posed to the full inventory of MassDOT assets from the climate and extreme weather predictions.

Dudley Square Complete Streets Design Project — Agency: City of Boston

The Dudley Square Complete Streets Design Project is a Boston Transportation Department (BTD)–led initiative and community-planning process that will develop roadway, intersection, and streetscape design plans for construction in Dudley Square. The initiative aims to modernize existing conditions and bolster the ongoing municipal and private investment projects in Dudley Square, including the Ferdinand Building and the former Area B-2 police station site. The project will consider a range of improvements for traffic, parking, buses, pedestrians, bicycles, accessibility, and the overall safety and aesthetics of the streets and sidewalks. Special emphasis will be given to developing plans that improve the multimodal environment of Dudley Square and build upon previous planning initiatives. The geographic limits of work are generally bounded by Dudley Street between Shawmut Avenue and Harrison Avenue, Washington Street between Shawmut Extension and Melnea Cass Boulevard, and Warren Street between Kearsarge Avenue and Washington Street.

Everett Transit Study — Agency: MassDOT

Everett, a small densely populated urban city located across the Mystic River from Boston, is currently in the process of revitalizing its neighborhoods by attracting new or expanding existing industrial and business users, remediating brownfields, enhancing residential quality of life, and improving waterfront access. Many substantial future development and redevelopment projects have been identified by the City of Everett and MassDOT.

The massive change associated with such development presents the challenge of creating a balanced and integrated multimodal transportation system capable of serving the city for its long-term success. MassDOT will form a project team to create a transit-focused transportation plan given the future forecasts of major development.

CTPS will support the Everett Transit Study through the MassDOT Statewide Planning and Research Program Support project (page 7-16).

Fairmount Planning Initiatives — Agency: Various

State transportation agencies are partnering with federal agencies, the City of Boston, and neighborhood-based organizations on a number of planning initiatives designed to improve access to transit and promote sustainable development in the Fairmount Corridor. These initiatives, which are underway as the MBTA completes major infrastructure improvements and three of the four planned new stations on the Fairmount Line, include:

- *Fairmount Corridor Business Development and Transit Ridership Growth Strategy*: Fairmount CDC Collaborative with the MBTA has received a Transportation, Community and System Preservation grant to improve the transit service connection to job development in the Fairmount Corridor.
- *Fairmount Indigo Corridor Planning Initiative*: The Boston Redevelopment Authority is spearheading this planning process, which involves the participation of community and agency stakeholders. A vision for Corridor land use and neighborhood change that is focused on enhanced transit is being developed, along with an action plan for targeted redevelopment and public infrastructure upgrades at station areas.

CTPS will support Fairmount Planning Initiatives through the Fairmount Line Station Access Analysis *project (page 6-15).*

Ferry Compact — Agency: Various

The Ferry Compact's principal mission is to identify an overall vision for the ferry system in Massachusetts that improves the transportation of people, goods, and vehicles by water. The Compact's membership—which includes MassDOT, the MBTA, Massport, the Massachusetts General Court, the Steamship Authority, the Seaport Advisory Council, the Boston Harbor Association, and several Boston region municipalities—is a mix of state agencies, state and local elected officials, and other organizations that are dedicated to improving ferry transportation in the commonwealth. For more information, visit MassDOT's Ferry Compact website.

CTPS will support the Ferry Compact through the MassDOT Statewide Planning and Research Program Support *project (page 7-16).*

Go Boston 2030 — Agency: Various

The goal of this multiyear planning process is to envision the City of Boston's long-term transportation future and recommend policies and projects that will support improved and equitable access to jobs, education, and health care. The focus of Go Boston 2030 will be to improve roadway safety, alleviate congestion, promote alternatives to cars, and build new transit connections. The plan will be linked to economic revitalization and ongoing climate change initiatives. The Boston Transportation Department will lead an interagency team for Go Boston 2030, which will be driven by a far-reaching public engagement process.

Green Line Extension Project New Starts Submission Process — Agency: MBTA

The Green Line Extension (GLX) project is an initiative to extend existing MBTA Green Line service from a relocated Lechmere Station in East Cambridge to Somerville and Medford with a spur to Union Square in Somerville. The purpose of this project is to boost transit ridership, improve air quality, ensure equitable distribution of transit services, and support opportunities for smart-growth initiatives and sustainable development in Cambridge, Somerville, and Medford. The project is required by the State Implementation Plan (SIP) and fulfills a longstanding commitment of the Central Artery/Tunnel project to increase public transit.

The Federal Transit Administration (FTA) New Starts program provides grants for new and expanded rail, bus rapid transit, and ferry systems that reflect local priorities to improve transportation options in key corridors. In June 2012, FTA approved entry of the GLX Project into the Preliminary Engineering phase of project development under the New Starts Program. In January 2015, the MBTA and the FTA signed a Full Funding Grant Agreement (FFGA), which establishes the scope of federal participation in the Green Line Extension project. MassDOT and the MBTA will continue to provide analytical and administrative support for the FTA New Starts Program Submission Process. Anticipated activities include planning for construction mitigation strategies and a study that will document the actual outcomes of the project. This study will help evaluate the accuracy of, and determine any lessons learned from, the predictions of those outcomes made during planning and development of the project.

CTPS will support the Green Line Extension project's New Starts application development through the Green Line Extension: Completion of New Starts Analysis *project (page 6-19).*

I-93/I-95 Interchange Improvements Project

Agency: MassDOT

The Massachusetts Department of Transportation (MassDOT) intends to redesign and reconstruct the I-93/I-95 interchange to improve traffic flow and safety. The I-93/I-95 interchange lies at the center of a regional highway network serving Massachusetts and the rest of New England. It is also an important facility for the local communities of Woburn, Reading, Stoneham, Wakefield, and neighboring towns. This interchange experiences heavy traffic volumes during peak hours. Delays are common during peak commuting times, with traffic often backed up dangerously from the ramps onto the mainline highways.

An in-depth planning study of the I-93/I-95 interchange, completed in 2007, analyzed and recommended several short-term and long-term improvement alternatives. As a part of the required National Environmental Policy Act (NEPA) and Massachusetts Environmental Policy Act (MEPA) processes, and to complete an Environmental Impact Statement (EIS) and Environmental Impact Report (EIR), MassDOT now desires to refine and develop variations of the alternative interchange configurations as well as evaluate the potential for improvements that are expected to enhance mobility and safety for users.

CTPS will support the I-93/I-95 Interchange Improvements Project through the I-93/I-95 Interchange Improvements North of Boston: Modeling Support *project (page 6-20).*

Intelligent Transportation Systems: Development and Implementation

Agency: MassDOT

MassDOT is engaged in planning, developing, and implementing intelligent transportation systems (ITS) to more effectively operate the transportation system in Massachusetts. MassDOT's Office of Transportation Planning conducts ITS planning, as described in the State Planning and Research Program, Part I. Current planning activities include implementing a statewide ITS planning program, deploying a recently completed statewide ITS strategic plan, maintaining and updating the regional ITS architectures for metropolitan Boston and other regions within the state, increasing awareness of ITS

within the transportation community and among related stakeholders, planning activities in support of the use of ITS as a tool for improving system performance and function, and providing assistance in planning for the use of ITS for all modes.

MassDOT's Highway Division established the ITS Programs Unit within the Statewide Operations Division to design, develop, implement, and maintain ITS systems for the state highway system. The ITS Programs Unit works with consultants and contractors on these rapidly evolving technologies. Current activities in the Boston region include operation of the Statewide Traffic Operations Center in South Boston, operation of the high-occupancy-vehicle (HOV) lanes on I-93 into Boston from the north and south, expansion of the real-time travel monitoring (RTTM) system deployment, operation of the Massachusetts Interagency Video Information System (MIVIS) and advanced traveler-information system, and development of an Advanced Transportation Management System.

Kendall Square Mobility Task Force

Agency: MassDOT

MassDOT's Kendall Square Mobility Task Force process will provide a holistic approach to mobility issues in the Kendall Square area of Cambridge. In recent years, the City of Cambridge, MassDOT, the MBTA, institutions, and private organizations have documented the need for improved mobility in Kendall Square through a series of studies and initiatives. The existing mobility issues and deficiencies identified through these processes, coupled with planned growth in Kendall Square and East Cambridge, has created a need to develop a transportation strategy to address local and regional mobility needs and mitigate potential future impacts.

Led by MassDOT, the Kendall Square Mobility Task Force will work to identify projects and policy initiatives in support of the continued success of the Kendall area. These projects and initiatives will be technically and financially achievable over the short, medium, and long-term horizons. The Task Force will consider the capacity of connections into and within the Kendall area.

CTPS will support the Kendall Square Mobility Task Force through the MassDOT Statewide Planning and Research Program Support *project (page 7-16).*

MassDOT Greenhouse Gas Strategies Phase II – Energy and Emissions Reduction Policy Analysis Tool (EERPAT) Strategy Testing

Agency: MassDOT

MassDOT is working with the Executive Office of Energy and Environmental Affairs (EOEEA) to adapt FHWA's Energy and Emissions Reduction Policy Analysis Tool (EERPAT), which will enable modeling of the effectiveness of various approaches to reducing transportation sector GHG emissions. The EERPAT tool will help MassDOT model the GHG impacts associated with capital investments, and examine system adjustments for both transit and roadway operations. The EERPAT tool also may allow for the modeling of GHG impacts of education and encouragement policies designed to encourage mode shift, carpooling, and eco-driving. The results of this modeling and other analysis will be used to refine the transportation sector strategies included in EEOEA's Clean Energy and Climate Plan for 2020 (CECP).

MBTA Modal Plans

Agency: MassDOT

MassDOT's Office of Transportation Planning will be undertaking a series of mode-specific plans as part of the Program for Mass Transportation update. MassDOT will procure consultant support for the technical and civic engagement elements of the modal plans.

CTPS will support the development of MBTA Model Plans through the MassDOT Statewide Planning and Research Program Support *project (page 7-16).*

McCarthy Overpass on McGrath Highway (Route 28)

Agency: MassDOT

In 2011, MassDOT launched a planning process, generally known as "Grounding McGrath" to determine the future of this section of the Route 28 corridor and particularly the McCarthy Overpass, which was determined to be in poor structural condition and in need of substantial repairs to both its sub and super structure. To follow up on the study Grounding McGrath: Determining the Future of the Route 28 Corridor, MassDOT will develop state and federal environmental review documents as part of the project development process for the preferred alternative for this project.

NEC FUTURE

Agency: Federal Railroad Administration

NEC FUTURE is a comprehensive federal planning effort, launched by the Federal Railroad Administration in February 2012, to define, evaluate, and prioritize future investments in the Northeast Corridor (NEC), from Washington, D.C to Boston. The FRA has initiated a comprehensive planning process for future investment in the corridor through 2040. Through the NEC FUTURE program, the FRA will determine a long-term vision and investment program for the NEC, and provide a Tier 1 Environmental Impact Statement (EIS) and Service Development Plan (SDP) in 2016 in support of that vision. Technical work includes an analysis of market conditions in the corridor, development of program alternatives, an evaluation of the environmental impacts of those alternatives, and a recommended approach that balances the needs of various users of the corridor—whether commuters, intercity passengers, or freight— in a manner that ensures safe, efficient travel throughout the Northeast. For more information, visit the NEC Future website.

New England University Transportation Center (Region One)

Agency: Colleges and Universities

The New England University Transportation Center (Region One) is a research consortium which includes the Massachusetts Institute of Technology (lead university), Harvard University, and the state universities of Massachusetts, Connecticut, and Maine. It is funded by the USDOT's University Transportation Centers (UTC) Program. The New England UTC conducts multiyear research programs that seek to assess and make improvements to transportation safety, as well as develop a systems-level understanding of livable communities. For further information, visit the New England University Transportation Center's website.

Northern New England Intercity Rail Initiative

Agency: MassDOT

The Commonwealth of Massachusetts, with the participation of the State of Vermont and the State of Connecticut, is conducting the *Northern New England Intercity Rail Initiative (NNEIRI) Feasibility and Planning Study* to identify upgrades and improvements along two major rail corridors known as the Inland Route and the Boston-to-Montreal Route that make up part of the federally-designated Northern New

England High Speed Rail Corridor. The Inland Route rail corridor connects the cities of Boston, MA and New Haven, CT via the cities of Worcester, MA and Springfield, MA. Improvements to the Inland Route may facilitate initiation of passenger train service along a second route between Boston and New York at speeds comparable to the existing Amtrak regional trains that travel along the Northeast Corridor. The Boston-to-Montreal rail corridor connects the cities of Boston, MA and Montreal, QC, via Springfield, MA and White River Junction, VT. Both corridors share common track on the route between the cities of Boston, MA and Springfield, MA. This study will result in a draft Service Development Plan for each passenger rail corridor and a Tier 1 Draft Environmental Impact Study, the first document necessary to comply with the National Environmental Policy Act (NEPA) for high-speed rail service along both the Inland Route and the Boston-Montreal Corridor.

Route 107 Corridor Study — Agency: MassDOT

The purpose of this study is to evaluate operational and potential geometric improvements that would address the existing issues and mitigate the potential future impacts of new retail development along Route 107 in the cities of Lynn and Salem. The project extends from Wilson Street in Salem to Maple Street in Lynn. A plan for future transportation improvements (short-term, medium-term, and long-term), based on an alternatives analysis, will be the end product of this project.

Rutherford Avenue – Sullivan Square Design Project, Charlestown — Agency: City of Boston

The City of Boston is proceeding with the redesign of the Rutherford Avenue corridor in Charlestown, which extends about 1.5 miles from the North Washington Street Bridge to Sullivan Square and provides a critical connection between Everett, Somerville, and other suburbs north and east of Boston, and Boston's downtown business area. The corridor's highway-like design is inconsistent with present-day circumstances, and the function and design of the Sullivan Square rotary is problematic. Pedestrian mobility is limited and bicycle travel is not compatible with the high-speed road. The corridor is 8 to 10 lanes wide (120 to 140 feet), which has created a significant barrier to areas on either side of the roadway, such as the Bunker Hill Community College, Paul Revere Park, the Hood Business Park employment area, and MBTA rapid transit stations.

There are significant transit-oriented development (TOD) opportunities along the corridor, and public investment in new infrastructure will provide support for the development of commercial and residential uses that otherwise would be unlikely or unable to locate in the area. A number of major structural elements in the corridor were constructed more than 60 years ago; they are approaching the end of their life cycle and will need to be replaced. With the completion of the Central Artery/Tunnel (CA/T) project and more traffic now remaining on facilities such as I-93 and US Route 1, a dramatic reduction in traffic volumes along Rutherford Avenue presents a unique opportunity to transform the corridor's character from a 1950s automobile-oriented facility to a 21st-century multimodal urban boulevard corridor that will attract private developments.

South Coast Rail Project — Agency: Various

The South Coast Rail project will restore passenger rail transportation from South Station in Boston to the South Coast of Massachusetts, including the cities of Taunton, New Bedford, and Fall River. The Final Environmental Impact Statement/Report (FEIS/R) was issued in September 2013, and the state was authorized to advance permitting in November 2013. The project will include 10 new stations, modifications at Canton Junction and Stoughton, and two layover facilities at the end of both the Fall River Secondary leg at the Weaver's Cove East site and the end of the New Bedford Mainline leg at the Wamsutta site.

Next steps for the project include advancing the preliminary engineering (roughly 15 percent design) and permitting processes, which will include a final Wetlands Mitigation Plan that must be approved by the US Army Corps of Engineers prior to issuing their Record of Decision (ROD). These activities will be led by the MBTA. In addition, the project team has been meeting with permitting agencies to develop a strategy and process for obtaining permits in the most expeditious and prudent manner possible. Preliminary engineering efforts are expected to be complete in fall 2015. Probably in July 2015, the team will go before the MassDOT Board to request additional funding for the Construction Management/Program Management joint venture, which will allow the project to advance to 30 percent design. Once at that level of design, the project will begin obtaining permits. MassDOT and the MBTA also are moving forward with several projects that have independent utility (separate, complete projects), including upgrading and/or replacing grade crossings and replacing several rail bridges. All crossings will be complete by the end of 2015 or early 2016.

The Metropolitan Area Planning Council (MAPC), the Old Colony Planning Council (OCPC), and the Southeastern Regional Planning and Economic Development District (SRPEDD) are continuing to provide technical assistance—for projects that address and support new zoning, housing needs and production plans, corridor studies, economic development, land-use strategy and permitting—to communities and stakeholders within the project area. This technical assistance has been supported by grants provided by MassDOT. MassDOT works with the Executive Office of Housing and Economic Development (EOHED) on recommendations for funding. Funds for an eighth year of technical assistance for this fiscal year have not been identified. SRPEDD also directs the South Coast Rail Task Force, which is composed of appointed members from the 31 communities in the South Coast Rail Corridor, as well as regional transit authorities and environmental groups. Initially established as a result of the 2002 Secretary's Certificate, the Task Force focus is now limited to land-use planning rather than route determination and vetting. Visit the South Coast Rail website for more information on this project.

South Station Expansion Project — Agency: MassDOT

The 13 tracks currently available at Boston's South Station significantly constrain current and future rail mobility not only within Massachusetts but throughout New England and Amtrak's Northeast Corridor. South Station operates above its design capacity for efficient train operations and orderly passenger queuing, and lacks comfortable, modern facilities for passenger queuing, leaving riders standing in the elements as they wait to board their trains.

This project will complete all necessary alternatives analysis, environmental review, and preliminary engineering (approximately 30 percent design) required for the expansion of South Station and for the development of a new midday commuter rail layover facility. The project will include planning and designing an enhanced passenger environment at South Station through improved streetscape and pedestrian, bicycle, local transit, and vehicular facilities in and around South Station, including the reopening of Dorchester Avenue at the station for public use. The project will consider opportunities for joint public-private development above an expanded South Station, and will also include a plan for the relocation of the existing US Postal Service General Mail Facility, which must be moved to accommodate the station's expansion.

