

Key Updates to the UPWP

Several key updates were made to the UPWP since the draft was released for public review and comment on June 25, 2015. These include:

- **Chapter 2** – Updates to the FFY 2015 UPWP project status tables (one project was moved from Table 2-2 to Table 2-1). The tables also have been updated to reflect a budget adjustment approved by the UPWP, and to show notes identifying projects included in Proposed FFY 2015 UPWP Amendment 1. These items are highlighted.
- **Chapter 5** – The budget for the Long-Range Transportation Plan was reduced by \$23,000; these funds were transferred to the Household-Survey-Based Travel Profiles and Trends: Selected Policy Topics project in Chapter 7.
- **Chapter 6** – The description for the Bicycle/Pedestrian Support Activities project was updated to respond to MassDOT comments (changes are highlighted). The McGrath Boulevard Area Traffic Analysis: Modeling Support project was removed, because this CTPS project is expected to be complete before the start of FFY 2016.
- **Chapter 7** - The Household-Survey-Based Travel Profiles and Trends: Selected Policy Topics project in was increased by \$23,000. These funds were transferred from the Long-Range Transportation Plan project in Chapter 5. This chapter also now shows one MBTA Youth Pass Program Evaluation and Title VI Equity Analysis project (previously these were two separate projects).
- **Chapter 8** – Tables 8-8, 8-9, and 8-10, which show the schedules and participating groups for CTPS projects, were added.
- **Appendix D** – An MPO Glossary of Acronyms was added.

Unified Planning Work Program

Federal Fiscal Year 2016

Updated Draft

July 30, 2015
(previous draft dated
June 22, 2014)

Boston Region Metropolitan Planning Organization Staff

Directed by the Boston Region
Metropolitan Planning Organization,
which is composed of the:

Massachusetts Department of Transportation
Metropolitan Area Planning Council
Massachusetts Bay Transportation Authority
MBTA Advisory Board
Massachusetts Port Authority
Regional Transportation Advisory Council
City of Boston
City of Beverly
City of Everett
City of Newton
City of Somerville
City of Woburn
Town of Arlington
Town of Bedford
Town of Braintree
Town of Framingham
Town of Lexington
Town of Medway
Town of Norwood
Federal Highway Administration (nonvoting)
Federal Transit Administration (nonvoting)

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Self-Certification Statement

Following MPO endorsement of the final FFY 2016 UPWP, this section will include the MPO's self-certification statement regarding the federal requirements for the metropolitan transportation planning process. This document will be signed by MPO members.

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Executive Summary

This Unified Planning Work Program (UPWP) contains information about surface transportation planning projects that will be conducted in the Boston metropolitan region from October 1, 2015, through September 30, 2016 (federal fiscal year 2016). The UPWP is an essential transportation-planning tool for the region and is often a first step in determining whether or not a capital project will be implemented. The UPWP relates to other planning initiatives conducted by the Boston Region Metropolitan Planning Organization (MPO), the Massachusetts Department of Transportation (MassDOT), the Massachusetts Bay Transportation Authority (MBTA), and the Massachusetts Port Authority (Massport).

The projects and programs will be funded by federal, state, and local sources. This UPWP has been prepared in accordance with Moving Ahead for Progress in the 21st Century Act (MAP-21) provisions and with Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) grant application requirements, planning factors, and other guidance. This UPWP contains 91 projects and programs, of which 73 will be performed by the Central Transportation Planning Staff (CTPS) and the Metropolitan Area Planning Council (MAPC) on behalf of the MPO, MassDOT, the MBTA and Massport. The remaining 18 projects will be conducted by individual transportation agencies, municipalities, and academic institutions.

The majority of the federal fiscal year (FFY) 2016 UPWP projects and programs have been ongoing since FFY 2015 (or earlier). However, there are several new projects that the MPO will perform. They are:

- Addressing Safety, Mobility, and Access on Subregional Priority Roadways: FFY 2016 (page 6-5)
- First-Mile-and-Last-Mile Transit Connections Studies (page 6-18)
- Identifying Opportunities to Alleviate Bus Delay (page 6-21)
- Pedestrian Level-of-Service Metric Development (page 7-33)
- Priority Corridors for Long-Range Transportation Plan Needs Assessment: FFY 2016 (page 6-31)
- Research Topics Generated by MPO Staff (page 7-36)

- Safety and Operations at Selected intersections: FFY 2016 (page 6-34)
- Systemwide Title VI/Environmental Justice Assessment of TIP Projects (page 7-38)

CTPS also will continue to support projects that are being conducted by MassDOT, the MBTA, and other entities. Examples of these are:

- Green Line Extension: Completion of New Starts Analysis (page 6-19)
- MBTA 2015-16 Systemwide Passenger Survey (page 7-26)
- MBTA Youth Pass Program Evaluation and Title VI Equity Analysis (page 7-32)

The UPWP serves two purposes. First, it provides information to government officials, local communities, and the general public about surface transportation planning projects and programs expected to be conducted in the Boston region. Second, it provides budget information to federal and state officials about how the Boston Region MPO plans to spend federal metropolitan planning funds on projects and programs performed on behalf of the MPO. These funds include FHWA metropolitan planning (PL) funds and FTA Section 5303 metropolitan planning funds, which are used to support the MPO's continuing, cooperative, and comprehensive, or 3C, planning process.

The UPWP document is structured as follows. Chapter 1 provides general information about the Boston Region MPO, the transportation-planning process, and the funding sources for UPWP projects and programs. In addition, it explains the MPO's role in programming these funds, and the process the MPO followed to select the projects it was responsible for programming. Chapter 1 includes a chart depicting the MPO's organizational structure; a map showing the municipalities that are members of each MAPC subregional group; information about the MPO's vision, goals, and objectives; and a table citing the relationship between MPO-funded UPWP projects and federal planning factors. It also includes a figure showing the UPWP's relationship to other MPO planning documents, feasibility studies, and other visioning processes.

Chapter 2 provides a status report on the FFY 2015 UPWP projects and programs that were conducted by CTPS and MAPC. It also includes a list of products and activities related to those projects and programs, and information about how to obtain copies of reports, memoranda, and certification documents.

Chapter 3 includes an index of the FFY 2016 UPWP projects and programs, which are organized by the responsible agency.

Chapters 4 through 7 contain project and program descriptions and budget information for MPO work being conducted by CTPS and MAPC, and for work conducted by CTPS on behalf of other transportation-planning entities.

Chapter 8 provides budget summaries for the projects and programs included in Chapters 4 through 7, and describes how federal metropolitan planning funds will be spent on projects and programs in this UPWP. Chapter 8 provides federal and state officials with necessary information for approving the use of funds (as documented in the UPWP) and for administering contracts.