Union Square Neighborhood Plan (includes Streetscape and Utilities Design and Engineering)

Agency: City of Somerville

In 2015, the City will begin construction of the “Union Square Early Action” streetscape and utility improvements, which will return Prospect Street and Webster Avenue to their historic two-way configuration. Simultaneously, the “Somerville by Design” neighborhood plan for Union Square will be completed, which includes a longer-term streetscape improvement plan (as well as deep utility engineering) for the study area.

Appendix B: Public Participation

MPO staff followed the procedures set forth in the MPO's adopted *Public Participation Plan for the Boston Region Metropolitan Planning Organization* when developing the FFY 2016 UPWP. These procedures are designed to ensure early and continued public involvement in the transportation-planning process.

The FFY 2016 UPWP development process began in September 2014. Staff solicited topics for study through outreach at Metropolitan Area Planning Council (MAPC) subregional group meetings. In coordination with outreach for developing the *Charting Progress to 2040* Needs Assessment, MPO staff collected public input on transportation needs across surface transportation modes. Staff also sought suggestions at Regional Transportation Advisory Council meetings and through public outreach at two Transportation Improvement Program (TIP)-and-UPWP-development sessions. Staff considered these suggestions and public input; comments received during the FFY 2015 public review period; and inputs from recent planning documents in the draft FFY 2016 UPWP development process. This process, described in Chapter 1, culminated in the MPO UPWP Committee's recommendation for the FFY 2016 UPWP budget. The committee also recommended a set of new studies for inclusion in the public-review draft FFY 2016 UPWP, which was subsequently approved by the MPO for public circulation on June 11. MPO staff also has presented information on the recommended new studies to the Regional Transportation Advisory Council and to the MAPC subregional groups.

Following the MPO's approval for circulating the public-review draft FFY 2016 UPWP, staff posted the document on the MPO's website (www.bostonmpo.org). Staff also emailed the MPO's contact list (MPOinfo) notifying recipients of the document's availability and of the 30-day period for public review and comment. Chief elected officials and planning directors of the region's 101 municipalities; the Regional Transportation Advisory Council; the MAPC subregional groups;

participants in the MPO's transportation equity work; state legislators; public libraries in the region; and many other interested parties are included in the MPO's email list. This information was also posted on the MPO's website and in the MPO's newsletter (*TRANSREPORT).* A press release was sent to local and regional media outlets.

During the review period, the MPO held two public workshops—one in Everett and one in Boston—to discuss the draft FFY 2016 UPWP and to gather input from the public about their planning priorities. In compliance with the MPO's Title VI and public participation programs, meeting notices for the workshops were translated into the MPO's languages of policy: Portuguese, Simplified Chinese, and Spanish. All MPO meetings and public workshops, where the draft FFY 2016 UPWP was discussed, were accessible by transit and to people with disabilities.

A summary of written comments on the draft FFY 2016 UPWP, and the MPO responses to those comments, titled Table B-1: Summary of Written Comments on the Draft FFY 2016 UPWP with MPO Responses, will be included in the final FFY 2016 UPWP.

Appendix C: Federal Fiscal Year 2016 UPWP Universe of Proposed New Projects

This appendix includes the FFY 2016 UPWP Universe of Proposed New Projects, which documents the proposed new discrete projects that MPO staff and MAPC staff collected or developed for the FFY 2016 UPWP. The Universe includes introductory information, an index, and individual entries for each proposed project.

The entries include the proposed project's name, description, cost estimate, staff to carry out the project (CTPS, MAPC or both), and comments that provide supporting information. The entries also describe:

- How the proposed project might support MPO visions and policies identified in *Paths to a Sustainable Region*, the LRTP in effect during the development of this UPWP
- The functions that proposed projects might perform to support transportation planning in the region
- Whether the project proposal has been categorized as a low, medium, or high priority by Boston Region MPO staff
- The ratings that each proposed project has received using focus areas that reflect the MPO vision, goals, and objectives articulated in *Charting Progress to 2040* (the LRTP the MPO is scheduled to adopt in 2015), national goals and planning factors, federal guidance, and other regional priorities

For more information on how the Universe of Proposed New Projects has been used in the UPWP development process, please see Chapter 1 of this document.

DRAFT FEDERAL FISCAL YEAR (FFY) 2016 UPWP UNIVERSE OF PROPOSED NEW PROJECTS

Proposed Project Notes

Universe Contents

This document contains the individual proposed project descriptions submitted by Boston Region Metropolitan Planning Organization (MPO) staff for the Federal Fiscal Year (FFY) 2016 Unified Planning Work Program (UPWP), along with proposed project descriptions created in response to suggestions from various regional transportation stakeholders and members of the public. These descriptions are preceded by an index. The individual project descriptions contain:

- Details on the proposed project's purpose, approach, and deliverables
- Additional comments on the proposed project, where applicable
- Information on anticipated project staffing needs and an estimated range of anticipated costs
- Information about the functions that each proposed project could perform to support transportation planning in the region
- Information on Long-Range Transportation Plan vision topics that could be addressed by the proposed project
- Results of reviews of UPWP focus areas

This document was last updated on June 11, 2015.

FFY 2016 UPWP Focus Areas

For the past several years, the UPWP project selection process has made use of focus areas as a way of examining how proposed projects could advance the visions, goals, and/or policies of the MPO, federal and state agencies, and MAPC. MPO staff conduct a focus area review for each proposed project, which is a qualitative assessment based on the content of the proposals. Each project description includes a list of the 14 focus areas and indicates whether the project gives "primary" or "secondary" consideration to a focus area or if the focus area is not addressed ("not applicable"). When MPO staff and the UPWP Committee develop recommendations for proposed new projects for the next UPWP, the results of these focus-area reviews are considered, along with a number of other factors, including survey feedback from MPO staff and UPWP Committee members, guidance from federal and state agencies, and study feasibility and implementation factors.

The focus areas for FFY 2016 UPWP proposed new projects are:

1. **Supports Performance-Based Planning:** Considers whether the proposed project could support the MPO's performance-based planning process, including data collection and monitoring, scenario analysis, and reporting.

2. **Links Land Use and Transportation:** Considers whether the proposed project could support the coordination of transportation with local and regional land-use planning activities, policies, and plans, including MAPC's MetroFuture plan.

3. **Helps Maximize Limited Financial Resources**: Considers whether the proposed project could support transportation needs or project prioritization, low-cost transportation improvement strategies, or innovative resource management approaches.

4. **Protects Air Quality and the Environment**: Considers whether the proposed project could support improvements to air quality, reduced greenhouse gas emissions, improvements to water systems and other ecological functions, or energy conservation.

5. **Preserves, Maintains, and Modernizes the Transportation System:** Considers whether the proposed project could support bringing one or more passenger or freight modes into a state of good repair, protecting these modes from natural hazards, or adapting them to withstand anticipated climate change impacts.

6. **Increases Transit and Active Transportation Modes**: Considers whether the proposed project could support increased access and connectivity for bicycle, pedestrian, or transit options, promoting mode share or mode shift where possible.

7. **Advances Mobility, Access, and/or Congestion Reduction:** Considers whether the proposed project could contribute to any of the following improvements: closing gaps for one or more passenger or freight modes in the transportation network; supporting reductions in delays, congestion, or travel time for these modes; or increasing access to and between these modes.

8. **Encourages Sustainable, Livable, and Healthy Communities:** Considers whether the proposed project could support public health, livability, or the preservation of community resources and cohesiveness.

9. **Increases Transportation Safety and Security:** Considers whether the proposed project could support improved safety for one or more passenger or freight modes, or whether it could support incident and emergency responses to natural or man-made hazards.

10. **Supports Economic Vitality:** Considers whether the proposed project could support local or regional economic activity or development.

11. **Supports Transportation Equity and Accessibility:** Considers whether the proposed project could support access, mobility, or participation in decision-making for those with disabilities, those in low-income households, minorities, the elderly, youth, or those with limited English proficiency.

12. **Supports MetroFuture Implementation**: Considers whether the proposed project could address MAPC's MetroFuture implementation strategies.

13. **Supports Statewide and Regional Transportation Initiatives**: Considers whether the proposed project could address MassDOT's weMove Massachusetts and GreenDOT implementation plans, the Healthy Transportation Compact, and other plans and initiatives.

14. **Enhances Technical Capacity, Knowledge, and Insights**: Considers whether the proposed project could support the MPO's understanding of transportation issues and innovations or improves the MPO's planning capacity.

DRAFT FEDERAL FISCAL YEAR (FFY) 2016 UPWP
UNIVERSE OF PROPOSED NEW PROJECTS

Project Index

Roadway Network Performance Projects

Active Transportation Projects

Safety and Security

Transportation Equity and Accessibility Projects

Land Use, Environment, and Economy Projects

Transit Projects

Other Technical Support Projects

A-1 Addressing Safety, Mobility, and Access on Subregional Priority Roadways: FFY 2016

Proposed Project Group: Roadway Network Performance

Proposed Project Staff: CTPS

Estimated Project Cost: $110,000

FFY 2016 UPWP Staff Evaluation: High

Selected for FFY 2016 UPWP: Yes

Proposed FFY 2016 UPWP Budget: $110,000

Project Description

When the MPO staff meets with MAPC subregional groups, those groups identify transportation problems and issues that concern them. Often these issues are related to roadway bottlenecks or the lack of safe access to transportation facilities in their area. These issues can affect livability, quality of life, crash incidence, and air quality along an arterial and its side streets. If problems are not addressed, mobility, access, safety, economic development, and air quality are compromised.

To address feedback from the MAPC subregional groups, MPO staff would identify priority arterial bottleneck locations (or a series of locations) in the MPO region, with an emphasis on the issues identified by the relevant subregional groups, and would develop recommendations for low-cost improvements. Special attention would be paid to the need for and feasibility of bus service along these arterial segments. Staff would consider numerous strategies to improve arterials, including examining and evaluating any or all of the following factors: traffic signals (equipment, retiming, redesign, and coordination); bus stop locations; processing buses through traffic lights; the location and management of pedestrian crossings and signals, taking into account Americans with Disabilities Act (ADA) requirements; travel lane utilization by motorized and bicycle traffic; speed-limit assessment; and access management. These corridor improvements could be recommended to implementing agencies and funded through various federal, state, and local sources, separately or in combination.

Project Comments

The MPO has conducted corridor studies for its Addressing Safety, Mobility, and Access on Subregional Priority Roadways project as part of the FFY 2013, FFY 2014, and FFY 2015 UPWPs. The locations studied in the past are Routes 127/127A in Gloucester and Rockport, Route 3A in Cohasset and Scituate, and Washington Street in Newton.

A-1 Addressing Safety, Mobility, and Access on Subregional Priority Roadways: FFY 2016

Concept Source

CTPS staff suggested this project.

LRTP Vision Topics Addressed:

- ☐ Climate Change
- ☒ Environment
- ☒ Livability
- ☒ Mobility
- ☐ Regional Equity
- ☒ Safety and Security
- ☒ System Preservation, Modernization, and Efficiency

Project Functions

- ☒ Serve Regional Transportation Stakeholders
- ☐ Support MPO Planning
- ☐ Contribute to Transportation Knowledge Base

Focus Area Evaluations

Focus Area	Consideration
Supports Performance-Based Planning	Not Applicable
Links Land Use and Transportation	Secondary
Helps Maximize Limited Financial Resources	Secondary
Protects Air Quality and the Environment	Secondary
Preserves, Maintains, and Modernizes the Transportation System	Primary
Increases Transit and Active Transportation Modes	Secondary
Advances Mobility, Access, and/or Congestion Reduction	Primary
Encourages Sustainable, Livable, and Healthy Communities	Secondary
Increases Transportation Safety and Security	Primary
Supports Economic Vitality	Secondary
Considers Transportation Equity and Accessibility	Not Applicable
Supports MetroFuture Implementation	Primary
Support Statewide and Regional Transportation Initiatives	Primary
Enhances Technical Knowledge, Capacity and Insights	Not Applicable

A-2 Priority Corridors for LRTP Needs Assessment: FFY 2016

Proposed Project Group: Roadway Network Performance

Proposed Project Staff: CTPS

Estimated Project Cost: $110,000

FFY 2016 UPWP Staff Evaluation: Medium

Selected for FFY 2016 UPWP: Yes

Proposed FFY 2016 UPWP Budget: $110,000

Project Description

Studying a roadway corridor or corridor segment is a logical way to address regional multimodal transportation needs, including needs that are expected to arise from potential future developments. This type of study is a multimodal, comprehensive evaluation of a corridor: pedestrians, bicyclists, motorists, and public-transportation users all are considered, using a holistic approach to analyze the problems and recommend improvements. This study involves addressing issues, analyzing services, and making recommendations for areas within the roadway's right-of-way, while accounting for the needs of abutters and other users.

Through this project, staff would recommend conceptual improvements for one or more corridors, or several small sections and within a corridor, that are identified by the Congestion Management Process (CMP) and the Long-Range Transportation Plan (LRTP) as being part of the needs-assessment process. Staff would select locations for study—while considering municipal, subregional, and other public feedback—and would collect data, conduct technical analyses, and develop recommendations for improvements. The recommendations would be forwarded to implementing agencies, which may choose to fund improvements through various federal, state, and local sources, separately or in combination.

Project Comments

The MPO has conducted Priority Corridors for LRTP Needs Assessment studies through the FFY 2012, FFY 2013, FFY 2014, and FFY 2015 UPWPs. The locations that were previously studied are Route 203 (Gallivan Boulevard and Morton Street) in Boston, Route 114 in Danvers, Route 2 in Concord and Lincoln, Route 30 in Framingham and Natick, and Route 140 in Franklin.

The LRTP Vision Topics Addressed (listed on the following page) were updated on March 19, 2015.

A-2 Priority Corridors for LRTP Needs Assessment: FFY 2016

Concept Source

CTPS staff suggested this project.

LRTP Vision Topics Addressed:

- ☐ Climate Change
- ☒ Environment
- ☒ Livability
- ☒ Mobility
- ☐ Regional Equity
- ☒ Safety and Security
- ☒ System Preservation, Modernization, and Efficiency

Project Functions

- ☒ Serve Regional Transportation Stakeholders
- ☒ Support MPO Planning
- ☐ Contribute to Transportation Knowledge Base

Focus Area Evaluations

Focus Area	Consideration
Supports Performance-Based Planning	Not Applicable
Links Land Use and Transportation	Not Applicable
Helps Maximize Limited Financial Resources	Secondary
Protects Air Quality and the Environment	Secondary
Preserves, Maintains, and Modernizes the Transportation System	Primary
Increases Transit and Active Transportation Modes	Secondary
Advances Mobility, Access, and/or Congestion Reduction	Primary
Encourages Sustainable, Livable, and Healthy Communities	Not Applicable
Increases Transportation Safety and Security	Primary
Supports Economic Vitality	Secondary
Considers Transportation Equity and Accessibility	Not Applicable
Supports MetroFuture Implementation	Primary
Support Statewide and Regional Transportation Initiatives	Primary
Enhances Technical Knowledge, Capacity and Insights	Not Applicable

A-3 Safety and Operations at Selected Intersections: FFY 2016

Proposed Project Group: Roadway Network Performance

Proposed Project Staff: CTPS

Estimated Project Cost: $65,000

FFY 2016 UPWP Staff Evaluation: High

Selected for FFY 2016 UPWP: To be determined

Proposed FFY 2016 UPWP Budget: $65,000

Project Description

The purpose of this project is to examine mobility and safety issues at major intersections on the region's arterial highways, where, according to the MPO's crash database, many crashes occur. These locations are also congested during peak traffic periods. The resulting bottlenecks can occur only at single large intersections, but usually spill over to a few adjacent intersections along an arterial. These intersections may also accommodate multiple transportation modes, including buses, bicyclists, and pedestrians.

This study would build directly on the results of the monitoring of delays and safety along arterial roadways that the Congestion Management Process (CMP) produces, and the resulting recommendations would be "management and operations" improvements. Municipalities in the region are very receptive to this type of study, as these studies give them an opportunity to begin looking at the needs of these locations, starting at the conceptual level, before they commit funds for design. Eventually, if a project qualifies for federal funds, the study's documentation is also useful to Massachusetts Department of Transportation (MassDOT).

Project Comments

The MPO has conducted Safety and Operations at Selected Intersections studies as part of the FFY 2011, FFY 2012, FFY 2013, and FFY 2014 UPWPs.

The LRTP Vision Topics Addressed (listed on the following page) were updated on April 30, 2015.

A-3 Safety and Operations at Selected Intersections: FFY 2016

Concept Source

CTPS staff suggested this project.

LRTP Vision Topics Addressed:

- ☐ Climate Change
- ☒ Environment
- ☐ Livability
- ☒ Mobility
- ☐ Regional Equity
- ☒ Safety and Security
- ☒ System Preservation, Modernization, and Efficiency

Project Functions

- ☒ Serve Regional Transportation Stakeholders
- ☐ Support MPO Planning
- ☐ Contribute to Transportation Knowledge Base

Focus Area Evaluations

Focus Area	Consideration
Supports Performance-Based Planning	Not Applicable
Links Land Use and Transportation	Not Applicable
Helps Maximize Limited Financial Resources	Secondary
Protects Air Quality and the Environment	Secondary
Preserves, Maintains, and Modernizes the Transportation System	Secondary
Increases Transit and Active Transportation Modes	Secondary
Advances Mobility, Access, and/or Congestion Reduction	Primary
Encourages Sustainable, Livable, and Healthy Communities	Not Applicable
Increases Transportation Safety and Security	Primary
Supports Economic Vitality	Not Applicable
Considers Transportation Equity and Accessibility	Not Applicable
Supports MetroFuture Implementation	Secondary
Support Statewide and Regional Transportation Initiatives	Primary
Enhances Technical Knowledge, Capacity and Insights	Not Applicable

A-4 Low-Cost Improvements to Express-Highway Bottleneck Locations

Proposed Project Group: Roadway Network Performance

Proposed Project Staff: CTPS

Estimated Project Cost: $40,000

FFY 2016 UPWP Staff Evaluation: High

Selected for FFY 2016 UPWP: No

Proposed FFY 2016 UPWP Budget: Not applicable

Project Description

In this study, MPO staff would coordinate with MassDOT to identify one or more express-highway locations in the region, and would examine low-cost countermeasures to reduce congestion at that location. This study would support efforts to minimize congestion while maximizing the effectiveness of limited financial resources.

In FFY 2016, staff would identify one or more study locations, utilizing the Congestion Management Process and professional judgment when evaluating the potential for low-cost improvements. Staff would research and brainstorm about low-cost countermeasures for these locations. Some possible countermeasures are using the shoulder as a peak-hour lane, restriping travel lanes in merge areas to improve traffic flow, implementing ramp metering, improving traffic-signal timing, and improving methods of communicating traffic information to drivers.

Project Comments

MPO staff conducted studies, programmed in previous UPWPs, that focused on identifying low-cost improvements to express-highway bottleneck locations. In the FFY 2010 UPWP, MPO staff analyzed I-95 ramps at interchanges in Weston and Burlington, and locations along Route 3 in Braintree and at the Hingham-Weymouth town line. Through the Low-Cost Improvements to Bottleneck Locations: Phase II study, which was included in the FFY 2011 UPWP, MPO staff analyzed a section of I-95 between Waltham and Lexington, and an additional portion of I-95 near Burlington. Bottleneck locations are also being studied as part of the FFY 2015 UPWP.

A-4 Low-Cost Improvements to Express-Highway Bottleneck Locations

Concept Source

CTPS staff suggested this project.

LRTP Vision Topics Addressed:

- ☐ Climate Change
- ☒ Environment
- ☐ Livability
- ☒ Mobility
- ☐ Regional Equity
- ☐ Safety and Security
- ☒ System Preservation, Modernization, and Efficiency

Project Functions

- ☒ Serve Regional Transportation Stakeholders
- ☐ Support MPO Planning
- ☐ Contribute to Transportation Knowledge Base

Focus Area Evaluations

Focus Area	Consideration
Supports Performance-Based Planning	Not Applicable
Links Land Use and Transportation	Not Applicable
Helps Maximize Limited Financial Resources	Primary
Protects Air Quality and the Environment	Secondary
Preserves, Maintains, and Modernizes the Transportation System	Secondary
Increases Transit and Active Transportation Modes	Not Applicable
Advances Mobility, Access, and/or Congestion Reduction	Primary
Encourages Sustainable, Livable, and Healthy Communities	Not Applicable
Increases Transportation Safety and Security	Secondary
Supports Economic Vitality	Primary
Considers Transportation Equity and Accessibility	Not Applicable
Supports MetroFuture Implementation	Secondary
Support Statewide and Regional Transportation Initiatives	Primary
Enhances Technical Knowledge, Capacity and Insights	Not Applicable

A-5 Safety Improvements at Express-Highway Interchanges

Proposed Project Group: Roadway Network Performance

Proposed Project Staff: CTPS

Estimated Project Cost: $55,000

FFY 2016 UPWP Staff Evaluation: Low

Selected for FFY 2016 UPWP: No

Proposed FFY 2016 UPWP Budget: Not applicable

Project Description

This study would evaluate safety at high-crash interchange locations and propose low-cost safety and operational improvements. Interchange collision diagrams would be prepared to identify areas that have crash clusters to aid in developing effective countermeasures. The countermeasures could include providing standard acceleration and deceleration areas, wider lanes and shoulders, better signage and lighting, and pavement markings; lengthening or eliminating existing short weaving sections; increasing the curve radii on ramps, and other improvements. Project deliverables could include memoranda describing recommendations that could be implemented using federal or state funding.

Project Comments

None

A-5 Safety Improvements at Express-Highway Interchanges

Concept Source

CTPS staff suggested this project.

LRTP Vision Topics Addressed:

- ☐ Climate Change
- ☐ Environment
- ☐ Livability
- ☒ Mobility
- ☐ Regional Equity
- ☒ Safety and Security
- ☒ System Preservation, Modernization, and Efficiency

Project Functions

- ☒ Serve Regional Transportation Stakeholders
- ☒ Support MPO Planning
- ☐ Contribute to Transportation Knowledge Base

Focus Area Evaluations

Focus Area	Consideration
Supports Performance-Based Planning	Not Applicable
Links Land Use and Transportation	Not Applicable
Helps Maximize Limited Financial Resources	Secondary
Protects Air Quality and the Environment	Not Applicable
Preserves, Maintains, and Modernizes the Transportation System	Secondary
Increases Transit and Active Transportation Modes	Not Applicable
Advances Mobility, Access, and/or Congestion Reduction	Secondary
Encourages Sustainable, Livable, and Healthy Communities	Not Applicable
Increases Transportation Safety and Security	Primary
Supports Economic Vitality	Not Applicable
Considers Transportation Equity and Accessibility	Not Applicable
Supports MetroFuture Implementation	Not Applicable
Support Statewide and Regional Transportation Initiatives	Primary
Enhances Technical Knowledge, Capacity and Insights	Not Applicable

A-6 Analyzing the Impacts of Expanded All-Electronic Tolling

Proposed Project Group: Roadway Network Performance

Proposed Project Staff: CTPS

Estimated Project Cost: $70,000

FFY 2016 UPWP Staff Evaluation: Low

Selected for FFY 2016 UPWP: No

Proposed FFY 2016 UPWP Budget: Not applicable

Project Description

MassDOT is currently working to implement all-electronic tolling on the Massachusetts Turnpike, and may explore electronic-tolling options for other parts of the express-highway system. Through this study, MPO staff would conduct a scenario analysis to examine the impacts of expanding all-electronic tolling to express highways throughout the region. A combination of analysis approaches —such as using both the regional travel demand model and other techniques—could be used to examine the impacts of expanded electronic tolling on congestion, air quality, and potential transportation revenues. The deliverable could be a memorandum documenting the results of the study, and the results could be used to inform MPO and state policy decisions and future MPO planning activities. The memorandum could also describe potential uses for the revenue that might be generated by increased tolling.

Project Comments

None

A-6 Analyzing the Impacts of Expanded All-Electronic Tolling

Concept Source

Eric Bourassa of the Metropolitan Area Planning Council (MAPC) suggested this project.

LRTP Vision Topics Addressed:

- ☐ Climate Change
- ☒ Environment
- ☐ Livability
- ☒ Mobility
- ☐ Regional Equity
- ☐ Safety and Security
- ☒ System Preservation, Modernization, and Efficiency

Project Functions

- ☐ Serve Regional Transportation Stakeholders
- ☒ Support MPO Planning
- ☒ Contribute to Transportation Knowledge Base

Focus Area Evaluations

Focus Area	Consideration
Supports Performance-Based Planning	Primary
Links Land Use and Transportation	Not Applicable
Helps Maximize Limited Financial Resources	Primary
Protects Air Quality and the Environment	Secondary
Preserves, Maintains, and Modernizes the Transportation System	Secondary
Increases Transit and Active Transportation Modes	Not Applicable
Advances Mobility, Access, and/or Congestion Reduction	Primary
Encourages Sustainable, Livable, and Healthy Communities	Not Applicable
Increases Transportation Safety and Security	Not Applicable
Supports Economic Vitality	Not Applicable
Considers Transportation Equity and Accessibility	Not Applicable
Supports MetroFuture Implementation	Primary
Support Statewide and Regional Transportation Initiatives	Secondary
Enhances Technical Knowledge, Capacity and Insights	Primary

A-7 Planning for Connected and Autonomous Vehicles

Proposed Project Group: Roadway Network Performance

Proposed Project Staff: CTPS

Estimated Project Cost: $25,000

FFY 2016 UPWP Staff Evaluation: Low

Selected for FFY 2016 UPWP: No

Proposed FFY 2016 UPWP Budget: Not applicable

Project Description

Through this project, MPO staff would produce a white paper describing planning considerations related to autonomous- and connected-vehicle technologies, which are continually evolving. Connected-vehicle technology focuses in on vehicle-to-vehicle and vehicle-to-infrastructure communication over a wireless Internet connection. This connection helps cars “talk” to one another to exchange information about speed, and direction, and to nearby infrastructure to get information about potential hazards. Autonomous, or “self-driving,” cars are vehicles that use the Global Positioning System (GPS), cameras, computer processing, and other technology to sense the surrounding environment and navigate. Autonomous cars are designed to reduce, and potentially even eliminate, the need for driver input.

These types of technologies may have considerable implications for transportation planning and are of interest to the Federal Highway Administration, which is beginning to inquire into how MPOs are considering these technologies in transportation-planning activities. In this white paper, MPO staff could include a literature review, discuss how these technologies might function as part of the Boston region’s unique transportation system, and identify considerations for future MPO planning activities.

Project Comments

None.

A-7 Planning for Connected and Autonomous Vehicles

Concept Source

CTPS staff suggested this project.

LRTP Vision Topics Addressed:

- ☐ Climate Change
- ☐ Environment
- ☐ Livability
- ☒ Mobility
- ☐ Regional Equity
- ☒ Safety and Security
- ☒ System Preservation, Modernization, and Efficiency

Project Functions

- ☐ Serve Regional Transportation Stakeholders
- ☒ Support MPO Planning
- ☒ Contribute to Transportation Knowledge Base

Focus Area Evaluations

Focus Area	Consideration
Supports Performance-Based Planning	Not Applicable
Links Land Use and Transportation	Not Applicable
Helps Maximize Limited Financial Resources	Not Applicable
Protects Air Quality and the Environment	Not Applicable
Preserves, Maintains, and Modernizes the Transportation System	Primary
Increases Transit and Active Transportation Modes	Not Applicable
Advances Mobility, Access, and/or Congestion Reduction	Primary
Encourages Sustainable, Livable, and Healthy Communities	Not Applicable
Increases Transportation Safety and Security	Secondary
Supports Economic Vitality	Not Applicable
Considers Transportation Equity and Accessibility	Not Applicable
Supports MetroFuture Implementation	Not Applicable
Support Statewide and Regional Transportation Initiatives	Not Applicable
Enhances Technical Knowledge, Capacity and Insights	Primary

B-1 Bicycle Network Gaps: Feasibility Evaluations: FFY 2016

Proposed Project Group: Active Transportation

Proposed Project Staff: CTPS

Estimated Project Cost: $55,000

FFY 2016 UPWP Staff Evaluation: High

Selected for FFY 2016 UPWP: No

Proposed FFY 2016 UPWP Budget: Not applicable

Project Description

The MPO's regional Bicycle Network Evaluation, which was completed in 2014, identified a list of “high priority” gaps in the region’s bicycle network. MPO staff ranked the identified gaps using criteria that assessed their potential to improve bicycle connectivity. This project would follow up on that study by conducting more detailed feasibility evaluations of up to three identified high-priority gaps. Deliverables would include one or more memoranda documenting the results of the study and recommendations for the selected locations. The identified recommendations could ultimately become projects that are funded by federal, state, local, or other sources.

Project Comments

This project constitutes an additional phase of the Bicycle Network Gaps: Feasibility Evaluations work, the first phase of which is being conducted during federal fiscal year (FFY) 2015.

B-1 Bicycle Network Gaps: Feasibility Evaluations: FFY 2016

Concept Source

CTPS staff suggested this project.

LRTP Vision Topics Addressed:

- ☐ Climate Change
- ☐ Environment
- ☒ Livability
- ☒ Mobility
- ☐ Regional Equity
- ☒ Safety and Security
- ☐ System Preservation, Modernization, and Efficiency

Project Functions

- ☒ Serve Regional Transportation Stakeholders
- ☒ Support MPO Planning
- ☐ Contribute to Transportation Knowledge Base

Focus Area Evaluations

Focus Area	Consideration
Supports Performance-Based Planning	Not Applicable
Links Land Use and Transportation	Secondary
Helps Maximize Limited Financial Resources	Secondary
Protects Air Quality and the Environment	Secondary
Preserves, Maintains, and Modernizes the Transportation System	Not Applicable
Increases Transit and Active Transportation Modes	Primary
Advances Mobility, Access, and/or Congestion Reduction	Primary
Encourages Sustainable, Livable, and Healthy Communities	Secondary
Increases Transportation Safety and Security	Secondary
Supports Economic Vitality	Not Applicable
Considers Transportation Equity and Accessibility	Not Applicable
Supports MetroFuture Implementation	Primary
Support Statewide and Regional Transportation Initiatives	Primary
Enhances Technical Knowledge, Capacity and Insights	Not Applicable

B-2 Pedestrian Level-of-Service Metric Development

Proposed Project Group: Active Transportation

Proposed Project Staff: CTPS

Estimated Project Cost: $45,000

FFY 2016 UPWP Staff Evaluation: High

Selected for FFY 2016 UPWP: Yes

Proposed FFY 2016 UPWP Budget: $45,000

Project Description

Currently, there are several new metrics available for measuring the extent to which infrastructure supports pedestrian travel and pedestrian comfort, also known as “pedestrian level of service.” It has yet to be seen, however, if these existing metrics are applicable to the Boston region.

In this project, MPO staff will formulate a plan for developing and implementing a pedestrian level of service index. This index might consist of information collected from intersection surveys and pedestrian counts, among other possible sources. This information could help transportation planners and government officials make decisions about pedestrian programs, including prioritizing projects and allocating funding. MPO staff would analyze the potential structure and needs of a pedestrian level of service index for the region and would produce a white paper of the results. The steps for formulating a plan include:

1. Researching criteria that already exist, such as criteria in the 2010 Highway Capacity Manual (a publication of the Transportation Research Board) and criteria that other entities have applied to specific projects.
2. Interviewing local and state entities to determine what data are already available or could be readily obtained.
3. Developing a plan to aggregate any data that can be obtained, and refining data collection processes that would be beneficial.
4. Determining what criteria are best for evaluating pedestrian facilities in the Boston Region MPO area.

In the long term, beyond this initial project, MPO staff seek to create a pedestrian level-of-service index for the MPO region and an interactive tool that would be nested in the applications section of the Boston Region MPO’s website that could analyze the pedestrian facilities in the region.

B-2 Pedestrian Level-of-Service Metric Development

Project Comments

CTPS staff reorganized material in this description on April 30, 2015.

Concept Source

CTPS staff suggested this project.

LRTP Vision Topics Addressed:

- ☐ Climate Change
- ☐ Environment
- ☒ Livability
- ☒ Mobility
- ☐ Regional Equity
- ☒ Safety and Security
- ☐ System Preservation, Modernization, and Efficiency

Project Functions

- ☐ Serve Regional Transportation Stakeholders
- ☒ Support MPO Planning
- ☒ Contribute to Transportation Knowledge Base

B-2 Pedestrian Level-of-Service Metric Development

Focus Area Evaluations

Focus Area	Consideration
Supports Performance-Based Planning	Primary
Links Land Use and Transportation	Not Applicable
Helps Maximize Limited Financial Resources	Secondary
Protects Air Quality and the Environment	Not Applicable
Preserves, Maintains, and Modernizes the Transportation System	Not Applicable
Increases Transit and Active Transportation Modes	Primary
Advances Mobility, Access, and/or Congestion Reduction	Primary
Encourages Sustainable, Livable, and Healthy Communities	Secondary
Increases Transportation Safety and Security	Secondary
Supports Economic Vitality	Not Applicable
Considers Transportation Equity and Accessibility	Secondary
Supports MetroFuture Implementation	Primary
Support Statewide and Regional Transportation Initiatives	Primary
Enhances Technical Knowledge, Capacity and Insights	Primary

B-3 Municipal Pedestrian Network Studies

Proposed Project Group: Active Transportation

Proposed Project Staff: CTPS

Estimated Project Cost: $40,000

FFY 2016 UPWP Staff Evaluation: Low

Selected for FFY 2016 UPWP: No

Proposed FFY 2016 UPWP Budget: Not applicable

Project Description

MPO staff would provide support to several municipalities in the MPO region that are interested in exploring opportunities to improve their communitywide pedestrian network. MPO support could include, for example, assisting municipalities with the process of becoming certified by MassDOT's Active Streets Certification Program (for Complete Streets implementation)

Using municipal inventories of sidewalks and other data resources, MPO staff would work with communities to conduct an assessment of existing pedestrian transportation connections, including sidewalks, paths, and crosswalks, and would identify opportunities to improve these connections. These analyses would be coordinated with work done by the Metropolitan Area Planning Council (MAPC), MassRIDES (through the Massachusetts Safe Routes to School Program), and other stakeholders, when appropriate. MPO staff could also work in partnership with MAPC staff to provide technical assistance needed for certification. Deliverables could include reports or memoranda documenting pedestrian network inventories, coordination with municipal officials and residents, analysis results, and recommendations for improvement; and in collaboration with MAPC, a draft of municipal bylaws and policies that support Complete Streets initiatives. The results of these pedestrian network assessments and recommendations could be used to support community-level Complete Streets improvement programs and projects, which could be funded with federal, state, local, or other funding. For example, the results of these studies could be a resource for a municipality when it is applying for or maintaining certification under MassDOT's Active Streets Certification Program (see below).

B-3 Municipal Pedestrian Network Studies

Project Comments

The state transportation bond bill that was passed in April 2014 included an Active Streets Certification Program. Communities that are certified are eligible to receive funding to regularly and routinely include Complete Streets design elements and infrastructure on locally funded roads. Later in 2014, MassDOT announced an initial investment of up to $5 million in funding for the program.