Appendix A presents project summaries for other, non-MPO transportation-planning projects, which will be conducted in the Boston region. These projects have separate review and approval processes outside of the MPO's purview. They are included in the UPWP to provide a comprehensive picture of plans and studies that are expected to take place in the Boston region and to ensure that MPO planning efforts are coordinated with other ongoing work.

Appendix B describes the public participation process used for developing the draft UPWP and the workshops that were held during the public review period. It will also present a summary of written comments on the draft UPWP that were received during the review period, and the MPO's responses to those comments.

Appendix C contains the document that was developed by staff to catalog and rate proposed UPWP projects. This document was used by the MPO UPWP Committee and the MPO as a guide in selecting new projects.

Appendix D contains a glossary of acronyms.



The Transportation Planning and Programming Process in the Boston Region MPO Area

This chapter is intended to give the reader an understanding of how the transportation-planning process is conducted in the Boston Region Metropolitan Planning Organization (MPO) area, including the federal requirements that govern the process, the funding sources used to carry it out, and the implementation of the process from conception to completion.

1.1 THE TRANSPORTATION PLANNING PROCESS

Decisions about how to spend transportation funds in a metropolitan area are guided by information and ideas garnered from a broad group of people, including elected officials, municipal planners and engineers, transportation advocates, and other interested people. Metropolitan planning organizations (MPOs) are the bodies responsible for providing a forum for this decision-making process. Each metropolitan area in the United States with a population of 50,000 or more—also known as an urbanized area—has an MPO, which decides how to spend federal transportation funds for capital projects and planning studies for the area.

Section 134 of the Federal-Aid Highway Act and Section 5303 of the Federal Transit Act, as amended, require that urbanized areas, to be eligible for federal funds, conduct a continuing, cooperative, and comprehensive transportation-planning process (3C process) resulting in plans and programs consistent with the planning objectives of the metropolitan area. The Boston Region MPO is responsible for carrying out the 3C planning process in the Boston region and has established the following objectives for the process:

- To identify transportation problems and develop possible solutions to them
- To strike a balance between short-range and long-range considerations, so that beneficial incremental actions

undertaken now reflect an adequate understanding of probable future consequences and possible future options

- To take into account both regional and local considerations, and both transportation and non-transportation objectives and impacts, in the analysis of project issues
- To assist implementing agencies in putting policy and project decisions into effect in a timely fashion, with adequate consideration of environmental, social, fiscal, and economic impacts and with adequate opportunity for participation by other agencies, local governments, and the public
- To assist implementing agencies in assigning priorities to transportation activities in a manner consistent with the region's needs and resources
- To maintain MPO compliance with the requirements of the Moving Ahead for Progress in the 21st Century Act (MAP-21), the Americans with Disabilities Act (ADA), the Clean Air Act (CAA), the Civil Rights Act of 1964, Executive Order 12898 (regarding environmental justice), Executive Order 13166 (regarding outreach to populations with limited English-language proficiency), and Executive Order 13330 (regarding the coordination of human-services transportation)

1.2 THE BOSTON REGION METROPOLITAN PLANNING ORGANIZATION

The Boston Region MPO is a 22-member board consisting of state transportation agencies, regional organizations, and municipalities, and its jurisdiction consists of the 101 cities and towns shown on the map that follows the title page of this document. The permanent MPO voting members are the Massachusetts Department of Transportation (MassDOT), the Metropolitan Area Planning Council (MAPC), the Massachusetts Bay Transportation Authority (MBTA), the MBTA Advisory Board, the Massachusetts Port Authority (Massport), the City of Boston, and the Regional Transportation Advisory Council. The elected MPO voting members are municipalities. A municipality from each of the eight MAPC subregions has a seat, and there are four at-large municipal seats. The current elected members are:

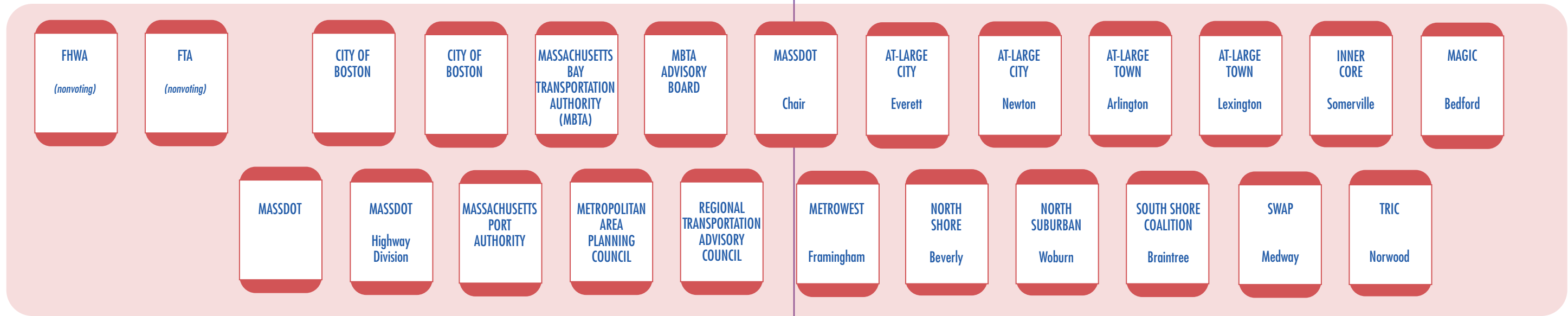
- City of Beverly – North Shore Task Force
- City of Everett – At-Large City
- City of Newton – At-Large City

- City of Somerville – Inner Core Committee
- City of Woburn – North Suburban Planning Council
- Town of Arlington – At-Large Town
- Town of Bedford – Minuteman Advisory Group on Interlocal Coordination
- Town of Braintree – South Shore Coalition
- Town of Framingham – MetroWest Regional Collaborative
- Town of Lexington – At-Large Town
- Town of Medway – SouthWest Advisory Planning Committee
- Town of Norwood – Three Rivers Interlocal Council

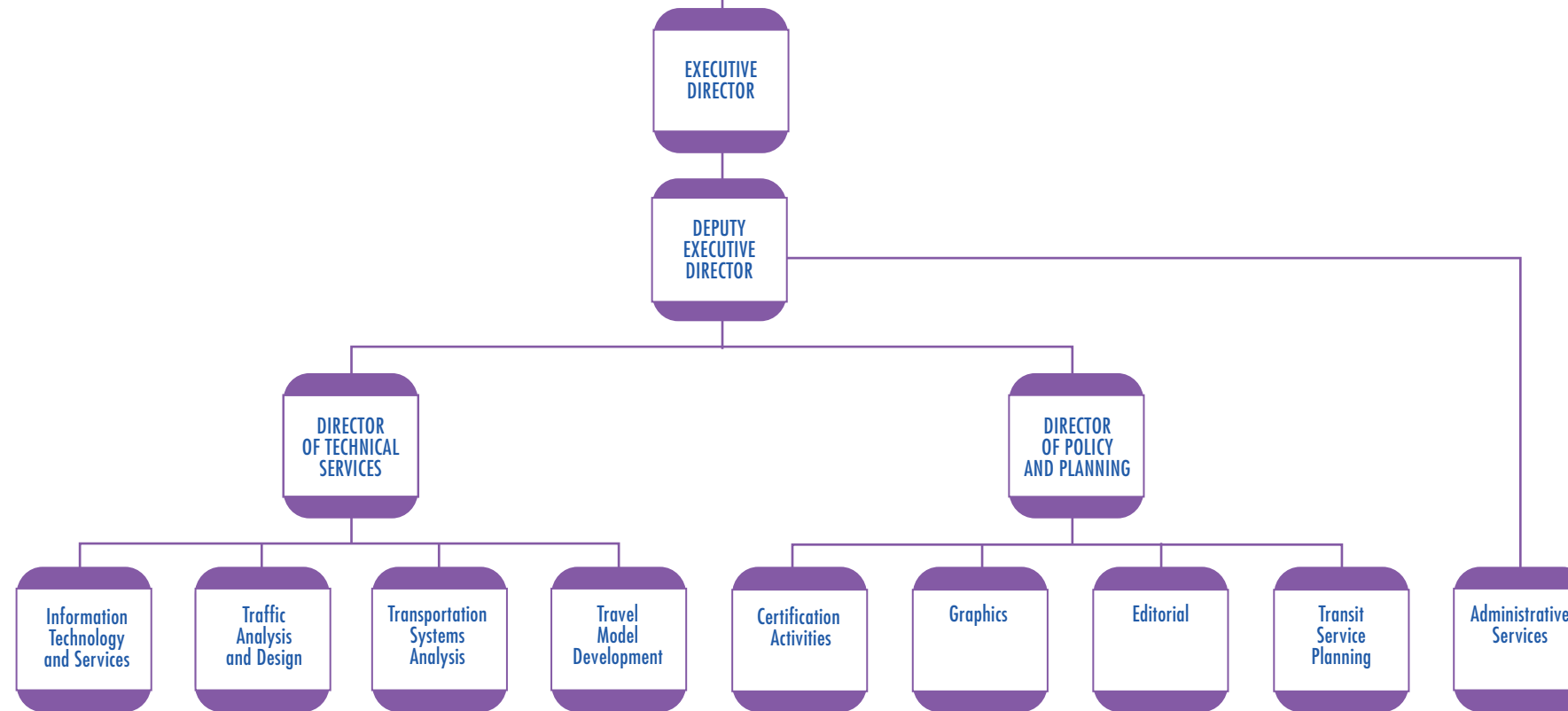
In addition, the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) participate in the MPO as advisory (nonvoting) members. Figure 1-1 on the following page shows MPO membership and organization of the Central Transportation Planning Staff (staff to the MPO). Details about MPO voting members are provided below:

- **The Massachusetts Department of Transportation (MassDOT)** was established under Chapter 25 (“An Act Modernizing the Transportation Systems of the Commonwealth of Massachusetts”) of the Acts of 2009. It includes four Divisions: Highway, Rail and Transit, Aeronautics, and Registry of Motor Vehicles.
 - The Highway Division has jurisdiction over the roadways, bridges, and tunnels of the former Massachusetts Highway Department and Massachusetts Turnpike Authority. The Division also has jurisdiction over many bridges and parkways previously under the authority of the Department of Conservation and Recreation. The Highway Division is responsible for the design, construction, and maintenance of the Commonwealth's state highways and bridges. The Division is also responsible for overseeing traffic safety and engineering activities for the state highway system; these activities include operating the Highway Operations Control Center to ensure safe road and travel conditions.

MEMBERSHIP OF THE BOSTON REGION METROPOLITAN PLANNING ORGANIZATION



CENTRAL TRANSPORTATION PLANNING STAFF



- The Rail and Transit Division oversees MassDOT's freight and passenger rail program, and provides oversight of Massachusetts's 15 Regional Transit Authorities (RTAs), as well as intercity bus, MBTA paratransit (THE RIDE), and a statewide mobility-management effort. The MassDOT Board of Directors serves as the governing board of the Rail and Transit Division and the MBTA.

MassDOT has three seats on the MPO, including one for the Highway Division.

- The **Metropolitan Area Planning Council (MAPC)** is the regional planning agency for the 101 cities and towns in the MAPC/MPO region. It is composed of the chief executive (or her/his designee) of each of the 101 cities and towns in the MAPC region, 21 gubernatorial appointees, and 12 ex-officio members. It has statutory responsibility for comprehensive regional planning in its region under Chapter 40B of the Massachusetts General Laws (MGL). It is the Boston Metropolitan Clearinghouse under Section 204 of the Demonstration Cities and Metropolitan Development Act of 1966 and Title VI of the Intergovernmental Cooperation Act of 1968. Also, its region has been designated an economic development district under Title IV of the Public Works and Economic Development Act of 1965, as amended. MAPC's responsibilities for comprehensive planning include responsibilities in the areas of technical assistance to communities, transportation planning, and development of zoning, land use, demographic, and environmental studies. MAPC activities that are funded with federal metropolitan transportation planning dollars are included in this UPWP.
- The **Massachusetts Bay Transportation Authority (MBTA)** was created in 1964 and is a body politic and corporate and a political subdivision of the Commonwealth. Under the provisions of Chapter 161A of the MGL, it has the statutory responsibility within its district of operating the public transportation system, preparing the engineering and architectural designs for transit development projects, and constructing and operating transit development projects. The MBTA district comprises 175 communities, including all of the 101 cities and towns of the Boston Region MPO area. A seven-member board of directors is appointed by the governor to be

the governing body of both MassDOT and the MBTA (which is part of MassDOT but retains a separate legal existence). The MBTA will provide general transit planning in support of projects in this UPWP.