The certification requirements for municipalities include:

- Filing of an application with MassDOT
- Adoption of a Complete Streets bylaw, ordinance, or administrative policy
- Coordination with MassDOT to confirm the accuracy of a baseline pedestrian and bicycle accommodations inventory in order to identify priority projects
- Development of procedures to follow to incorporate Complete Streets elements when conducting municipal road repair, upgrades, or expansion projects on public rights-of-way
- Establishment of a municipal review process for all private development proposals to ensure that
Complete Streets components are incorporated into new construction
- Establishment of a municipal goal for an increased mode share for walking, cycling, and public transportation, where applicable, to be met within five years, and development of a program to reach that goal
- Annual progress reporting to MassDOT

Concept Source

CTPS proposed this project. This project was included in the FFY 2015 UPWP Universe of Proposed New Projects, but was not funded.

LRTP Vision Topics Addressed:

☐ Climate Change
☐ Environment
☒ Livability
☒ Mobility
☐ Regional Equity
☒ Safety and Security
☒ System Preservation, Modernization, and Efficiency

Project Functions

☒ Serve Regional Transportation Stakeholders
☐ Support MPO Planning
☐ Contribute to Transportation Knowledge Base

B-3 Municipal Pedestrian Network Studies

Focus Area Evaluations

Focus Area	Consideration
Supports Performance-Based Planning	Not Applicable
Links Land Use and Transportation	Not Applicable
Helps Maximize Limited Financial Resources	Secondary
Protects Air Quality and the Environment	Not Applicable
Preserves, Maintains, and Modernizes the Transportation System	Secondary
Increases Transit and Active Transportation Modes	Primary
Advances Mobility, Access, and/or Congestion Reduction	Primary
Encourages Sustainable, Livable, and Healthy Communities	Primary
Increases Transportation Safety and Security	Primary
Supports Economic Vitality	Not Applicable
Considers Transportation Equity and Accessibility	Secondary
Supports MetroFuture Implementation	Primary
Support Statewide and Regional Transportation Initiatives	Primary
Enhances Technical Knowledge, Capacity and Insights	Not Applicable

C-1 MPO Climate Change Vulnerability Assessment and Adaptation Planning

Proposed Project Group: Safety and Security

Proposed Project Staff: CTPS

Estimated Project Cost: $45,000

FFY 2016 UPWP Staff Evaluation: High

Selected for FFY 2016 UPWP: No

Proposed FFY 2016 UPWP Budget: Not applicable

Project Description

The MPO is studying, as it has for several years, the relationship between transportation and climate change with respect to emissions reduction and all-hazards planning. MPO staff see value in continuing their work in providing information to planners and decision-makers about potential problems that result from climate change. They realize, however, that their next steps should focus on providing information that advances or builds on the work being undertaken by other agencies, such as MassDOT, that are, or may be, addressing climate vulnerability assessment and adaptation. Going forward, the MPO could supplement its previous work, and work conducted by others, with research, planning, and programming that focuses on these issues.

This project would support the MPO's exploration of relevant vulnerability assessment and adaptation topics. This project could include the following tasks:

1) Review and document of actions and strategies being taken by municipalities in the MPO region and by other MPOs in Massachusetts to support climate change vulnerability assessments and adaptation activities (including both planning and implementation). This analysis could also utilize information about work that MPOs or comparable agencies in other states are doing in this area. This research could help to identify specific actions that could be taken by the Boston Region MPO. These actions might include the inclusion of additional data into the All-Hazards Planning application; establishing standards that could be used to identify priority projects to receive funding for climate adaptation improvements; and the development of an MPO Climate Change Action Plan, similar to the MPO's Freight Planning Action Plan that is part of the Freight Planning Support Program.

C-1 MPO Climate Change Vulnerability Assessment and Adaptation Planning

Project Description, continued

2) Review proposed adaptation strategies that have been developed through studies that are taking place at universities in the region, such as Tufts University and Boston University. MPO staff could map and analyze these proposals with respect to the locations of transportation infrastructure (such as tunnels and coastal roadways) to see what portions of the transportation system these proposals might address.

Project Comments

MPO staff are continuing to coordinate with MassDOT, MAPC, and other entities that are working on climate change adaptation and vulnerability assessment topics. The LRTP Vision Topics Addressed (listed on the following page) were updated on March 19, 2015.

C-1 MPO Climate Change Vulnerability Assessment and Adaptation Planning

Concept Source

CTPS staff suggested this project, and are awaiting feedback from MassDOT.

LRTP Vision Topics Addressed:

- ☒ Climate Change
- ☐ Environment
- ☐ Livability
- ☒ Mobility
- ☐ Regional Equity
- ☒ Safety and Security
- ☒ System Preservation, Modernization, and Efficiency

Project Functions

- ☐ Serve Regional Transportation Stakeholders
- ☒ Support MPO Planning
- ☐ Contribute to Transportation Knowledge Base

Focus Area Evaluations

Focus Area	Consideration
Supports Performance-Based Planning	Not Applicable
Links Land Use and Transportation	Secondary
Helps Maximize Limited Financial Resources	Secondary
Protects Air Quality and the Environment	Not Applicable
Preserves, Maintains, and Modernizes the Transportation System	Primary
Increases Transit and Active Transportation Modes	Not Applicable
Advances Mobility, Access, and/or Congestion Reduction	Secondary
Encourages Sustainable, Livable, and Healthy Communities	Not Applicable
Increases Transportation Safety and Security	Primary
Supports Economic Vitality	Not Applicable
Considers Transportation Equity and Accessibility	Not Applicable
Supports MetroFuture Implementation	Primary
Support Statewide and Regional Transportation Initiatives	Primary
Enhances Technical Knowledge, Capacity and Insights	Primary

C-2 Improvements to MPO All-Signals Database

Proposed Project Group: Safety and Security

Proposed Project Staff: CTPS

Estimated Project Cost: $30,000

FFY 2016 UPWP Staff Evaluation: Low

Selected for FFY 2016 UPWP: No

Proposed FFY 2016 UPWP Budget: Not applicable

Project Description

This project would build on the outcomes of the MPO's "Roadway Network Inventory for Emergency Needs: A Pilot Study" (January 8, 2015), and would focus specifically on improving data on traffic signals on key routes in the study area. If study resources allow, attention could be expanded to include signals on key routes in environmental justice areas outside the study area. This project would develop common standards for MPO staff to use to classify signal types and characteristics. With these standards, staff would work with municipal officials in the areas that were in the pilot study, and possibly officials in other parts of the MPO region, to accurately inventory all of the signals on key routes; the inventory would include descriptions of signal equipment and other information. The signal data collection would likely focus on major arterials to support evacuations and emergency response activities. The work might also include site visits to gather accurate data for signals at key locations if no current municipal data are available.

In the "Roadway Network Inventory for Emergency Needs: A Pilot Study" (2015), MPO staff determined that a comprehensive traffic signal database for the region's core would be beneficial for various MPO planning activities. The data from such a database could be used in the MPO's All-Hazards Planning application. The signal data could also be used as part of air quality analyses, along with information on congestion and emissions at intersections. It could also be incorporated into the MPO's regional travel demand model to better understand why delays occur at particular intersections. In the course of the study, staff found variations in the signal data that municipalities maintained, along with variations in the terminology these municipalities used to describe signal characteristics. MPO staff used available information from municipalities to create a database of information on traffic signal locations and characteristics for later use in the All-Hazards Planning application, but have not yet made the data signal layer available to the public. Some of the reasons for not

C-2 Improvements to MPO All-Signals Database

Project Description, continued

making that layer publically available are:

- Descriptions of signal equipment have not been standardized within the all-signals database because those who provided data often used varying nomenclature when describing equipment, particularly for types of signals and controllers.
- Some signal records lack descriptions altogether or have only partial information.
- Signal data for some municipalities may not be current.

MPO staff would continue work on the all-signals data layer to address the issues mentioned above. After establishing standardized terminology and common standards to classify signal types and document signal characteristics, staff would complete the signals layer for the pilot study area. The roadways and signals outside of the pilot study area that would be studied first are those that are located in areas containing environmental justice communities. The signal data collection would likely focus on major arterials to support evacuations and emergency response activities.

Project Comments

The LRTP Vision Topics Addressed (listed on the following page) were updated on March 19, 2015.

C-2 Improvements to MPO All-Signals Database

Concept Source

CTPS staff suggested this project.

LRTP Vision Topics Addressed:

- ☐ Climate Change
- ☒ Environment
- ☐ Livability
- ☒ Mobility
- ☐ Regional Equity
- ☒ Safety and Security
- ☒ System Preservation, Modernization, and Efficiency

Project Functions

- ☒ Serve Regional Transportation Stakeholders
- ☒ Support MPO Planning
- ☐ Contribute to Transportation Knowledge Base

Focus Area Evaluations

Focus Area	Consideration
Supports Performance-Based Planning	Primary
Links Land Use and Transportation	Not Applicable
Helps Maximize Limited Financial Resources	Not Applicable
Protects Air Quality and the Environment	Secondary
Preserves, Maintains, and Modernizes the Transportation System	Primary
Increases Transit and Active Transportation Modes	Not Applicable
Advances Mobility, Access, and/or Congestion Reduction	Primary
Encourages Sustainable, Livable, and Healthy Communities	Not Applicable
Increases Transportation Safety and Security	Primary
Supports Economic Vitality	Not Applicable
Considers Transportation Equity and Accessibility	Not Applicable
Supports MetroFuture Implementation	Primary
Support Statewide and Regional Transportation Initiatives	Primary
Enhances Technical Knowledge, Capacity and Insights	Primary

D-1 Systemwide Title VI/Environmental Justice Assessment of TIP Projects

Proposed Project Group: Transportation Equity and Accessibility

Proposed Project Staff: CTPS

Estimated Project Cost: $75,000

FFY 2016 UPWP Staff Evaluation: High

Selected for FFY 2016 UPWP: Yes

Proposed FFY 2016 UPWP Budget: $75,000

Project Description

The intent of this project is to develop best practices for a systemwide analysis of the benefits and burdens of Transportation Improvement Program (TIP) investments.

This project could build on a number of existing activities that relate to anticipating or measuring the benefits and burdens of transportation investments. Currently, anticipated impacts on Title VI/Environmental Justice (EJ) populations are captured on a project-by-project basis through the TIP project evaluation process. Individual projects can earn points by improving transit service for an identified EJ population, by developing a Complete Streets–oriented project in an EJ area, or by addressing an MPO-identified EJ transportation issue. The Long-Range Transportation Plan (LRTP) includes an environmental justice assessment of its package of investments that examines the accessibility, emissions, mobility, and congestion impacts of these investments on EJ communities. The metrics for these factors in the “build” scenarios are compared to the same metrics in the “no-build” scenario.

The MPO’s Title VI reporting currently describes the locations of recent TIP projects, and their associated funding amounts, and indicates which projects are located in EJ and Title VI communities. MPO staff have recently explored the existing methods used to capture the benefits and burdens of TIP highway and transit projects on different populations, but found that these methods may not sufficiently capture those impacts.

This project would include documenting the current state of the practice of analyzing the equity implications of highway and transit investments made through Transportation Improvement Programs, after which staff would do a pilot study of a methodology that could improve these practices. This may involve analyzing TIP projects through the MPO’s regional

D-1 Systemwide Title VI/Environmental Justice Assessment of TIP Projects

Project Description, continued

travel demand model and using methods developed during the MPO's LRTP scenario-planning process. These activities and the results of the pilot study would be documented in a memorandum for MPO consideration. In future years, this methodology and the results of analyses that used the methodology could be incorporated into MPO Title VI reporting.

Project Comments

None

D-1 Systemwide Title VI/Environmental Justice Assessment of TIP Projects

Concept Source

CTPS staff suggested this project.

LRTP Vision Topics Addressed:

- ☐ Climate Change
- ☐ Environment
- ☐ Livability
- ☐ Mobility
- ☒ Regional Equity
- ☐ Safety and Security
- ☐ System Preservation, Modernization, and Efficiency

Project Functions

- ☐ Serve Regional Transportation Stakeholders
- ☒ Support MPO Planning
- ☒ Contribute to Transportation Knowledge Base

Focus Area Evaluations

Focus Area	Consideration
Supports Performance-Based Planning	Primary
Links Land Use and Transportation	Not Applicable
Helps Maximize Limited Financial Resources	Not Applicable
Protects Air Quality and the Environment	Not Applicable
Preserves, Maintains, and Modernizes the Transportation System	Not Applicable
Increases Transit and Active Transportation Modes	Not Applicable
Advances Mobility, Access, and/or Congestion Reduction	Not Applicable
Encourages Sustainable, Livable, and Healthy Communities	Not Applicable
Increases Transportation Safety and Security	Not Applicable
Supports Economic Vitality	Not Applicable
Considers Transportation Equity and Accessibility	Primary
Supports MetroFuture Implementation	Not Applicable
Support Statewide and Regional Transportation Initiatives	Primary
Enhances Technical Knowledge, Capacity and Insights	Primary

D-2 Community and Human-Services Transportation Support

Proposed Project Group: Transportation Equity and Accessibility

Proposed Project Staff: CTPS

Estimated Project Cost: $45,000

FFY 2016 UPWP Staff Evaluation: Medium

Selected for FFY 2016 UPWP: No

Proposed FFY 2016 UPWP Budget: Not applicable

Project Description

This project would provide information that municipalities, Transportation Management Associations (TMAs), and social- and human-services organizations could use to plan new community transportation services or improve existing services. It could also help to identify areas where community transportation would be feasible, if agencies were interested in starting new services.

This study would examine practices that successful community and human-services agencies (such as social-services agencies that provide transportation and councils on aging) use to plan, coordinate, and manage their transportation services. It could include exploring programs and projects, operational practices, or software or other technology. It could also include documentation of successful Transportation Management Association (TMA) service-planning and delivery practices. This project would also look at issues such as who participates and who pays for or subsidizes the services. This project would include a literature review, information gathering through the Massachusetts Regional Coordinating Councils in the MPO region, and, consultations with transportation service providers. Documentation of these successful practices would include case studies. Materials produced by MPO staff would not only suggest practices, but would also provide some guidance to service providers on how to apply for grants from MassDOT's Community Transit Grants Program or from the MPO's Clean Air and Mobility Program.

The deliverables could include:

- A white paper, report, or guidebook for municipal officials, community transit proponents, and community and human-services transportation providers (such as councils on aging and others), which would document practices and provide guidance.
- Other guidance materials to support transportation service providers in completing Community Transit Grant applications.

D-2 Community and Human-Services Transportation Support

Project Comments

None

Concept Source

CTPS staff suggested this project. It was included in the FFY 2015 UPWP Universe of Proposed New Projects, but was not funded. This project description was updated for FFY 2016.

LRTP Vision Topics Addressed:

- ☐ Climate Change
- ☐ Environment
- ☒ Livability
- ☒ Mobility
- ☒ Regional Equity
- ☐ Safety and Security
- ☐ System Preservation, Modernization, and Efficiency

Project Functions

- ☒ Serve Regional Transportation Stakeholders
- ☐ Support MPO Planning
- ☒ Contribute to Transportation Knowledge Base

D-2 Community and Human-Services Transportation Support

Focus Area Evaluations

Focus Area	Consideration
Supports Performance-Based Planning	Not Applicable
Links Land Use and Transportation	Not Applicable
Helps Maximize Limited Financial Resources	Not Applicable
Protects Air Quality and the Environment	Not Applicable
Preserves, Maintains, and Modernizes the Transportation System	Not Applicable
Increases Transit and Active Transportation Modes	Primary
Advances Mobility, Access, and/or Congestion Reduction	Primary
Encourages Sustainable, Livable, and Healthy Communities	Secondary
Increases Transportation Safety and Security	Not Applicable
Supports Economic Vitality	Not Applicable
Considers Transportation Equity and Accessibility	Primary
Supports MetroFuture Implementation	Primary
Support Statewide and Regional Transportation Initiatives	Primary
Enhances Technical Knowledge, Capacity and Insights	Primary

D-3 Emergency Transportation Planning for Vulnerable Populations

Proposed Project Group:	Transportation Equity and Accessibility
Proposed Project Staff:	CTPS
Estimated Project Cost:	$40,000
FFY 2016 UPWP Staff Evaluation:	High
Selected for FFY 2016 UPWP:	No
Proposed FFY 2016 UPWP Budget:	Not applicable

Project Description

This study would survey and document planning activities completed in the Boston region by transportation agencies, planning agencies, and service providers to identify and address the emergency transportation services needs of vulnerable populations, including Title VI populations, the elderly, persons with disabilities, and those with limited English proficiency. It would also examine whether such planning activities are taking place in other metropolitan regions in the United States. The findings from this survey could be made available to local and regional agencies that provide services to these populations and that are responsible for transportation infrastructure and services for them.

Project Comments

The LRTP Vision Topics Addressed (listed on the following page) were updated on April 30, 2015.

D-3 Emergency Transportation Planning for Vulnerable Populations

Concept Source

CTPS staff suggested this project.