- The **Massachusetts Bay Transportation Authority (MBTA) Advisory Board** was created by the Massachusetts Legislature in 1964 through the same legislation that created the MBTA. The Advisory Board consists of representatives of the 175 cities and towns that compose the MBTA district. Cities are represented by either the city manager or mayor, and towns by the chairperson of the board of selectmen. Specific responsibilities of the Advisory Board include review of and comment on the Program for Mass Transportation (PMT), proposed fare increases, and the annual MBTA Capital Investment Program; review of the MBTA's documentation of net operating investment per passenger; and review of the MBTA's operating budget. The MBTA Advisory Board advocates for the transit needs of its member communities and the riding public.
- The **Massachusetts Port Authority (Massport)** has the statutory responsibility under Chapter 465 of the Acts of 1956, as amended, of planning, constructing, owning, and operating such transportation and related facilities as may be necessary for the development and improvement of commerce in Boston and the surrounding metropolitan area. Massport owns and operates Boston Logan International Airport, Conley Terminal, Cruiseport Boston, Hanscom Field, Worcester Regional Airport, and various maritime/waterfront properties, including parks, in East Boston, South Boston, and Charlestown.
- The **City of Boston, six elected cities (currently Beverly, Braintree, Everett, Newton, Somerville, and Woburn), and six elected towns (currently Arlington, Bedford, Framingham, Lexington, Medway, and Norwood)** represent the 101 municipalities in the Boston Region MPO area. The City of Boston is a permanent MPO member and has two seats. There is one elected municipal seat for each of the eight MAPC subregions and four seats for at-large elected municipalities (two cities and two towns). The elected at-large municipalities serve staggered three-year terms, as do the eight municipalities representing the MAPC subregions.

- The **Regional Transportation Advisory Council**, the MPO's citizen advisory group, provides the opportunity for transportation-related organizations, non-MPO member agencies, and municipal representatives to become actively involved in the decision-making processes of the MPO as it develops plans and programs transportation projects in the region. The Advisory Council reviews, comments on, and makes recommendations regarding certification documents. It also serves as a forum for providing information on transportation topics in the region, identifying issues, advocating for ways to address the region's transportation needs, and generating interest among members of the general public in the work of the MPO.

As noted above, two members participate in the Boston Region MPO in an advisory (nonvoting) capacity, reviewing the Long-Range Transportation Plan (LRTP), the Transportation Improvement Program (TIP), the UPWP, and other facets of the MPO's planning process to ensure compliance with federal planning and programming requirements:

- The **Federal Highway Administration (FHWA) and Federal Transit Administration (FTA)** oversee the highway and transit programs, respectively, of the U.S. Department of Transportation under pertinent legislation and the provisions of the Moving Ahead for Progress in the 21st Century Act (MAP-21).

Two other entities assist MPO members in carrying out the responsibilities of the MPO's 3C planning process through policy implementation, technical support, and public participation:

- The **Central Transportation Planning Staff (CTPS)** was created by the MPO to carry out general and 3C transportation-planning activities on behalf of the MPO and to provide agencies with analyses required for the work described in this document and other agency initiatives.
- The **MAPC subregional groups** bring together representatives (usually appointed or elected officials or their staff) of the communities within a subregion of the MAPC region to address shared concerns regarding transportation and land use. MAPC has promoted and supported the formation of subregional groups in order to foster better communication and cooperation among municipalities. They have played an important role in the

MPO's participatory process, including development of the LRTP, TIP, and UPWP project priorities. The MAPC subregional groups and their member municipalities are shown in Figure 1-2.

1.3 THE UNIFIED PLANNING WORK PROGRAM

This UPWP contains information about surface-transportation planning projects that will be conducted in the Boston metropolitan region. It is updated annually; this UPWP reflects projects that will be conducted during the period October 1, 2015, through September 30, 2016 (federal fiscal year 2016). The UPWP is an essential transportation-planning tool for the region and often a first step in determining whether or not a project will be implemented. It is integrally related to other planning initiatives conducted by the Boston Region MPO, as well as by MassDOT, the MBTA, and Massport.

1.3.1 Consistency with Federal Planning Regulations

The Moving Ahead for Progress in the 21st Century Act (MAP-21)

This legislation requires all MPOs to carry out the 3C process (see page 1-1). Activities the MPOs must perform to meet this requirement include producing the LRTP, the TIP, and the UPWP.

- The **Long-Range Transportation Plan (LRTP)** guides investment in the transportation system of the Boston metropolitan region for at least the next 20 years. It defines an overarching vision of the future of transportation in the region, establishes policies that will lead to the achievement of that vision, and allocates projected revenue to transportation programs and projects consistent with the policies. The Boston Region MPO produces an LRTP every four years. *Paths to a Sustainable Region*, the LRTP that the MPO endorsed in 2011, was in effect during development of this document. The MPO is scheduled to endorse its next LRTP, *Charting Progress to 2040*, in 2015.

- The Transportation Improvement Program (TIP) is a staged, multiyear, intermodal program of transportation improvements that is consistent with the LRTP. It describes and prioritizes transportation projects that are expected to be implemented during a five-year period, and contains a financial plan that shows the revenue source or sources, current or proposed, for each project. The TIP serves as the implementation arm of the MPO's LRTP, and the Boston Region MPO updates the TIP annually.

MPOs also are responsible for conducting an inclusive public participation process, and for maintaining transportation models and data resources to support air quality conformity determinations, as well as long-range and short-range planning work and initiatives.

The MAP-21 legislation establishes national goals for federal highway programs. These goals include:

1. **Safety**—To achieve a significant reduction in traffic fatalities and serious injuries on all public roads
2. **Infrastructure condition**—To maintain the highway infrastructure asset system in a state of good repair
3. **Congestion reduction**—To achieve a significant reduction in congestion on the National Highway System
4. **System reliability**—To improve the efficiency of the surface transportation system
5. **Freight movement and economic vitality**—To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development
6. **Environmental sustainability**—To enhance the performance of the transportation system while protecting and enhancing the natural environment
7. **Reduced project delivery delays**—To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices

MAP-21 also establishes performance-based planning as an integral part of the metropolitan planning process. Performance-based planning and programming refers to practices that apply performance-management principles to transportation system policy and investment

decisions. In other words, a system-level, data-driven process is used to make decisions about strategies and investments.¹ MAP-21 requires that each MPO establish performance measures and targets that track progress toward attaining critical outcomes for its region and stipulates that these targets should be coordinated with those of relevant state agencies and public transportation providers to ensure consistency.² The Boston Region MPO has begun formalizing the framework of its performance-based planning process, and information about the MPO's work with respect to performance measures is detailed in the Long-Range Transportation Plan (page 5-19), the Transportation Improvement Program (page 5-37), and the Congestion Management Process (page 6-9) project descriptions.

Consistency with Other Federal Legislative Requirements

The 1990 Clean Air Act Amendments

Conformity determinations must be performed for capital improvement projects that receive federal funding and for those that are considered regionally significant, regardless of the funding source. These determinations must show that the MPO's LRTP and TIP will not cause or contribute to any new air quality violations, will not increase the frequency or severity of any existing air quality violations in any area, and will not delay the timely attainment of the air quality standards in any area.

Transportation control measures (TCMs) identified in the State Implementation Plan (SIP) for attaining air-quality standards are federally enforceable and must be given first priority when using federal funds. Such projects include the parking-freeze program in Boston, the statewide rideshare program, rapid transit and commuter rail extension programs, park-and-ride facilities, residential parking-sticker programs, and the operation of high-occupancy-vehicle lanes. MPO activities related to air quality are detailed in the Air Quality Conformity and Support Activities (page 5-13) program description. The United States Environmental Protection Agency (EPA) 40 CFR Parts 51 and 93—

¹ *Performance-Based Planning and Programming*, white paper, Cambridge Systematics, prepared for Federal Highway Administration Office of Planning, Environment and Realty, February 15, 2012.

² "The Development of Performance Measures and Performance-Based Planning," memorandum, Boston Region MPO, March 7, 2013.

Conformity Regulation established the policy, criteria, and procedures for demonstrating air quality conformity in the MPO region.

Non-discrimination Mandates

The Boston Region MPO complies with Title VI of the Civil Rights Act of 1964, ADA, and other federal and state non-discrimination statutes and regulations in all programs and activities. The MPO does not discriminate on the basis of race, color, national origin, English proficiency, income, religious creed, ancestry, disability, age, gender, sexual orientation, gender identity or expression, or military service. The major federal requirements are discussed below.

Title VI of the 1964 Civil Rights Act

This statute requires that no person be excluded from participation in, be denied the benefits of, or be subjected to discrimination on the basis of race, color, or national origin, under any program or activity provided by an agency receiving federal financial assistance.

Executive Order 13166, dated August 11, 2000, extends Title VI protections to persons who, as a result of national origin, have limited English proficiency (LEP). Specifically, it calls for improved access to federally-conducted and federally-assisted programs and activities and requires MPOs to develop and implement a system by which LEP persons can meaningfully participate in the transportation-planning process.

MPO activities that meet these requirements are discussed in the Boston Region MPO Title VI Reporting, the MassDOT Title VI Program, and the MBTA Title VI Program Monitoring project descriptions listed in chapters 5, 6, and 7.

Environmental Justice Executive Orders

Executive Order 12898, dated February 11, 1994, further expands upon Title VI, requiring each federal agency to achieve environmental justice by identifying and addressing any disproportionately high adverse human health or environmental effects, including interrelated social and economic effects, of its programs, policies, and activities on minority or low-income populations.

On April 15, 1997, the U.S. Department of Transportation issued its Final Order to Address Environmental Justice in Minority Populations and Low-Income Populations. Among other provisions, this order requires programming and planning activities to:

- Explicitly consider the effects of transportation decisions on minority and low-income populations
- Provide meaningful opportunities for public involvement by members of minority and low-income populations
- Gather (where relevant, appropriate, and practical) demographic information such as the race, color, national origin, and income level of the populations affected by transportation decisions
- Minimize or mitigate any adverse impact on minority or low-income populations

MPO activities that meet these requirements are discussed in Chapter 5.

The Americans with Disabilities Act

Title III of the Americans with Disabilities Act (ADA) requires all transportation projects, plans, and programs to be accessible to people with disabilities. At the MPO level, this means that public meetings must be held in accessible buildings and be conducted in a manner that provides for accessibility. MPO materials must also be made available in accessible formats. MPO activities that meet these requirements are discussed in Chapter 5.

Executive Order 13330

This executive order, dated February 26, 2004, calls for the establishment of the Interagency Transportation Coordinating Council on Access and Mobility under the aegis of the Secretary of Transportation. This executive order reinforces both environmental justice and ADA requirements by charging the Council with developing policies and methods for improving access for persons with disabilities, low-income persons, and older adults. MPO activities related to the above federal requirements are detailed in Chapter 5.

Consistency with Federal Planning Factors and Other Federal Guidance

Federal Planning Factors

MAP-21 maintains the federal planning factors that were included in the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). These planning factors are:

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency
2. Increase the safety of the transportation system for all motorized and nonmotorized users
3. Increase the ability of the transportation system to support homeland security and to safeguard the personal security of all motorized and nonmotorized users
4. Increase accessibility and mobility of people and freight
5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns
6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight
7. Promote efficient system management and operation
8. Emphasize the preservation of the existing transportation system

These planning factors are reflected in the LRTP visions described on pages 1-25 through 1- 26 and were incorporated in the rating of projects for this UPWP (see Section 1.4.3 of this chapter). Projects specifically relating to these planning factors are detailed in Chapters 4 through 7. A summary of the amount of money being spent for these projects can be found in Chapter 8. Table 1-1 provides a summary of how projects and programs in this UPWP that receive federal formula grant funding to carry out the 3C process address the federal planning factors.

Other Federal Guidance

In addition, this year FHWA and FTA asked MPOs to consider the following guidance when developing their UPWPs:

- Continuing support for performance-based practices in metropolitan planning, as part of implementing MAP-21
- Addressing bicycle and pedestrian safety concerns
- Addressing climate change concerns

- Continuing to focus on Title VI, Environmental Justice (EJ), and Limited-English-Proficiency (LEP) programs and requirements, and working to ensure that all members of the community have access
- Continuing to implement recommendations from recent metropolitan transportation planning certification reviews
- Ensuring that at least a third of metropolitan planning funding is spent on activities resulting in tangible products
- Supporting training and professional development of staff on transportation planning topics
- Ensuring a regional approach to transportation planning through regional models of cooperation
- Supporting access to essential services, including for traditionally underserved populations

The MPO has programmed or otherwise incorporated initiatives into the Federal Fiscal Year (FFY) 2016 UPWP in compliance with this federal guidance; these are included in Chapters 4 through 7.

Continued Support for Performance-Based Planning

Work to incorporate performance-based planning into Boston Region MPO activities, as required by MAP-21, has been underway for several years. In FFY 2014, MPO staff developed recommendations related to performance-based planning and coordinated with MassDOT and other entities on this topic. During FFY 2015, as part of updating its LRTP, the MPO established goals and objectives that align with national goals. It also developed performance measures and analyzed some performance measure trends over time to identify priorities and demonstrate how MPO investment decisions are making progress toward achieving MPO goals. To complement this work, the MPO also used scenario planning as part of its LRTP development process in order to refine its goals and objectives, and to see how different combinations of transportation investments might advance performance measures related to MPO goals. During FFY 2015, MPO staff also continued to incorporate performance-based planning into TIP development. MPO staff tracked safety and system preservation measures and established baselines for measures in other goal areas. Staff also reported on how MPO investments through the TIP are making progress toward MPO goals.

In FFY 2016, the Boston Region MPO will continue to incorporate formalized performance-based planning practices in its planning and operations. Anticipated activities related to performance-based planning are included in the Long-Range Transportation Plan and Transportation Improvement Program descriptions (pages 5-19 and 5-37, respectively). These include monitoring trends, establishing targets, and reporting on the MPO's performance goals. The MPO also will continue scenario planning on an ongoing basis to explore how various transportation investments may support MPO goals; this is discussed in the Long-Range Transportation Plan program description.