LRTP Vision Topics Addressed:

- ☐ Climate Change
- ☐ Environment
- ☐ Livability
- ☒ Mobility
- ☒ Regional Equity
- ☒ Safety and Security
- ☐ System Preservation, Modernization, and Efficiency

Project Functions

- ☒ Serve Regional Transportation Stakeholders
- ☐ Support MPO Planning
- ☒ Contribute to Transportation Knowledge Base

Focus Area Evaluations

Focus Area	Consideration
Supports Performance-Based Planning	Not Applicable
Links Land Use and Transportation	Not Applicable
Helps Maximize Limited Financial Resources	Not Applicable
Protects Air Quality and the Environment	Not Applicable
Preserves, Maintains, and Modernizes the Transportation System	Not Applicable
Increases Transit and Active Transportation Modes	Not Applicable
Advances Mobility, Access, and/or Congestion Reduction	Primary
Encourages Sustainable, Livable, and Healthy Communities	Secondary
Increases Transportation Safety and Security	Primary
Supports Economic Vitality	Not Applicable
Considers Transportation Equity and Accessibility	Primary
Supports MetroFuture Implementation	Primary
Support Statewide and Regional Transportation Initiatives	Primary
Enhances Technical Knowledge, Capacity and Insights	Primary

D-4 Temporal Changes in Demographic Data: Effects on Title VI Analyses

Proposed Project Group: Transportation Equity and Accessibility

Proposed Project Staff: CTPS

Estimated Project Cost: $65,000

FFY 2016 UPWP Staff Evaluation: Medium

Selected for FFY 2016 UPWP: No

Proposed FFY 2016 UPWP Budget: Not applicable

Project Description

Like many transportation planning activities, the results of MPO analyses of the level of equity in the region's transportation system are dependent on the demographic data that staff use. This is especially true for Title VI analyses, because the results of these analyses are used to assess the potential disparate impacts of past investment decisions and to inform planning activities and decisions that may result in future impacts on Title VI populations. However, these analyses generally rely on demographic data that represent a particular point in time, usually within a year prior to the analysis, but sometimes from an even earlier period (depending on the availability and quality of data). Because populations sometimes shift throughout the region, there can be discrepancies between the results of the equity analysis and the level of benefits and burdens that would be realized once the transportation project or policy has been implemented. Therefore, a project or policy that is expected to benefit minority and/or low-income populations in the region could produce very different results from what the equity analysis indicates.

MPO staff would investigate the effect of the geographic movement of minority and low-income populations on how they are affected by the benefits and burdens of transportation projects or policies. To do this, staff would revisit Title VI analyses of previous major transit service changes, first using demographic data that were available during the planning time frame, and then using current demographic data.

MPO staff would compare the outcomes of these analyses and review how decisions might have been made differently if demographic projections were examined at the time of the project or policy planning. This study would also investigate procedures for projecting changes in demographic data by analyzing demographic data in the region for statistically

D-4 Temporal Changes in Demographic Data: Effects on Title VI Analyses

Project Description, continued

significant trends in minority and low-income population migration. This analysis could support the development of a consistent procedure to generate demographic projections for Title VI analyses in order to recognize the future benefits and burdens of a transportation project or policy.

The work products of this study would be two white papers, one reviewing the results of using two different sets of demographic data in the equity analyses, and one documenting the procedures for projecting demographic data.

Project Comments

None

D-4 Temporal Changes in Demographic Data: Effects on Title VI Analyses

Concept Source

CTPS staff suggested this project.

LRTP Vision Topics Addressed:

- ☐ Climate Change
- ☐ Environment
- ☐ Livability
- ☐ Mobility
- ☒ Regional Equity
- ☐ Safety and Security
- ☐ System Preservation, Modernization, and Efficiency

Project Functions

- ☐ Serve Regional Transportation Stakeholders
- ☒ Support MPO Planning
- ☒ Contribute to Transportation Knowledge Base

Focus Area Evaluations

Focus Area	Consideration
Supports Performance-Based Planning	Secondary
Links Land Use and Transportation	Not Applicable
Helps Maximize Limited Financial Resources	Not Applicable
Protects Air Quality and the Environment	Not Applicable
Preserves, Maintains, and Modernizes the Transportation System	Not Applicable
Increases Transit and Active Transportation Modes	Not Applicable
Advances Mobility, Access, and/or Congestion Reduction	Not Applicable
Encourages Sustainable, Livable, and Healthy Communities	Not Applicable
Increases Transportation Safety and Security	Not Applicable
Supports Economic Vitality	Not Applicable
Considers Transportation Equity and Accessibility	Primary
Supports MetroFuture Implementation	Not Applicable
Support Statewide and Regional Transportation Initiatives	Primary
Enhances Technical Knowledge, Capacity and Insights	Primary

E-1 MBTA Parking Lots: Price Sensitivity Analysis

Proposed Project Group: Land Use, Environment, and Economy

Proposed Project Staff: CTPS

Estimated Project Cost: $30,000

FFY 2016 UPWP Staff Evaluation: Low

Selected for FFY 2016 UPWP: No

Proposed FFY 2016 UPWP Budget: Not applicable

Project Description

Many MBTA stations have parking lots nearby. Some of the parking lots are operated by the MBTA and some are privately owned. The privately owned lots vary in price, often undercutting the price of nearby MBTA-owned lots. The MBTA lots charge $4.00 for daily parking in commuter rail lots, and between $4.00 and $7.00 per day for rapid transit parking, regardless of the utilization or the location of the lots. Monthly parking passes are also available.

This study would follow up on the "2012–13 Inventory of Park-and-Ride Lots at MBTA Facilities" memorandum (May 1, 2014), which was developed as part of the Congestion Management Process, and would include a study of the price elasticity of MBTA parking lots. If it is determined that a significant elasticity exists between the price of parking and parking utilization, it might be worthwhile to adjust the MBTA parking lot prices to account for parking demand.

Project Comments

The LRTP Vision Topics Addressed (listed on the following page) were updated on April 30, 2015.

E-1 MBTA Parking Lots: Price Sensitivity Analysis

Concept Source

CTPS suggested this project and have forwarded the it to the MBTA to get their feedback. The MBTA has indicated an interest in this study topic.

LRTP Vision Topics Addressed:

- ☐ Climate Change
- ☐ Environment
- ☒ Livability
- ☒ Mobility
- ☐ Regional Equity
- ☐ Safety and Security
- ☐ System Preservation, Modernization, and Efficiency

Project Functions

- ☒ Serve Regional Transportation Stakeholders
- ☐ Support MPO Planning
- ☒ Contribute to Transportation Knowledge Base

Focus Area Evaluations

Focus Area	Consideration
Supports Performance-Based Planning	Not Applicable
Links Land Use and Transportation	Secondary
Helps Maximize Limited Financial Resources	Primary
Protects Air Quality and the Environment	Not Applicable
Preserves, Maintains, and Modernizes the Transportation System	Not Applicable
Increases Transit and Active Transportation Modes	Secondary
Advances Mobility, Access, and/or Congestion Reduction	Primary
Encourages Sustainable, Livable, and Healthy Communities	Not Applicable
Increases Transportation Safety and Security	Not Applicable
Supports Economic Vitality	Not Applicable
Considers Transportation Equity and Accessibility	Not Applicable
Supports MetroFuture Implementation	Primary
Support Statewide and Regional Transportation Initiatives	Primary
Enhances Technical Knowledge, Capacity and Insights	Primary

E-2 Analyzing the Transportation Impacts of Travel to and from Medical Facilities

Proposed Project Group: Land Use, Environment and Economy

Proposed Project Staff: CTPS

Estimated Project Cost: $85,000

FFY 2016 UPWP Staff Evaluation: Low

Selected for FFY 2016 UPWP: No

Proposed FFY 2016 UPWP Budget: Not applicable

Project Description

This project would support the potential development of medical “special generators” that could be used in the MPO’s regional travel demand model set. Special generators are locations or zones that exhibit unique trip rates or travel patterns compared to other land uses that are reflected in the model set; separate models are typically used to estimate the trips that are generated by or attracted to these locations since the standard trip generation models do not fully capture their trip-making characteristics. It may be appropriate to create special generator models for hospitals and medical centers because travel to and from these places does not follow typical peak-period patterns. The Boston region is home to a number of medical centers, including the Longwood Medical and Academic Area, which is located along the C Branch of the Green Line. These locations generate a substantial number of trips by employees, medical students, and patients. As part of this project, MPO staff would collect and analyze data on travel to and from hospitals and medical centers; the results of that analysis may help to determine the feasibility of developing special generators for these land uses.

Project Comments

It may be difficult to get the data needed for conducting this study. Some possible options for collecting data include working through the Medical Academic and Scientific Community Organization (MASCO) or other Transportation Management Associations (TMAs), mining speed data (available from the MPO’s INRIX data set), or using data from traffic counts on local roads.

E-2 Analyzing the Transportation Impacts of Travel to and from Medical Facilities

Concept Source

CTPS staff suggested this project.

LRTP Vision Topics Addressed:

- ☐ Climate Change
- ☐ Environment
- ☐ Livability
- ☒ Mobility
- ☐ Regional Equity
- ☐ Safety and Security
- ☐ System Preservation, Modernization, and Efficiency

Project Functions

- ☐ Serve Regional Transportation Stakeholders
- ☒ Support MPO Planning
- ☒ Contribute to Transportation Knowledge Base

Focus Area Evaluations

Focus Area	Consideration
Supports Performance-Based Planning	Not Applicable
Links Land Use and Transportation	Primary
Helps Maximize Limited Financial Resources	Not Applicable
Protects Air Quality and the Environment	Not Applicable
Preserves, Maintains, and Modernizes the Transportation System	Not Applicable
Increases Transit and Active Transportation Modes	Not Applicable
Advances Mobility, Access, and/or Congestion Reduction	Primary
Encourages Sustainable, Livable, and Healthy Communities	Not Applicable
Increases Transportation Safety and Security	Not Applicable
Supports Economic Vitality	Not Applicable
Considers Transportation Equity and Accessibility	Not Applicable
Supports MetroFuture Implementation	Primary
Support Statewide and Regional Transportation Initiatives	Secondary
Enhances Technical Knowledge, Capacity and Insights	Primary

E-3 Analyzing the Transportation Impacts of Travel Generated by Universities

Proposed Project Group: Land Use, Environment and Economy

Proposed Project Staff: CTPS

Estimated Project Cost: $85,000

FFY 2016 UPWP Staff Evaluation: Low

Selected for FFY 2016 UPWP: No

Proposed FFY 2016 UPWP Budget: Not applicable

Project Description

This project would examine travel patterns for universities to support the development of university "special generators" that could be included in the MPO's regional travel demand model set. Special generators are locations or zones that exhibit unique trip rates or travel patterns compared to other land uses that are reflected in the model set; separate models are typically used to estimate the trips that are generated by or attracted to these locations since the standard trip generation models do not fully capture their trip making characteristics. The Boston region is home to a large number of universities, and these institutions exhibit different travel patterns from other developments, both in terms of the mix of students, faculty, and staff living on or commuting to college campuses, and differences in the times of day when peak travel is occurring. These characteristics may make universities appropriate land uses for special generators. As part of this project, MPO staff would collect and analyze data on travel to and from universities, which may help to determine the feasibility of developing special generators for these uses.

Project Comments

None.

E-3 Analyzing the Transportation Impacts of Travel Generated by Universities

Concept Source

CTPS staff suggested this project.

LRTP Vision Topics Addressed:

- ☐ Climate Change
- ☐ Environment
- ☐ Livability
- ☒ Mobility
- ☐ Regional Equity
- ☐ Safety and Security
- ☐ System Preservation, Modernization, and Efficiency

Project Functions

- ☐ Serve Regional Transportation Stakeholders
- ☒ Support MPO Planning
- ☒ Contribute to Transportation Knowledge Base

Focus Area Evaluations

Focus Area	Consideration
Supports Performance-Based Planning	Not Applicable
Links Land Use and Transportation	Primary
Helps Maximize Limited Financial Resources	Not Applicable
Protects Air Quality and the Environment	Not Applicable
Preserves, Maintains, and Modernizes the Transportation System	Not Applicable
Increases Transit and Active Transportation Modes	Not Applicable
Advances Mobility, Access, and/or Congestion Reduction	Primary
Encourages Sustainable, Livable, and Healthy Communities	Not Applicable
Increases Transportation Safety and Security	Not Applicable
Supports Economic Vitality	Not Applicable
Considers Transportation Equity and Accessibility	Not Applicable
Supports MetroFuture Implementation	Primary
Support Statewide and Regional Transportation Initiatives	Secondary
Enhances Technical Knowledge, Capacity and Insights	Primary

E-4 Methodologies and Tools for Understanding the Relationship of Transportation to Gentrification and Displacement

Proposed Project Group: Land Use, Environment, and Economy

Proposed Project Staff: CTPS

Estimated Project Cost: $85,000

FFY 2016 UPWP Staff Evaluation: High

Selected for FFY 2016 UPWP: To be determined

Proposed FFY 2016 UPWP Budget: To be determined

Project Description

MPO staff would work on developing methodologies or approaches that the MPO could use to better understand and project the gentrification and displacement that would result from transportation projects. Some MPOs and regional planning agencies around the country, such as the Southern California Association of Governments (SCAG), are accounting for gentrification and displacement in their planning and performance reporting. Staff would identify, through a literature review and other methods, techniques for accounting for gentrification and displacement through the MPO's regional travel demand model set, the land use model, or other approaches. These techniques could be tested on a project that is programmed in the Long-Range Transportation Plan (which would serve as a hypothetical example). MPO staff could also do some before-and after comparisons on a past large-scale transportation project to better understand gentrification and displacement. Deliverables may include a memorandum documenting the techniques used and the results of the analyses. Ultimately, these results could inform MPO project selection and performance-based planning.

Project Comments

None

E-4 Methodologies and Tools for Understanding the Relationship of Transportation to Gentrification and Displacement

Concept Source

CTPS staff suggested this project.

LRTP Vision Topics Addressed:

- ☐ Climate Change
- ☐ Environment
- ☒ Livability
- ☐ Mobility
- ☒ Regional Equity
- ☐ Safety and Security
- ☐ System Preservation, Modernization, and Efficiency

Project Functions

- ☐ Serve Regional Transportation Stakeholders
- ☒ Support MPO Planning
- ☒ Contribute to Transportation Knowledge Base

Focus Area Evaluations

Focus Area	Consideration
Supports Performance-Based Planning	Secondary
Links Land Use and Transportation	Primary
Helps Maximize Limited Financial Resources	Not Applicable
Protects Air Quality and the Environment	Not Applicable
Preserves, Maintains, and Modernizes the Transportation System	Not Applicable
Increases Transit and Active Transportation Modes	Not Applicable
Advances Mobility, Access, and/or Congestion Reduction	Not Applicable
Encourages Sustainable, Livable, and Healthy Communities	Secondary
Increases Transportation Safety and Security	Not Applicable
Supports Economic Vitality	Secondary
Considers Transportation Equity and Accessibility	Primary
Supports MetroFuture Implementation	Secondary
Support Statewide and Regional Transportation Initiatives	Primary
Enhances Technical Knowledge, Capacity and Insights	Primary

E-5 Analyzing the Impacts of Special Events on the Region's Transportation System

Proposed Project Group: Land Use, Environment, and Economy

Proposed Project Staff: CTPS

Estimated Project Cost: $85,000

FFY 2016 UPWP Staff Evaluation: High

Selected for FFY 2016 UPWP: No

Proposed FFY 2016 UPWP Budget: Not applicable

Project Description

Anyone who has spent any time in Boston realizes how much special events influence travel patterns in the region's transportation system. Recurring special events include sporting events, concerts, and conventions. Travel patterns are disrupted during these events because the number of attendees on the MBTA's transit system and the regional roadway network may exceed their respective capacities. This phenomenon is especially pronounced along the Green Line corridor, along which lie the majority of Boston's special events venues. However, there has never been a concerted effort to measure or analyze the millions of annual trips in the Boston Region MPO area that are generated by the hundreds of special events that occur in the Boston area (for example, the MPO regional travel demand model is presently designed to predict only the travel behavior for an average weekday).

For this project, staff would conduct surveys at selected Boston special events with an emphasis on more accurately representing the effects of special events on the region's transportation system. Priority should be given to events at the TD Garden and Fenway Park because they draw the majority of the attendees of annual special events and because some of their patrons arrive from places other than nearby housing. Other data sources, such as the MPO's INRIX speed data set, MassDOT's Bluetooth travel-time database, and MBTA data, would be scrutinized to ascertain the operations of the transportation system when these special events occur. These data collection and analysis activities would provide the MPO with information on the extent to which special events have an impact on transit use and traffic flow on roadways. The results of this study could inform the identification of transportation choke points and needs, which could in turn inform future project evaluation and selection.

Project Comments

None

E-5 Analyzing the Impacts of Special Events on the Region's Transportation System

Concept Source

CTPS staff suggested this project.

LRTP Vision Topics Addressed:

- ☐ Climate Change
- ☐ Environment
- ☐ Livability
- ☒ Mobility
- ☐ Regional Equity
- ☐ Safety and Security
- ☐ System Preservation, Modernization, and Efficiency

Project Functions

- ☐ Serve Regional Transportation Stakeholders
- ☒ Support MPO Planning
- ☒ Contribute to Transportation Knowledge Base

Focus Area Evaluations

Focus Area	Consideration
Supports Performance-Based Planning	Not Applicable
Links Land Use and Transportation	Primary
Helps Maximize Limited Financial Resources	Not Applicable
Protects Air Quality and the Environment	Not Applicable
Preserves, Maintains, and Modernizes the Transportation System	Not Applicable
Increases Transit and Active Transportation Modes	Not Applicable
Advances Mobility, Access, and/or Congestion Reduction	Primary
Encourages Sustainable, Livable, and Healthy Communities	Not Applicable
Increases Transportation Safety and Security	Not Applicable
Supports Economic Vitality	Not Applicable
Considers Transportation Equity and Accessibility	Not Applicable
Supports MetroFuture Implementation	Primary
Support Statewide and Regional Transportation Initiatives	Secondary
Enhances Technical Knowledge, Capacity and Insights	Primary

E-6 Transportation Mitigation of Major Developments: Review of Existing Strategies

Proposed Project Group: Land Use, Environment, and Economy

Proposed Project Staff: CTPS

Estimated Project Cost: $60,000

FFY 2016 UPWP Staff Evaluation: Medium

Selected for FFY 2016 UPWP: No

Proposed FFY 2016 UPWP Budget: Not applicable

Project Description

This project would build on the MPO's Core Capacity Constraints study (included in the FFY 2015 UPWP), which focuses on examining strategies for mitigating the impacts that new developments may have on the region's transportation system. Through this particular study, which was inspired by the discussion of transportation mitigation strategies at the January 8, 2015, MPO meeting, MPO staff would explore major land use developments that have occurred in the recent past (perhaps 15 years), along with transportation mitigation measures that were incorporated into the development process. These mitigation measures would include those that address the impacts that that the new development would have on the transportation system, such as the increased travel demand on nearby transit routes. MPO staff would then track the implementation of these measures and assess the results. Through this process, MPO staff may make recommendations for improvements to processes and regulations related to transportation mitigation and recommendations for changing which types of mitigation measures are required by permitting agencies.