The MPO coordinates performance-based planning activities in the LRTP and TIP with work carried out through the Congestion Management Program (described on page 6-9). The LRTP, the TIP, and the CMP programs all conduct performance monitoring to support MPO planning. The MPO will continue to coordinate with MassDOT, the MBTA, MAPC, and other entities as part of its performance-based planning process, and will address performance management requirements once the final rule on metropolitan and statewide planning is published.

The MPO also considers performance-based planning needs and issues when deciding what activities to fund through the UPWP. The process for selecting new projects for the UPWP, which is discussed in detail in Section 1.4.3, "New Study Selection Process," included an effort to rate proposed projects by various UPWP focus areas. These focus areas, which were used to support development of staff and the MPO's UPWP Committee recommendations for new projects for FFY 2016, include an area titled "Supports Performance-Based Planning." Of the new projects recommended for inclusion in this UPWP, two gave this focus area primary consideration, and one gave it secondary consideration.

Bicycle and Pedestrian Safety

The MPO addresses the safety needs of active transportation modes, such as bicycling and walking, throughout its planning activities. Bicycle and pedestrian safety and access criteria are used in the TIP project evaluation process, and bicycle and pedestrian needs are considered as part of corridor studies, Community Transportation Technical Assistance projects, Livable Community Workshop Program projects, and bicycle and pedestrian planning work conducted under the Alternative-Mode Planning and Coordination program (see Chapters 6 and 7).

The MPO's Bicycle/Pedestrian Support Activities program specifically targets this issue; activities planned for this program in FFY 2015 include continuing to examine bicycle and pedestrian crash data and continuing to coordinate with state agencies, MAPC, and other entities on bicycle and pedestrian planning for the region (see page 6-7). During FFY 2016, the MPO may consider developing possible future strategic bicycle and pedestrian safety plans as part of this program. MPO staff also will continue to monitor bicycle and pedestrian plans being developed by MassDOT and other agencies.

Other studies in this UPWP, including Pedestrian Level-of-Service Metric Development (page 6-33) and the Fairmount Line Station Access Analysis (page 6-16) also will recommend methodologies or improvements that address bicycle and pedestrian safety needs.

Addressing Climate Change Concerns

The MPO continues to consider climate change in transportation planning through its ongoing work. Through the Air Quality Conformity and Support Activities program (page 5-13), the MPO integrates climate-change concerns and emission-reduction opportunities into the LRTP, TIP, and other activities, and continues to coordinate with MassDOT to implement its GreenDOT policy (see Section 1.3.2). MPO staff supports all-hazards planning as part of 3C Planning and MPO Support (page 5-3) and has continued to update its all-hazards data resources and monitor climate change adaptation planning and activities. During FFY 2016, MPO staff also will continue to monitor MassDOT vulnerability assessments—including results of the 2013–14 FHWA-funded climate resilience pilot focused on the Central Artery and MassDOT's Climate Change Adaptation Plan: Phase I, Transportation Asset Vulnerability Assessment—and consider opportunities to incorporate findings into the MPO's planning for climate change.

Civil Rights Programs and Requirements

The MPO's ongoing and continuing projects and programs include elements that address the needs and participation of minority, low-income, and LEP populations, the elderly, and people with disabilities. The MPO's Transportation Equity/Environmental Justice Support program (page 5-33) is specifically focused on the transportation needs of these populations. Other programs, including 3C Planning and MPO Support (page 5-3), Access Advisory Committee Support (page 5-11), and Provision of Materials in Accessible Formats (page 5-26), include activities that support and encourage participation of these populations

in the transportation decision-making process. In all of these transportation-planning activities, MPO staff, frequently in collaboration with MAPC, assesses and seeks to improve processes to provide access to both the region's transportation system and the decision-making process for people throughout the MPO region. CTPS also conducts Title VI analysis for the MPO, MassDOT, and the MBTA, as described in Chapters 5, 6 and 7. While conducting all of these activities, the MPO works in consultation with MassDOT's Office of Diversity and Civil Rights. The MPO also will work with Regional Coordination Councils (RCCs) in the Boston region, as described in the Transportation Equity/Environmental Justice Support program (page 5-33).

The focus areas used to rate new discrete projects for the FFY 2016 UPWP included an area called "Consider Transportation Equity and Accessibility." Criteria for this focus area included not only improvements to transportation service and infrastructure serving these populations, but also an element for strengthening the role of these populations in transportation decision making. Of the new projects for FFY 2016, the Systemwide Environmental Justice /Title VI Assessment for TIP Projects project (page 7-38) particularly addresses the needs of these populations. Also, the Fairmount Line Station Access Analysis project, which is continuing from FFY 2015, addresses bicycle and pedestrian access for those living and working in the vicinity of the Fairmount Line, including low-income, minority, and LEP populations.

Recommendations from Recent Metropolitan Transportation Planning Certification Reviews

The FHWA and the FTA conducted a Transportation Planning Certification Review of the Boston Region MPO's transportation planning process in December 2014 and January 2015. Chapters 4 through 7 of this UPWP detail the initiatives expected to take place in various MPO programs and projects during FFY 2016. MPO staff may undertake other activities as part of these programs and projects in response to the recently-received final Certification Review report from the federal agencies.

Tangible Products of Planning Activities

The MPO meets and exceeds federal guidelines for expenditure of metropolitan planning funds on tangible products. The MPO considers planning-project feasibility and implementation factors when selecting projects to fund with 3C dollars, including particular locations to study. The MPO maintains a practice of coordinating with MassDOT and other

entities, where possible, if there is an opportunity to advance the study recommendations into tangible products.

Regional Models of Cooperation

In addition to the Boston Region Metropolitan Planning Organization, four other MPOs are in the Boston urbanized area (UZA): the Merrimack Valley, Northern Middlesex, Old Colony, and Southeastern Massachusetts MPOs. A memorandum of understanding (MOU) is in place that describes areas of cooperation and coordination among MPOs in the Boston Urbanized area, such as sharing draft certification documents for review, notifications of meetings, and attending one another's MPO meetings. The Boston UZA MPOs are discussing updating the MOU in FFY 2015 and FFY 2016. The Boston Region MPO meets periodically with the other four MPOs through the Northside UZA Group (Boston Region, Merrimack Valley, and Northern Middlesex) and the Southside UZA Group (Boston Region, Old Colony, and Southeastern Massachusetts MPOs). In these UZA meetings, the MPOs share information on important projects and initiatives, such as cross-border projects in the LRTPs and TIPs of more than one MPO and planning methods and approaches. Information sharing also includes data to support planning work, minus any restrictions imposed by license agreements. This also includes data use to support travel demand modeling tools. In addition, all of the five MPOs notify each other about all MPO activities and meeting agendas, and invite mutual participation in development and review of their certification documents. These activities are supported through various programs throughout this UPWP, but most specifically the 3C Planning and MPO Support program (page 5-3). Boston Region MPO staff also regularly participates in monthly meetings of all MPO/Regional Planning Agency (RPA) transportation managers in Massachusetts, which are convened by the Massachusetts Association of Regional Planning Agencies (MARPA), and provide opportunities for collaboration.

Access to Essential Services

The MPO monitors and considers access to essential services—such as employment, health care, education, and recreation destinations—through a variety of activities. As part of the Transportation Equity/Environmental Justice Support program (page 5-33), MPO staff will continue to map and analyze access to key destinations within selected EJ areas of concern in the MPO region, as well as destinations identified in the Coordinated Public Transit Human-Services Transportation Plan (CTPHST) and in Transportation

Equity/Environmental Justice Support program outreach to MPO communities of concern. This program also supports special studies to examine how to improve access and increase transportation options for transportation disadvantaged communities, among other topics. The Transportation Equity/Environmental Justice Support program, the Access Advisory Committee Support program (page 5-11), and the MPO's general public participation program (part of the 3C Planning and MPO support program (page 5-3), all support ongoing outreach and provide forums for transportation service providers and others to identify solutions for improving access and connectivity. Finally, ongoing outreach, data collection, and updates to the LRTP Needs Assessment, supported by the Long-Range Transportation Plan program (page 5-19), will improve the MPO's understanding of where and how the transportation system can be improved to enhance access to essential services.

Staff Training and Professional Development

The MPO, through its ongoing 3C-funded programs, makes resources available for the MPO staff to maintain its transportation-planning expertise by participating in courses, programs, and workshops offered by the FHWA, the FTA, the Transportation Research Board (TRB), and other entities. More information on these topics is available in the Direct Support (page 4-6) and 3C Planning and MPO Support project descriptions (page 5-3).

The MPO also considers opportunities to enhance its and the MPO's staff's technical knowledge and planning capacity when deciding what activities to fund through the UPWP. In particular, the MPO anticipates that the Research Projects Generated by MPO Staff project (page 7-37), which funds staff independent research projects, will support professional development as well as generate valuable information for the region's transportation planning process.

1.3.2 Coordination with Other Planning Activities

The MPO's Long-Range Transportation Plan (LRTP)

During the development of this UPWP, *Paths to a Sustainable Region*, the LRTP approved in 2011, was still in effect, while *Charting Progress to 2040*, the 2015 update to the LRTP, was in development. MPO staff accounted for the content of both of these LRTPs when developing this UPWP.

Paths to a Sustainable Region

Paths to a Sustainable Region describes the visions and policies that have guided the MPO since its adoption in 2011. While the vision, goals and objectives of *Charting Progress to 2040* were still in development, the MPO considered the degree to which a proposed UPWP project would further the visions and policies documented in *Paths to a Sustainable Region*. MPO staff identified which visions were addressed by each candidate project, and both the visions and policies were incorporated in the UPWP focus areas detailed in Section 1.4.3. The *Paths to a Sustainable Region* LRTP visions include:

1. System Preservation, Modernization, and Efficiency

The regional transportation system will be maintained to a state of good repair and will operate with maximum efficiency. It will be reliable and modern and will provide improved mobility regionwide. Automobile dependency will be reduced, and the transit system will serve more people. Modernization of the existing system will provide access and accessibility throughout for all; additions to the transportation system will also be fully accessible for persons of all abilities.

Efficiencies and operational improvements will come through ongoing system preservation, use of intelligent transportation systems (ITS) and other technologies, management and operations strategies, and a balanced program of strategic investments. Innovative approaches will reduce auto dependency and actively promote other modes of transportation.

Expansion of the system will come through strategic investments.

2. Livability

All residents will have the capability of moving affordably between where they live, work, get services, and play using healthy transportation options that promote a healthy lifestyle. Multimodal transportation will serve business, residential, and mixed-use centers. Transportation investments will focus on existing activity centers, including sites of economic activity and adequate public infrastructure, where density will be encouraged. These centers of community activity will grow in population density and diversity of uses. This density and mixed-use activity will better support new and increased transit services. Investments in bicycle and pedestrian facilities and in

accessibility improvements will support healthy lifestyle choices and increase mobility for everyone, including people with disabilities. Community centers will thrive with the implementation of “complete streets” and context-sensitive design principles; urban design changes in community centers will create more human-scale and aesthetically pleasing community environments. The design of the transportation network will protect cultural, historical, and scenic resources, community cohesiveness, and quality of life.

The transportation network will play its part as a foundation for economic vitality. Energy use will be managed efficiently and alternative energy sources used.

3. **Mobility**

People in most areas of all corridors in the region will have access to transportation to jobs, education and training, health services, and social and recreational opportunities. This includes persons with disabilities, the elderly, youth, minorities, and persons with low incomes or with limited English proficiency. More communities will have more transportation options, both motorized and nonmotorized. The transportation infrastructure will accommodate freight and commercial activity as well as passenger needs. Freight will be moved efficiently by all freight modes.

The transportation system and services will be reliable. Delays, congestion, and travel time will be reduced. Transit ridership and use of sustainable options will be increased. The system will meet people’s needs; funding decisions will be guided by attention to customer service. Existing transit, bicycle, and pedestrian facilities will be linked in a network.

4. **Environment**

Human and environmental health will be considered in transportation decision making. With transportation investments targeted to areas of existing development, many greenfields will be preserved, many brownfields will be restored and reused, and water and sewer infrastructure and other utilities will be more cost-effectively maintained. Air quality will be improved as the full range of regulated vehicle emissions (carbon monoxide, nitrogen oxides, volatile organic compounds, and particulates) and carbon dioxide are reduced to required and/or targeted levels. The transportation project design process will avoid or minimize

negative impacts to wetlands, soil, water, and other environmental resources. Context-sensitive design principles will be implemented to protect communities' cultural, historical, and scenic resources, community cohesiveness, quality of life, and aesthetic environments.

5. **Transportation Equity**

Low-income and minority residents, as well as the elderly, youth, and persons for whom English is a second language (ESL populations), will enjoy, on a level equitable with others, mobility and access to affordable transportation options that connect them with jobs, educational institutions, and services.

Environmental burdens from transportation facilities and services (existing and future) will be minimized for these persons; low-income and minority persons will not be inequitably burdened. Expansion projects will address regional needs.