Project Comments

The Project Functions (listed on the following page) were updated on March 19, 2015.

E-6 Transportation Mitigation of Major Developments: Review of Existing Strategies

Concept Source

CTPS staff suggested this project.

LRTP Vision Topics Addressed:

- ☐ Climate Change
- ☐ Environment
- ☒ Livability
- ☒ Mobility
- ☐ Regional Equity
- ☐ Safety and Security
- ☒ System Preservation, Modernization, and Efficiency

Project Functions

- ☒ Serve Regional Transportation Stakeholders
- ☒ Support MPO Planning
- ☒ Contribute to Transportation Knowledge Base

Focus Area Evaluations

Focus Area	Consideration
Supports Performance-Based Planning	Not Applicable
Links Land Use and Transportation	Primary
Helps Maximize Limited Financial Resources	Primary
Protects Air Quality and the Environment	Not Applicable
Preserves, Maintains, and Modernizes the Transportation System	Primary
Increases Transit and Active Transportation Modes	Not Applicable
Advances Mobility, Access, and/or Congestion Reduction	Primary
Encourages Sustainable, Livable, and Healthy Communities	Secondary
Increases Transportation Safety and Security	Not Applicable
Supports Economic Vitality	Secondary
Considers Transportation Equity and Accessibility	Not Applicable
Supports MetroFuture Implementation	Primary
Support Statewide and Regional Transportation Initiatives	Primary
Enhances Technical Knowledge, Capacity and Insights	Primary

E-7 Assessment of Past Transportation Investments for Economic Development in the Boston Region

Proposed Project Group: Land Use, Environment, and Economy

Proposed Project Staff: CTPS

Estimated Project Cost: $55,000

FFY 2016 UPWP Staff Evaluation: Low

Selected for FFY 2016 UPWP: No

Proposed FFY 2016 UPWP Budget: Not applicable

Project Description

Every transportation investment generates economic activity by affecting travel costs and thereby influencing the behaviors of businesses and households as they attempt to improve their economic efficiencies. However, economic activity generated by transportation investment alone is not sufficient to guarantee the conditions for economic growth and improved quality of life that define economic development. To realize regional economic development, there must be an underlying need for transportation investment because of poor mobility, connectivity, accessibility, or reliability, as well as a confluence of other non-transportation-related factors such as idle or underutilized workers and resources, or a potential ability to attract more workers or resources. Recent studies have shown a trend toward declining returns in transportation investment over time and have found that there is s sometimes long-term regional economic development in areas where there is an absence of any significant transportation investment.

Because the Boston region's transportation system is mature, it is increasingly important to understand the rate at which different types of transportation projects might facilitate the greatest economic growth in the region. By understanding how economic development indicators fluctuate in response to transportation improvements and policies in our region, the MPO would be better able to prioritize projects in its Long-Range Transportation Plan. The MPO would also be better able to develop economic performance metrics, which would support the performance-based planning processes required by MAP-21, the federal transportation funding authorization legislation. As part of this study, MPO staff would conduct before-and-after studies of the region's past transportation projects, in which they would examine the changes in economic indicators over time. The project deliverable would be a memorandum describing the analysis of past transportation projects (and the surrounding geographic areas), and key findings on economic indicators that are relevant to MPO decision-making about projects to include in future transportation plans and performance-based planning.

E-7 Assessment of Past Transportation Investments for Economic Development in the Boston Region

Project Comments

None.

Concept Source

CTPS staff suggested this project.

LRTP Vision Topics Addressed:

- ☐ Climate Change
- ☐ Environment
- ☒ Livability
- ☐ Mobility
- ☐ Regional Equity
- ☐ Safety and Security
- ☐ System Preservation, Modernization, and Efficiency

Project Functions

- ☐ Serve Regional Transportation Stakeholders
- ☒ Support MPO Planning
- ☒ Contribute to Transportation Knowledge Base

E-7 Assessment of Past Transportation Investments for Economic Development in the Boston Region

Focus Area Evaluations

Focus Area	Consideration
Supports Performance-Based Planning	Primary
Links Land Use and Transportation	Secondary
Helps Maximize Limited Financial Resources	Secondary
Protects Air Quality and the Environment	Not Applicable
Preserves, Maintains, and Modernizes the Transportation System	Not Applicable
Increases Transit and Active Transportation Modes	Not Applicable
Advances Mobility, Access, and/or Congestion Reduction	Not Applicable
Encourages Sustainable, Livable, and Healthy Communities	Not Applicable
Increases Transportation Safety and Security	Not Applicable
Supports Economic Vitality	Primary
Considers Transportation Equity and Accessibility	Not Applicable
Supports MetroFuture Implementation	Secondary
Support Statewide and Regional Transportation Initiatives	Secondary
Enhances Technical Knowledge, Capacity and Insights	Primary

E-8 Energy and Electric Vehicle Use in the MPO Region

Proposed Project Group: Land Use, Environment, and Economy

Proposed Project Staff: CTPS

Estimated Project Cost: $35,000

FFY 2016 UPWP Staff Evaluation: Low

Selected for FFY 2016 UPWP: No

Proposed FFY 2016 UPWP Budget: Not applicable

Project Description

MPO staff would gather information and develop a profile of energy use for transportation in the MPO region, with a particular focus on energy use trends that pertain to electric vehicles. This project would inventory the distribution and location characteristics of charging stations, the characteristics of the electric vehicle fleet in the Boston region (such as the proportions of electric vehicles that are owned by households compared to the proportion owned by institutions), and analyze trends in the availability and use of these vehicles. Other activities may include an analysis of levels of consumption for different fuel types. This information may be useful to the MPO in future Long-Range Transportation Plan development and performance-based planning activities.

Project Comments

None

E-8 Energy and Electric Vehicle Use in the MPO Region

Concept Source

CTPS staff suggested this project.

LRTP Vision Topics Addressed:

- ☐ Climate Change
- ☒ Environment
- ☐ Livability
- ☐ Mobility
- ☐ Regional Equity
- ☐ Safety and Security
- ☒ System Preservation, Modernization, and Efficiency

Project Functions

- ☐ Serve Regional Transportation Stakeholders
- ☒ Support MPO Planning
- ☒ Contribute to Transportation Knowledge Base

Focus Area Evaluations

Focus Area	Consideration
Supports Performance-Based Planning	Primary
Links Land Use and Transportation	Not Applicable
Helps Maximize Limited Financial Resources	Not Applicable
Protects Air Quality and the Environment	Primary
Preserves, Maintains, and Modernizes the Transportation System	Primary
Increases Transit and Active Transportation Modes	Not Applicable
Advances Mobility, Access, and/or Congestion Reduction	Not Applicable
Encourages Sustainable, Livable, and Healthy Communities	Not Applicable
Increases Transportation Safety and Security	Not Applicable
Supports Economic Vitality	Not Applicable
Considers Transportation Equity and Accessibility	Not Applicable
Supports MetroFuture Implementation	Secondary
Support Statewide and Regional Transportation Initiatives	Primary
Enhances Technical Knowledge, Capacity and Insights	Primary

E-9 Regional Air Quality Profiles

Proposed Project Group: Land Use, Environment, and Economy

Proposed Project Staff: CTPS

Estimated Project Cost: $35,000

FFY 2016 UPWP Staff Evaluation: Medium

Selected for FFY 2016 UPWP: No

Proposed FFY 2016 UPWP Budget: Not applicable

Project Description

This project would use the “congestion scan” graphical approach to illustrate the locations of air-quality hot spots in the MPO region. Congestion scans are used to display the extent of congestion along a particular corridor through variations in colors or patterns that indicate different congestion levels. These scans enable commuters, planners, and engineers to visualize where and at what time of day a particular corridor is congested, and can be used more broadly to illustrate variations across different corridors. Using congestion-related inputs, such as the MPO’s INRIX speed data, and Motor Vehicle Emissions Simulator (MOVES) air quality factors, MPO staff would create air quality scans to illustrate where pollutants are concentrated near roadways around the region and the time periods when they are most concentrated. These scans may benefit MPO planning and decision making, particularly with respect to performance-based planning and addressing transportation equity.

Project Comments

None

E-9 Regional Air Quality Profiles

Concept Source

CTPS staff suggested this project.

LRTP Vision Topics Addressed:

- ☐ Climate Change
- ☒ Environment
- ☐ Livability
- ☐ Mobility
- ☒ Regional Equity
- ☐ Safety and Security
- ☐ System Preservation, Modernization, and Efficiency

Project Functions

- ☐ Serve Regional Transportation Stakeholders
- ☒ Support MPO Planning
- ☒ Contribute to Transportation Knowledge Base

Focus Area Evaluations

Focus Area	Consideration
Supports Performance-Based Planning	Primary
Links Land Use and Transportation	Not Applicable
Helps Maximize Limited Financial Resources	Not Applicable
Protects Air Quality and the Environment	Primary
Preserves, Maintains, and Modernizes the Transportation System	Not Applicable
Increases Transit and Active Transportation Modes	Not Applicable
Advances Mobility, Access, and/or Congestion Reduction	Not Applicable
Encourages Sustainable, Livable, and Healthy Communities	Secondary
Increases Transportation Safety and Security	Not Applicable
Supports Economic Vitality	Not Applicable
Considers Transportation Equity and Accessibility	Primary
Supports MetroFuture Implementation	Not Applicable
Support Statewide and Regional Transportation Initiatives	Primary
Enhances Technical Knowledge, Capacity and Insights	Primary

E-10 Tools and Methodologies for Analyzing Transportation and Urban Sprawl

Proposed Project Group: Land Use, Environment, and Economy

Proposed Project Staff: CTPS

Estimated Project Cost: $75,000

FFY 2016 UPWP Staff Evaluation: Low

Selected for FFY 2016 UPWP: No

Proposed FFY 2016 UPWP Budget: Not applicable

Project Description

MPO staff would explore tools and methodologies for measuring urban sprawl and its relationship to transportation. Ideally, this research would identify techniques or standards that could be used to identify and quantify sprawl, based on outputs from the MPO's regional travel demand model set and its land use model. Other analytical approaches could also be explored; these could potentially be used in smaller-scale corridor or subarea studies. This study may also evaluate how to estimate the current levels of sprawl in the MPO region. This project's deliverable would be a white paper describing techniques for analyzing sprawl that might be useful for MPO planning.

Project Comments

None

E-10 Tools and Methodologies for Analyzing Transportation and Urban Sprawl

Concept Source

CTPS staff suggested this project.

LRTP Vision Topics Addressed:

- ☐ Climate Change
- ☒ Environment
- ☒ Livability
- ☐ Mobility
- ☐ Regional Equity
- ☐ Safety and Security
- ☐ System Preservation, Modernization, and Efficiency

Project Functions

- ☐ Serve Regional Transportation Stakeholders
- ☒ Support MPO Planning
- ☒ Contribute to Transportation Knowledge Base

Focus Area Evaluations

Focus Area	Consideration
Supports Performance-Based Planning	Secondary
Links Land Use and Transportation	Primary
Helps Maximize Limited Financial Resources	Not Applicable
Protects Air Quality and the Environment	Primary
Preserves, Maintains, and Modernizes the Transportation System	Not Applicable
Increases Transit and Active Transportation Modes	Not Applicable
Advances Mobility, Access, and/or Congestion Reduction	Not Applicable
Encourages Sustainable, Livable, and Healthy Communities	Not Applicable
Increases Transportation Safety and Security	Not Applicable
Supports Economic Vitality	Not Applicable
Considers Transportation Equity and Accessibility	Not Applicable
Supports MetroFuture Implementation	Primary
Support Statewide and Regional Transportation Initiatives	Secondary
Enhances Technical Knowledge, Capacity and Insights	Primary

E-11 Alewife Transportation Community Study

Proposed Project Group: Land Use, Environment, and Economy

Proposed Project Staff: CTPS

Estimated Project Cost: $75,000

FFY 2016 UPWP Staff Evaluation: Low

Selected for FFY 2016 UPWP: No

Proposed FFY 2016 UPWP Budget: Not applicable

Project Description

The Fresh Pond Residents' Alliance requests that the MPO develop a scenario study for the area they refer to as the "Alewife Transportation Community" to evaluate mobility, especially by bus service, walking, and biking, in the Alewife area. The Alliance characterizes the "Alewife Transportation Community" as a roughly pie-shaped area that is aligned with the major radial streets that run through it. It includes adjacent parts of Watertown, Belmont, Arlington, and Cambridge, and covers an approximately 5.5-square-mile area. The Alliance indicates that this transportation community includes commuters who work in Kendall Square, Harvard Square, and numerous other neighborhoods.

Near the center of this area are what the Alliance refers to as the Alewife "Quadrangle" and "Triangle" areas (roughly 190 acres), located between Concord Avenue and Route 2, which are expected to experience tremendous growth in residential and commercial space over the next 10 years. Though the Quadrangle and Triangle development subareas are within a half mile of the Alewife MBTA Red Line station, the walking distance is actually longer, and during rush hour, the walking route, which is next to four lanes of rush-hour traffic, can seem unpleasant and dangerous. The Alliance is concerned about what their members predict will be a large number of vehicle trips generated by the area's growth in what is already a severely congested area with high volumes of traffic.

The study would provide the information necessary for understanding and planning for the transportation demands generated by this growth, in order to avoid or mitigate negative impacts, and to create a future in which there is higher utilization of an on-time MBTA bus service and improved mobility for bicyclists and pedestrians.

E-11 Alewife Transportation Community Study

Project Comments

MPO staff are continuing to refine this project concept in coordination with members of the Fresh Pond Residents Alliance. Past CTPS projects in this area have included the Alewife Phase I (2007) and Phase II (2009) studies. The topics covered through these studies include traffic patterns on Route 2/Route 16 (Alewife Brook Parkway) and parking utilization of the Alewife Garage; recommended improvements to MBTA feeder bus service to Alewife Station aimed at increasing ridership of the feeder bus to the Red Line (Alewife Station); identifying improvements to MBTA feeder bus access and egress between the Alewife Garage and Route 2; and recommended operational improvements to the Route 2/Alewife Brook Parkway (Route 16) intersection.

The City of Cambridge has provided comment on this proposal. The City requested that this proposed study be funded, and suggested that if limited funding were available, near term work include follow-up on specific recommendations from 2009 CTPS studies, which focused on traffic operations and bus access and egress around Route 2 and Route 16. The City suggests that a good focus for a CTPS study would be to take the jug-handle recommendations for bus priority to the next level of feasibility and preliminary design based on up-to-date development and traffic data.

The Project Functions (listed on the following page) were updated on March 19, 2015. The LRTP Vision Topics Addressed (listed on the following page) were updated on April 30, 2015.

Concept Source

This project was suggested by the members of the Fresh Pond Residents' Alliance. MPO staff are continuing to refine this project concept in coordination with members of the Fresh Pond Residents' Alliance.

LRTP Vision Topics Addressed:

- ☐ Climate Change
- ☐ Environment
- ☐ Livability
- ☒ Mobility
- ☐ Regional Equity
- ☐ Safety and Security
- ☐ System Preservation, Modernization, and Efficiency

Project Functions

- ☒ Serve Regional Transportation Stakeholders
- ☐ Support MPO Planning
- ☐ Contribute to Transportation Knowledge Base

E-11 Alewife Transportation Community Study

Focus Area Evaluations

Focus Area	Consideration
Supports Performance-Based Planning	Not Applicable
Links Land Use and Transportation	Secondary
Helps Maximize Limited Financial Resources	Not Applicable
Protects Air Quality and the Environment	Secondary
Preserves, Maintains, and Modernizes the Transportation System	Not Applicable
Increases Transit and Active Transportation Modes	Primary
Advances Mobility, Access, and/or Congestion Reduction	Primary
Encourages Sustainable, Livable, and Healthy Communities	Secondary
Increases Transportation Safety and Security	Secondary
Supports Economic Vitality	Not Applicable
Considers Transportation Equity and Accessibility	Not Applicable
Supports MetroFuture Implementation	Primary
Support Statewide and Regional Transportation Initiatives	Primary
Enhances Technical Knowledge, Capacity and Insights	Not Applicable

F-1 First-Mile-and-Last-Mile Transit Connections Studies

Proposed Project Group: Transit

Proposed Project Staff: CTPS

Estimated Project Cost: $55,000

FFY 2016 UPWP Staff Evaluation: High

Selected for FFY 2016 UPWP: Yes

Proposed FFY 2016 UPWP Budget: $55,000

Project Description

One topic that was raised repeatedly during the MPO's outreach for its Long-Range Transportation Plan in the fall of 2014 was how to find ways to address "first-and-last-mile" connections to and from the region's transit system, particularly in suburban areas. People expressed interest in strengthening links, for example, by providing or increasing shuttle service shuttle (including increasing the frequency and expanding the hours of existing services) to link MBTA commuter rail stations and suburban communities, or identifying existing stations that would make optimal multimodal hubs for Transportation Management Associations (TMAs), regional transportation authorities (RTAs), and bicycle and pedestrian facilities.

MPO staff would provide assistance to municipalities that request planning support for addressing last-mile connections to transit in their communities. Candidate locations might be identified through outreach to MAPC subregions and through other MPO outreach activities. MPO staff would document the existing conditions of connections linking residential, commercial, and employment areas to transit services and stations, and propose recommendations for improvements. These recommendations could be implemented by TMAs, municipalities, or other transit service providers.

Project Comments

None

F-1 First-Mile-and-Last-Mile Transit Connections Studies

Concept Source

CTPS staff suggested this project.

LRTP Vision Topics Addressed:

- ☐ Climate Change
- ☐ Environment
- ☒ Livability
- ☒ Mobility
- ☐ Regional Equity
- ☐ Safety and Security
- ☐ System Preservation, Modernization, and Efficiency

Project Functions

- ☒ Serve Regional Transportation Stakeholders
- ☐ Support MPO Planning
- ☐ Contribute to Transportation Knowledge Base

Focus Area Evaluations

Focus Area	Consideration
Supports Performance-Based Planning	Not Applicable
Links Land Use and Transportation	Primary
Helps Maximize Limited Financial Resources	Not Applicable
Protects Air Quality and the Environment	Not Applicable
Preserves, Maintains, and Modernizes the Transportation System	Not Applicable
Increases Transit and Active Transportation Modes	Primary
Advances Mobility, Access, and/or Congestion Reduction	Primary
Encourages Sustainable, Livable, and Healthy Communities	Not Applicable
Increases Transportation Safety and Security	Not Applicable
Supports Economic Vitality	Secondary
Considers Transportation Equity and Accessibility	Not Applicable
Supports MetroFuture Implementation	Primary
Support Statewide and Regional Transportation Initiatives	Primary
Enhances Technical Knowledge, Capacity and Insights	Not Applicable

F-2 Non-Fixed-Route Transportation Services: Opportunities for Transit Agencies

Proposed Project Group: Transit

Proposed Project Staff: CTPS

Estimated Project Cost: $90,000

FFY 2016 UPWP Staff Evaluation: Low

Selected for FFY 2016 UPWP: No

Proposed FFY 2016 UPWP Budget: Not applicable

Project Description

Non-fixed-route services, such as taxis, THE RIDE, and other human-service-transportation providers, take people where they want to go when they want to go there. Data about the origins and destinations of customers using these services could provide useful information for transit service planners. The MPO may also benefit from more detailed information about the region's new point-to-point services, including Uber, Lyft, and private transit services, such as Bridj.

In a past study, CTPS used taxi origin-destination data, along with other data, to determine how transit dollars might be best spent to improve the MBTA's early-morning service. This proposed study would go beyond the scope of the aforementioned study to include all-day taxi data and other origin-destination data for non-fixed-route service to determine the locations for which the fixed-route transit system is inadequately serving potential riders and where improvements could be made. This study would focus on areas with concentrated origins and destinations of taxi or other point-to-point services, as these are the areas with the most potential for expanding supporting fixed-route transit service.

This study might include some or all of the following tasks:

1) Some people with disabilities can use fixed-route bus and rail public transportation services for some or all trips. Building on the concept described above, origin-destination data from THE RIDE could reveal possible changes to fixed-route service that would help increase some of the current RIDE users' abilities to live independently by using the fixed-route system. MPO staff could investigate the question: Could the MBTA eliminate geographic barriers to using the fixed-route system by filling gaps in existing service? This analysis would take into account the fact that even if a fixed-route service were available,

F-2 Non-Fixed-Route Transportation Services: Opportunities for Transit Agencies

Project Description, continued

some RIDE customers may be unable to use the fixed-route system and would therefore require paratransit service. The results from this portion of the study could generate recommendations for additional transit stops, modifications to routes during certain hours, and new routes or route variations.

2) MPO staff might also explore the history of non-fixed-route transportation services in the region and might create an inventory of agencies or organizations that maintain non-fixed-route origin-destination data, including documentation of the licensing agreements of service providers, the current state of non-fixed-route services, and new trends in flexible-route transportation. This information could be used to evaluate potential fixed-route and flexible-route options for providing service.

3) MPO staff might study the role of point-to-point services in the region's transportation system, including whether those services support a mode shift away from single-occupant vehicles. Some possible subtasks of this study are: a) conducting a review of the synergies between these services and more traditional modes; b) reviewing where trips made using these modes replace auto and transit trips or enable new travel patterns; c) reviewing how the availability of these modes allows people to live a less car-dependent lifestyle, and d) reviewing existing regulations pertaining to the provision and operation of transportation services in each of the MPO municipalities, with particular attention paid to how these regulations could affect start-up transportation companies.

Overall, this project would address the MPO's vision and goals by supporting transportation access for underserved populations, particularly people with disabilities, as well as supporting a mode shift in general. It could also provide information to support transit service planning by the region's regional transportation authorities (RTAs). This project would make use of taxi origin-destination data (for Wednesday, Friday, Saturday, and Sunday) which might not be available for areas outside of Boston; and origin-destination data for the RIDE (for Wednesday, Friday, Saturday, and Sunday). MPO staff may also use datasets that might be available for new point-to-point services, such as Uber.

This project's findings would be in the form of a report. The report could contain:

- Maps depicting current origin-destination data
- Maps depicting where current transit services fail to meet demand
- A review of the characteristics of locations with significant non-fixed-route demand
- A dataset of taxi stands, taxi pickup and drop-off locations, and other taxi-related data
- Information about new point-to-point services and their current and potential impacts on car ownership and mode shift, as well as their regulatory environment

Project Comments

None

F-2 Non-Fixed-Route Transportation Services: Opportunities for Transit Agencies

Concept Source

CTPS staff suggested this project. A version of this project was included in the FFY 2015 UPWP Universe of Proposed New Projects, but was not funded. This project description was updated for FFY 2016.

LRTP Vision Topics Addressed:

- ☐ Climate Change
- ☐ Environment
- ☐ Livability
- ☒ Mobility
- ☒ Regional Equity
- ☐ Safety and Security
- ☐ System Preservation, Modernization, and Efficiency

Project Functions

- ☐ Serve Regional Transportation Stakeholders
- ☒ Support MPO Planning
- ☒ Contribute to Transportation Knowledge Base

Focus Area Evaluations

Focus Area	Consideration
Supports Performance-Based Planning	Not Applicable
Links Land Use and Transportation	Not Applicable
Helps Maximize Limited Financial Resources	Not Applicable
Protects Air Quality and the Environment	Not Applicable
Preserves, Maintains, and Modernizes the Transportation System	Not Applicable
Increases Transit and Active Transportation Modes	Primary
Advances Mobility, Access, and/or Congestion Reduction	Primary
Encourages Sustainable, Livable, and Healthy Communities	Not Applicable
Increases Transportation Safety and Security	Not Applicable
Supports Economic Vitality	Secondary
Considers Transportation Equity and Accessibility	Primary
Supports MetroFuture Implementation	Primary
Support Statewide and Regional Transportation Initiatives	Primary
Enhances Technical Knowledge, Capacity and Insights	Primary

F-3 Opportunities for New Community Transit Services

Proposed Project Group: Transit

Proposed Project Staff: CTPS

Estimated Project Cost: $50,000

FFY 2016 UPWP Staff Evaluation: Medium

Selected for FFY 2016 UPWP: No

Proposed FFY 2016 UPWP Budget: Not applicable

Project Description

MPO staff would analyze the population and travel characteristics of the MPO region to identify a set of optimal “microregions” for establishing new Transportation Management Association (TMA) servicers or community transit services. MPO staff would establish a set of criteria for identifying and prioritizing these microregions, and potentially recommend three to five locations for more detailed feasibility analyses. MPO staff could then conduct these feasibility analyses for future UPWP studies.

Project Comments

None

F-3 Opportunities for New Community Transit Services

Concept Source

CTPS staff suggested this project.

LRTP Vision Topics Addressed:

- ☐ Climate Change
- ☐ Environment
- ☐ Livability
- ☒ Mobility
- ☐ Regional Equity
- ☐ Safety and Security
- ☐ System Preservation, Modernization, and Efficiency

Project Functions

- ☒ Serve Regional Transportation Stakeholders
- ☒ Support MPO Planning
- ☐ Contribute to Transportation Knowledge Base

Focus Area Evaluations

Focus Area	Consideration
Supports Performance-Based Planning	Not Applicable
Links Land Use and Transportation	Secondary
Helps Maximize Limited Financial Resources	Secondary
Protects Air Quality and the Environment	Not Applicable
Preserves, Maintains, and Modernizes the Transportation System	Not Applicable
Increases Transit and Active Transportation Modes	Primary
Advances Mobility, Access, and/or Congestion Reduction	Primary
Encourages Sustainable, Livable, and Healthy Communities	Not Applicable
Increases Transportation Safety and Security	Not Applicable
Supports Economic Vitality	Secondary
Considers Transportation Equity and Accessibility	Secondary
Supports MetroFuture Implementation	Primary
Support Statewide and Regional Transportation Initiatives	Primary
Enhances Technical Knowledge, Capacity and Insights	Not Applicable

F-4 Potential Uses for Unused and Underused Rights-of-Way

Proposed Project Group: Transit

Proposed Project Staff: CTPS

Estimated Project Cost: $55,000

FFY 2016 UPWP Staff Evaluation: Low

Selected for FFY 2016 UPWP: No

Proposed FFY 2016 UPWP Budget: Not applicable

Project Description

MPO staff would inventory and map the unused and underused rail rights-of-way (ROWs) in the region, and would then suggest possible transportation uses for the ROWs. Some of the options for alternative uses would be the creation of bicycle and/or pedestrian routes, or routes for new transit service. The deliverable could be a memorandum describing the study process, recommendations for a few specific locations, and maps of the region describing the unused and underused ROWs.

Project Comments

None.

F-4 Potential Uses for Unused and Underused Rights-of-Way

Concept Source

CTPS staff suggested this project.

LRTP Vision Topics Addressed:

- ☐ Climate Change
- ☐ Environment
- ☐ Livability
- ☒ Mobility
- ☐ Regional Equity
- ☐ Safety and Security
- ☒ System Preservation, Modernization, and Efficiency

Project Functions

- ☒ Serve Regional Transportation Stakeholders
- ☒ Support MPO Planning
- ☐ Contribute to Transportation Knowledge Base

Focus Area Evaluations

Focus Area	Consideration
Supports Performance-Based Planning	Not Applicable
Links Land Use and Transportation	Not Applicable
Helps Maximize Limited Financial Resources	Primary
Protects Air Quality and the Environment	Not Applicable
Preserves, Maintains, and Modernizes the Transportation System	Primary
Increases Transit and Active Transportation Modes	Primary
Advances Mobility, Access, and/or Congestion Reduction	Primary
Encourages Sustainable, Livable, and Healthy Communities	Not Applicable
Increases Transportation Safety and Security	Not Applicable
Supports Economic Vitality	Not Applicable
Considers Transportation Equity and Accessibility	Not Applicable
Supports MetroFuture Implementation	Primary
Support Statewide and Regional Transportation Initiatives	Secondary
Enhances Technical Knowledge, Capacity and Insights	Not Applicable

F-5 Identifying Opportunities to Alleviate Bus Delay

Proposed Project Group: Transit

Proposed Project Staff: CTPS

Estimated Project Cost: $65,000

FFY 2016 UPWP Staff Evaluation: High

Selected for FFY 2016 UPWP: Yes

Proposed FFY 2016 UPWP Budget: $65,000

Project Description

Access to reliable public transit provides mobility, access, and livability benefits to residents throughout the region and provides additional transportation capacity on congested roadways. Transit priority, operational, and infrastructure upgrades—such as bus queue jumps, transit signal priority, and bus-only lanes—have been considered in the Boston MPO region, and some have been implemented.[1] Increasing the use of such measures would be likely to decrease delay, increase on-time performance, improve travel times for transit passengers, and, finally, potentially increase the transit mode share in the region.

MPO staff would use automatic passenger counter (APC) and automatic vehicle location (AVL) data to identify locations where bus routes regularly experience significant delays. Further analysis using roadway geometry, roadway congestion, passenger boarding, and/or fare payment data sets would be performed to identify the cause of delay by the type of delay. The types include operational issues related to fare payment queues, large passenger volumes, stop location, and roadway design and congestion issues. MPO staff would then identify sections of the routes may benefit from the introduction of transit-priority, operational, or infrastructure upgrades. Staff would identify low-, medium-, and high-cost transit priority strategies that would best respond to the needs on these segments. Staff would also compare the recommended upgrades and rank them in terms of their effects on delay, on-time performance, travel time, and potential operational cost savings. The project deliverable could be a memorandum describing priority locations for transit-priority upgrades (with maps), and suggested strategies at those locations.

[1] A bus queue jump refers means a change in roadway geometry that allows transit vehicles to bypass cars that are queued up at an intersection.

F-5 Identifying Opportunities to Alleviate Bus Delay

Project Comments

The Project Functions (listed on the following page) were updated on March 19, 2015. The LRTP Vision Topics Addressed (listed on the following page) were updated on April 30, 2015.

Concept Source

CTPS staff suggested this project.

LRTP Vision Topics Addressed:

- ☐ Climate Change
- ☐ Environment
- ☐ Livability
- ☒ Mobility
- ☐ Regional Equity
- ☐ Safety and Security
- ☒ System Preservation, Modernization, and Efficiency

Project Functions

- ☒ Serve Regional Transportation Stakeholders
- ☒ Support MPO Planning
- ☐ Contribute to Transportation Knowledge Base

F-5 Identifying Opportunities to Alleviate Bus Delay

Focus Area Evaluations

Focus Area	Consideration
Supports Performance-Based Planning	Not Applicable
Links Land Use and Transportation	Not Applicable
Helps Maximize Limited Financial Resources	Primary
Protects Air Quality and the Environment	Primary
Preserves, Maintains, and Modernizes the Transportation System	Not Applicable
Increases Transit and Active Transportation Modes	Primary
Advances Mobility, Access, and/or Congestion Reduction	Primary
Encourages Sustainable, Livable, and Healthy Communities	Secondary
Increases Transportation Safety and Security	Not Applicable
Supports Economic Vitality	Not Applicable
Considers Transportation Equity and Accessibility	Not Applicable
Supports MetroFuture Implementation	Primary
Support Statewide and Regional Transportation Initiatives	Primary
Enhances Technical Knowledge, Capacity and Insights	Primary

F-6 Feasibility of Coordinating Ferry Services for Inner Core Communities

Proposed Project Group: Transit

Proposed Project Staff: CTPS

Estimated Project Cost: $45,000

FFY 2016 UPWP Staff Evaluation: Low

Selected for FFY 2016 UPWP: No

Proposed FFY 2016 UPWP Budget: Not applicable

Project Description

Several Inner Core municipalities requested a study about the potential of coordinated ferry service in Boston Harbor. This request was initially provided by municipal representatives from Winthrop and Quincy. Other Inner Core municipalities, including Chelsea, Revere, and Medford have expressed interest in this topic as well.

Some of the topics of interest to these communities are:

An analysis of existing conditions and future needs of Boston Harbor ferry service
A review of how the operations of ferry systems in other parts of the country work and how they are funded.
An analysis comparing the ferry trips made for work commutes to recreational trips.

F-6 Feasibility of Coordinating Ferry Services for Inner Core Communities

Project Comments

The Quincy representative also suggested that Plymouth and Provincetown (both of which are located outside of the Boston Region MPO area) be invited to participate in this study because they are vacation destinations and have ferry service, and that the Boston Harbor Islands Advisory Council (whose members are appointed by the National Park Service) also be involved. MPO staff propose to continue to work with these municipalities to refine the project concept and to ensure that the project would support the work of the Ferry Compact.

CTPS has been providing ongoing technical assistance to the Massachusetts Ferry Compact through the SPR contract, and has produced a number of products for the Ferry Compact, including memoranda on the following topics: 1) an inventory of ferry and water transportation service in Massachusetts as of 2013; 2) a literature review of the techniques used for estimating the demand for ferry services; and 3) and a literature review of recent trends in US passenger ferry systems. The most recent Ferry Compact meeting took place in mid-January 2015. Some of the future CTPS tasks for the Compact that are under consideration are 1) analyzing the potential economic development impacts of ferries; 2) developing a risk management strategy for starting service, including the factors to consider when developing a business plan; and 3) identifying opportunities and priorities for exploring potential new services.

The LRTP Vision Topics Addressed (listed on the following page) were updated on March 19, 2015.

Concept Source

This study was proposed by several members of the Inner Core Committee (an MAPC subregional group).

LRTP Vision Topics Addressed:

- ☐ Climate Change
- ☐ Environment
- ☐ Livability
- ☒ Mobility
- ☐ Regional Equity
- ☐ Safety and Security
- ☒ System Preservation, Modernization, and Efficiency

Project Functions

- ☒ Serve Regional Transportation Stakeholders
- ☐ Support MPO Planning
- ☐ Contribute to Transportation Knowledge Base

F-6 Feasibility of Coordinating Ferry Services for Inner Core Communities

Focus Area Evaluations

Focus Area	Consideration
Supports Performance-Based Planning	Not Applicable
Links Land Use and Transportation	Not Applicable
Helps Maximize Limited Financial Resources	Not Applicable
Protects Air Quality and the Environment	Not Applicable
Preserves, Maintains, and Modernizes the Transportation System	Not Applicable
Increases Transit and Active Transportation Modes	Secondary
Advances Mobility, Access, and/or Congestion Reduction	Primary
Encourages Sustainable, Livable, and Healthy Communities	Not Applicable
Increases Transportation Safety and Security	Primary
Supports Economic Vitality	Not Applicable
Considers Transportation Equity and Accessibility	Not Applicable
Supports MetroFuture Implementation	Not Applicable
Support Statewide and Regional Transportation Initiatives	Secondary
Enhances Technical Knowledge, Capacity and Insights	Secondary

F-7 Transit Options to Reduce Congestion on Tolled Facilities

Proposed Project Group: Transit

Proposed Project Staff: CTPS

Estimated Project Cost: $75,000 or greater

FFY 2016 UPWP Staff Evaluation: Not evaluated

Selected for FFY 2016 UPWP: No

Proposed FFY 2016 UPWP Budget: Not applicable

Project Description

In a written comment, Somerville resident Joel Weber II asked the Massachusetts legislature, MassDOT, and the Boston MPO to work together, adjusting toll policies inside Route 128 to improve air quality and reduce traffic congestion. His request included four components:

Vehicles with two or more occupants should be exempt from tolls.

Electric vehicles should be exempt from tolls inside Route 128 until a certain percentage of the vehicles on the road qualify for this exemption.

Tolls for single-occupancy vehicles with internal combustion engines should be raised during peak weekday travel times as a disincentive to operate such vehicles on toll roads at those times. The raised tolls would offset the lost toll revenue from exemptions for electric vehicles and carpools and would fund expanded public transit.

The Boston MPO's Unified Planning Work Program should determine what transit improvements would reduce the number of single-occupancy vehicles on tolled highways during peak travel times in the most cost-effective way. Increased toll revenues would fund these improvements. He proposes that a UPWP-funded study of this issue could explore reducing express-bus and commuter- rail fares, operating additional trips on existing transit services, or creating new express bus services. He recommends that when examining different strategies, MPO staff consider the impact of transit services (such as express buses) on parking. He suggests exploring options that don't require the creation of new park-and-ride facilities or that can be reached by walking or biking. He suggests an origin-destination travel study, using license-plate data from the existing Tobin Bridge toll-collection system and information from the Registry of Motor Vehicles, to clarify where people are commuting from and whether transit is adequately serving those locations.

F-7 Transit Options to Reduce Congestion on Tolled Facilities

Project Comments

In addition to suggesting features for a UPWP study, Mr. Weber provided additional comments on tolling alternatives. These include, but are not limited to: the threshold percentage of exempt vehicles that should be reached before eliminating any toll exemptions for electric vehicles and items to consider if adjusting tolls for time of day and direction of traffic. He notes that it may be most effective to adjust tolling schemes on facilities that are already tolled, but that opportunities to implement these schemes on other roadways should eventually be explored.

MPO staff recommends, if such a study is undertaken, that it examine all major roadways.

Mr. Weber also recommends studying the effects that Massachusetts Turnpike toll policies may have on Route 16 and other additional secondary highways.

Concept Source

Joel N. Weber II, a Somerville resident, suggested this project.

LRTP Vision Topics Addressed:

- ☐ Climate Change
- ☒ Environment
- ☐ Livability
- ☒ Mobility
- ☐ Regional Equity
- ☐ Safety and Security
- ☐ System Preservation, Modernization, and Efficiency

Project Functions

- ☐ Serve Regional Transportation Stakeholders
- ☒ Support MPO Planning
- ☒ Contribute to Transportation Knowledge Base

F-7 Transit Options to Reduce Congestion on Tolled Facilities

Focus Area Evaluations

Focus Area	Consideration
Supports Performance-Based Planning	Not Applicable
Links Land Use and Transportation	Not Applicable
Helps Maximize Limited Financial Resources	Secondary
Protects Air Quality and the Environment	Secondary
Preserves, Maintains, and Modernizes the Transportation System	Not Applicable
Increases Transit and Active Transportation Modes	Primary
Advances Mobility, Access, and/or Congestion Reduction	Primary
Encourages Sustainable, Livable, and Healthy Communities	Not Applicable
Increases Transportation Safety and Security	Not Applicable
Supports Economic Vitality	Not Applicable
Considers Transportation Equity and Accessibility	Not Applicable
Supports MetroFuture Implementation	Primary
Support Statewide and Regional Transportation Initiatives	Primary
Enhances Technical Knowledge, Capacity and Insights	Secondary

G-1 Research Topics Generated by MPO Staff

Proposed Project Group: Other Technical Support

Proposed Project Staff: CTPS

Estimated Project Cost: $30,000

FFY 2016 UPWP Staff Evaluation: High

Selected for FFY 2016 UPWP: Yes

Proposed FFY 2016 UPWP Budget: $30,000

Project Description

This program would support work by MPO staff members on topics: 1) that relate to the Boston Region MPO's metropolitan transportation-planning process; 2) that staff members have expressed interest in; and 3) that are not covered by an ongoing UPWP program or discrete project. Interested MPO staff members would complete an application, which would be reviewed by MPO managers and directors, for MPO funding to do independent research on a topic of professional interest and potential use in the metropolitan transportation-planning process. This research program could produce valuable information for the MPO's consideration and would support the staff members' professional development. This program could yield highly creative solutions to transportation-planning problems.

Project Comments

None

G-1 Research Topics Generated by MPO Staff

Concept Source

CTPS staff suggested this project. This project was included in the FFY 2015 UPWP Universe of Proposed New Projects but was not funded. The Project Functions (listed below) were updated on April 30, 2015.

LRTP Vision Topics Addressed:

- ☐ Climate Change
- ☐ Environment
- ☐ Livability
- ☐ Mobility
- ☐ Regional Equity
- ☐ Safety and Security
- ☐ System Preservation, Modernization, and Efficiency

Project Functions

- ☐ Serve Regional Transportation Stakeholders
- ☒ Support MPO Planning
- ☒ Contribute to Transportation Knowledge Base

Focus Area Evaluations

Focus Area	Consideration
Supports Performance-Based Planning	Secondary
Links Land Use and Transportation	Not Applicable
Helps Maximize Limited Financial Resources	Not Applicable
Protects Air Quality and the Environment	Not Applicable
Preserves, Maintains, and Modernizes the Transportation System	Not Applicable
Increases Transit and Active Transportation Modes	Not Applicable
Advances Mobility, Access, and/or Congestion Reduction	Not Applicable
Encourages Sustainable, Livable, and Healthy Communities	Not Applicable
Increases Transportation Safety and Security	Not Applicable
Supports Economic Vitality	Not Applicable
Considers Transportation Equity and Accessibility	Not Applicable
Supports MetroFuture Implementation	Not Applicable
Support Statewide and Regional Transportation Initiatives	Not Applicable
Enhances Technical Knowledge, Capacity and Insights	Primary

G-2 Future of Transportation Data Collection

Proposed Project Group:	Other Technical Support
Proposed Project Staff:	CTPS
Estimated Project Cost:	$55,000
FFY 2016 UPWP Staff Evaluation:	Medium
Selected for FFY 2016 UPWP:	To be determined
Proposed FFY 2016 UPWP Budget:	To be determined

Project Description

MPO staff would review the transportation data traditionally obtained manually, and would explore whether there are cost-effective ways to automate those processes. To complement this review, staff would also explore areas in the transportation field where human-based data collection is more beneficial than machine-based data collection. The study would explore areas where automated data-collection methods cannot or should not be used.

Project Comments

None

G-2 Future of Transportation Data Collection

Concept Source

CTPS staff proposed this project.

LRTP Vision Topics Addressed:

☐ Climate Change
☐ Environment
☐ Livability
☐ Mobility
☐ Regional Equity
☐ Safety and Security
☐ System Preservation, Modernization, and Efficiency

Project Functions

☒ Serve Regional Transportation Stakeholders
☒ Support MPO Planning
☒ Contribute to Transportation Knowledge Base

Focus Area Evaluations

Focus Area	Consideration
Supports Performance-Based Planning	Secondary
Links Land Use and Transportation	Not Applicable
Helps Maximize Limited Financial Resources	Primary
Protects Air Quality and the Environment	Not Applicable
Preserves, Maintains, and Modernizes the Transportation System	Not Applicable
Increases Transit and Active Transportation Modes	Not Applicable
Advances Mobility, Access, and/or Congestion Reduction	Not Applicable
Encourages Sustainable, Livable, and Healthy Communities	Not Applicable
Increases Transportation Safety and Security	Not Applicable
Supports Economic Vitality	Not Applicable
Considers Transportation Equity and Accessibility	Not Applicable
Supports MetroFuture Implementation	Not Applicable
Support Statewide and Regional Transportation Initiatives	Secondary
Enhances Technical Knowledge, Capacity and Insights	Primary

Appendix D—MPO Glossary of Acronyms

Acronym	Definition
§5303	metropolitan planning funds [FTA]
3C	continuous, comprehensive, cooperative [planning process]
A&F	administration and finance
AACT	Access Advisory Committee to the MBTA
ABP	Accelerated Bridge Program
ADA	Americans with Disabilities Act of 1990
ADT	average daily traffic
AFC	automated fare collection
AMPO	Association of Metropolitan Planning Organizations
APC	automatic passenger counter
APTA	American Public Transportation Association
ARAN	automatic road analyzer
ARRA	The American Recovery and Reinvestment Act of 2009
ASL	American sign language
ATR	automatic traffic recorder
AVL	automatic vehicle location
AWDT	average weekday daily traffic
BCIL	Boston Center for Independent Living
BRA	Boston Redevelopment Authority
BRT	bus rapid transit
BTD	Boston Transportation Department
CA/T	Central Artery/Tunnel [project]
CAA	Clean Air Act of 1970
CAAA	Clean Air Act Amendments of 1990
CATA	Cape Ann Transportation Authority
CBD	central business district
CECP	Clean Energy and Climate Plan for 2020 [MA]
CFR	Code of Federal Regulation
CIC	Community Innovation Challenge
CIP	Capital Investment Program
CMAQ	Congestion Mitigation and Air Quality
CMP	Congestion Management Process
CNG	compressed natural gas
CO	carbon monoxide
CO_2	carbon dioxide
CPTHST	Coordinated Public Transit-Human Services Transportation Plan
CTPS	Central Transportation Planning Staff [to the Boston Region MPO]
CTTAP	Community Transportation Technical Assistance Program

Acronym	Definition
DBMS	database management system
DCAMM	Division of Capital Asset Management and Maintenance
DCR	Department of Conservation and Recreation
DEIR	draft environmental impact report [MA]
DEIS	draft environmental impact statement [federal]
DEP	Department of Environmental Protection [MA]
DMU	diesel multiple unit
DTA	dynamic traffic assignment
EERPAT	Energy and Emissions Reduction Policy Analysis Tool
EIR	environmental impact report [MA]
EIS	environmental impact statement [federal]
EJ	environmental justice
ENF	environmental notification form [MA]
EOEEA	Executive Office of Energy and Environmental Affairs [MA]
EOHED	Executive Office of Housing and Economic Development [MA]
EOHHS	Executive Office of Health and Human Services [MA]
EPA	Environmental Protection Agency [federal]
EPDO	equivalent property damage only [index]
ETC	electronic toll collection
FDR	functional design report
FEIR	final environmental impact report [MA]
FEIS	final environmental impact statement [federal]
FFGA	full funding grant agreement
FFY, FFYs	federal fiscal year, federal fiscal years
FHEA	Fair Housing Equity Assessment
FHWA	Federal Highway Administration
FONSI	finding of no significant impact
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
GANS	grant anticipation notes [municipal bond financing]
GHG	greenhouse gas [as in greenhouse gas emissions]
GIS	geographic information system
GLX	Green Line Extension [Green Line Extension project]
GPS	global positioning system
GWI	global warming index
GWSA	Global Warming Solutions Act of 2008 [MA]
HOV	high-occupancy vehicle
HPP	high-priority projects
HSIP	Highway Safety Improvement Program
HTC	Healthy Transportation Compact
ICC	Inner Core Committee [MAPC subregion]

Acronym	Definition
IMS	intermodal management system
INVEST	Infrastructure Voluntary Evaluation Sustainability Tool [FHWA]
IPCC	Intergovernmental Panel on Climate Change
ISTEA	Intermodal Surface Transportation Efficiency Act [federal]
IT&S	Information Technology and Systems [CTPS group]
ITDP	Institute for Transportation and Development Policy
ITE	Institute of Transportation Engineers
ITS	intelligent transportation systems
JARC	Job Access and Reverse Commute [program]
LAP	language access plan
LCW	Livable Community Workshop
LEP	limited English proficiency
LNG	liquefied natural gas
LOS	level of service
LRTA	Lowell Regional Transit Authority
LRTP	Long-Range Transportation Plan
MAGIC	Minuteman Advisory Group on Interlocal Coordination [MAPC subregion]
MAP-21	Moving Ahead for Progress in the 21st Century Act [federal]
MAPC	Metropolitan Area Planning Council
MARPA	Massachusetts Association of Regional Planning Agencies
MassDOT	Massachusetts Department of Transportation
MassGIS	Massachusetts Office of Geographic Information
Massport	Massachusetts Port Authority
MassRIDES	MassDOT's statewide travel options program
MBCR	Massachusetts Bay Commuter Railroad
MBTA	Massachusetts Bay Transportation Authority
MCAD	Massachusetts Commission Against Discrimination
MEMA	Massachusetts Emergency Management Agency
MEPA	Massachusetts Environmental Policy Act
MGL	Massachusetts general laws
MHS	metropolitan highway system
MIVIS	Massachusetts Interagency Video Information System
MOU	memorandum of understanding
MOVES	Motor Vehicle Emissions Simulator [EPA]
MPO	metropolitan planning organization [Boston Region MPO]
MPOinfo	Boston Region MPO's email contact list
MWGMC	MetroWest Growth Management Committee
MWRC	MetroWest Regional Collaborative [MAPC subregion]
MWRTA	MetroWest Regional Transit Authority
NAAQS	National Ambient Air Quality Standards

Acronym	Definition
NBPD	National Bicycle and Pedestrian Documentation Project
NEC	Northeast Corridor [FRA]
NEPA	National Environmental Policy Act
NHPP	National Highway Performance Program
NMHC	non-methane hydrocarbons
NO_x	nitrogen oxides
NSPC	North Suburban Planning Council [MAPC subregion]
NSTF	North Shore Task Force [MAPC subregion]
NTD	National Transit Database
NTP	notice to proceed
O&M	operations and management
OCPC	Old Colony Planning Council
ODCR	Office of Diversity and Civil Rights [MassDOT]
OE	operating expenses
OTA	Office for Transportation Access [MBTA]
OTP	Office of Transportation Planning [MassDOT]
P3 [1]	Public Participation Plan
P3 [2]	public private partnership
PBPP	performance-based planning and programming
PDM	Pre-Disaster Mitigation Program [federal]
PEV	pedestrian environmental variable
PL [Funds]	FHWA metropolitan planning funds; also known as Public Law funds
PM_{10}	particulate matter up to 10 micrometers in size
$PM_{2.5}$	particulate matter smaller than 2.5 micrometers in size
PMT	Program for Mass Transportation [MBTA]
ppm	parts per million
PSA	Project Selection Advisory Council
RCCs	regional coordinating councils
RIF	roadway inventory file
RMV	Registry of Motor Vehicles
ROC	Rider Oversight Committee [MBTA]
ROW	right-of-way
RPA	regional planning agency
RSA	Roadway Safety Audit [FHWA]
RSS	rich site summary [Web feed]
RTA	regional transit authority
RTAC	Regional Transportation Advisory Council [Advisory Council]
RTC	regional transportation center
RTTM	real time travel monitoring
SAFE	service and fare equity [analysis]
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act−A

Acronym	Definition
	Legacy for Users
SCCCT	Statewide Coordinating Council on Community Transportation
SCI	sustainable communities initiative
SDO	supplier diversity office
SDP	Service Development Plan [FRA]
SFY	state fiscal year
SGR	state-of-good repair
SHRP	Strategic Highway Research Program
SHSP	Strategic Highway Safety Plan
SIP	State Implementation Plan
SNAC	special needs advisory committee
SNLA	Small Necessities Leave Act
SORE	statement of revenue and expenses
SOV	single-occupancy vehicle
SPR	Statewide Planning and Research
SRPEDD	Southeastern Regional Planning and Economic Development District
SRTS	Safe Routes to School
STB	State Transportation Building [Boston]
STIP	State Transportation Improvement Program
STP	Surface Transportation Program
SWAP	South West Advisory Committee [MAPC subregion]
TAM	transit asset management
TAP	Transportation Alternatives Program
TAZ	transportation analysis zone
TCMs	transportation control measures
TCRP	Transit Cooperative Research Program
TDM	travel-demand management, or transportation-demand management
TE	transportation equity
TEA-21	Transportation Equity Act for the 21st Century [federal]
TEAMS	Travel Efficiency Assessment Method
TIGER	Transportation Investment Generating Economic Recovery [TIGER Discretionary Grant program, federal]
TIGGER	Transit Investments for Greenhouse Gas and Energy Reduction [FTA grant program]
TIP	Transportation Improvement Program [MPO]
Title VI	Title VI of the Civil Rights Act of 1964
TMA [1]	transportation management area [FTA, FHWA]
TMA [2]	Transportation Management Association
TMC	turning movement counts
TOD	transit-oriented development

Acronym	Definition
TRB	Transportation Research Board
TREDIS	Transportation Economic Development Impact System [software]
TRIC	Three Rivers Interlocal Council [MAPC subregion]
TSIMS	Transportation Safety Information Management System
TSM	transportation systems management [FHWA]
UFP	ultrafine particles
UPWP	Unified Planning Work Program
US	The United States of America
USDOT	United States Department of Transportation
USGS	US Geological Survey
UTC	University Transportation Center
UZA	urbanized area
V/C	volume-to-capacity ratio
VHT	vehicle-hours traveled
VMS	variable message signs
VMT	vehicle-miles traveled
VOCs	volatile organic compounds [pollutants]
VRH	vehicle revenue-hours
VRM	vehicle revenue-miles
WalkBoston	pedestrian advocacy group [Boston area]
WAT	walk-access transit
WMM	weMove Massachusetts [MassDOT long-range transportation plan]
WTS	Women in Transportation Seminar
YMM	youMove Massachusetts [MassDOT planning initiative]