6. **Climate Change**

The production of greenhouse gas (GHG) emissions by the transportation sector in this region will be reduced to levels that contribute appropriately to the statewide targets set by the Massachusetts Global Warming Solutions Act. The MPO region will have joined with other entities in Massachusetts and the Northeast to slow and perhaps prevent the onset of serious climate change effects. The MPO, in consultation and cooperation with state and federal agencies planning action on GHG reduction, will have adopted GHG reduction goals and taken the steps necessary to meet them. Critical elements of the region's transportation infrastructure that may be vulnerable to the impacts of climate change will have been identified and protected.

7. **Safety and Security**

All modes of the transportation network, passenger and freight, will provide transportation that is safe, personally and operationally, to the maximum feasible degree. The number and severity of crashes will have been reduced. State-of-the-practice ITS measures and surveillance communication systems will have been deployed on the transit system to minimize vulnerability to security breaches. Transit malfunctions will have been reduced.

Steps will have been taken to protect the viability of transportation infrastructure critical to emergency response and

evacuations necessitated by natural hazards and man-made threats.

Charting Progress to 2040

Development of *Charting Progress to 2040* began in FFY 2014 and continued through 2015, and the plan is scheduled to be adopted in July 2015. MPO staff monitored the content and status of the proposed vision, goals, and objectives for *Charting Progress to 2040* as they continued to evolve. The final versions of the visions, goals, and objectives are shown in Figure 1-3. Where applicable, the goals and objectives were incorporated in the UPWP focus areas detailed in Section 1.4.3. Anticipated work to implement *Charting Progress to 2040* and to support long-range transportation planning is detailed on page 5-19. In FFY 2016 and future years, the MPO will further coordinate the development and outputs of the LRTP, the TIP, and the UPWP as it refines the MPO's performance-based planning framework and practice.

The MPO's Congestion Management Process (CMP)

The purpose of the CMP is to 1) monitor and analyze the performance of facilities and services; 2) develop strategies for the management of congestion based on the results of monitoring; and 3) move those strategies into the implementation stage by providing decision makers in the region with information and recommendations for the improvement of transportation system performance. The CMP monitors roadways and park-and-ride facilities in the MPO region for safety, congestion, and mobility, and identifies "problem" locations. Projects that help address problems identified in the most recent CMP monitoring were considered for inclusion in this UPWP. Examples include Priority Corridors for LRTP Needs Assessment: FFY 2016 (page 6-32), and Safety and Operations at Selected Intersections: FFY 2016 (page 6-35). Work being done in the FFY 2016 UPWP to support the CMP is detailed on page 6-9.

The MBTA's Program for Mass Transportation (PMT)

In 2009, the MBTA adopted its current PMT, which is the MBTA's long-range capital plan. The PMT was developed with extensive public involvement and was approved by the MBTA Advisory Board. The PMT informs the UPWP development process and work included in the UPWP will support the PMT planning process. Activities to develop the next PMT are underway, and during FFY 2016 MPO staff will monitor their progress.

Figure 1-3 *Charting Progress to 2040 Vision, Goals, and Objectives*

CENTRAL VISION STATEMENT	
<p>The Boston Region Metropolitan Planning Organization envisions a modern transportation system that is safe, uses new technologies, provides equitable access, excellent mobility, and varied transportation options—in support of a sustainable, healthy, livable, and economically vibrant region.</p>	
GOALS	OBJECTIVES
SAFETY	
<p>Transportation by all modes will be safe</p>	<ul style="list-style-type: none"> • Reduce number and severity of crashes, all modes • Reduce serious injuries and fatalities from transportation • Protect transportation customers and employees from safety and security threats <p>(Note: The MPO action will be to incorporate security investments into capital planning.)</p>
SYSTEM PRESERVATION	
<p>Maintain the transportation system</p>	<ul style="list-style-type: none"> • Improve condition of on- and off-system bridges • Improve pavement conditions on MassDOT-monitored roadway system • Maintain and modernize capital assets, including transit assets, throughout the system • Prioritize projects that support planned response capability to existing or future extreme conditions (sea level rise, flooding, and other natural and security-related man-made hazards) • Protect freight network elements, such as port facilities, that are vulnerable to climate-change impacts
CLEAN AIR/CLEAN COMMUNITIES	
<p>Create an environmentally friendly transportation system</p>	<ul style="list-style-type: none"> • Reduce greenhouse gases generated in the Boston region by all transportation modes as outlined in the Global Warming Solutions Act • Reduce other transportation-related pollutants • Minimize negative environmental impacts of the transportation system • Support land use policies consistent with smart and healthy growth
TRANSPORTATION EQUITY	
<p>Provide comparable transportation access and service quality among communities, regardless of income level or minority population</p>	<ul style="list-style-type: none"> • Target investments to areas that benefit a high percentage of low-income and minority populations • Minimize any burdens associated with MPO-funded projects in low-income and minority areas • Break down barriers to participation in MPO-decision making

Figure 1-3 *Charting Progress to 2040* Vision, Goals, and Objectives (continued)

CENTRAL VISION STATEMENT (CONT.)

The Boston Region Metropolitan Planning Organization envisions a modern transportation system that is safe, uses new technologies, provides equitable access, excellent mobility, and varied transportation options—in support of a sustainable, healthy, livable, and economically vibrant region.

GOALS

OBJECTIVES

CAPACITY MANAGEMENT/MOBILITY

Use existing facility capacity more efficiently and increase healthy transportation capacity

- Improve reliability of transit
- Implement roadway management and operations strategies, constructing improvements to the bicycle and pedestrian network, and supporting community-based transportation
- Create connected network of bicycle and accessible sidewalk facilities (at both regional and neighborhood scale) by expanding existing facilities and closing gaps
- Increase automobile and bicycle parking capacity and usage at transit stations
- Increase percentage of population and places of employment within one-quarter mile of transit stations and stops
- Increase percentage of population and places of employment with access to bicycle facilities
- Improve access to and accessibility of transit and active modes
- Support community-based and private-initiative services and programs to meet last mile, reverse commute and other non-traditional transit/transportation needs, including those of the elderly and persons with disabilities
- Eliminate bottlenecks on the freight network
- Enhance intermodal connections
- Emphasize capacity management through low-cost investments; give priority to projects that focus on lower-cost O&M-type improvements such as intersection improvements and Complete Streets solutions

ECONOMIC VITALITY

Ensure our transportation network provides a strong foundation for economic vitality

- Minimize the burden of housing and transportation costs for residents in the region
- Prioritize transportation investments that serve targeted development sites
- Prioritize transportation investments consistent with the compact-growth strategies of MetroFuture

MetroFuture

MetroFuture, which was developed by MAPC and adopted in 2008, is the long-range plan for land use, housing, economic development, and environmental preservation in the Boston region. It includes a vision for the region's future and a set of strategies for achieving that future, and is the foundation for land use projections used in *Charting Progress to 2040*, Work being done to support MetroFuture implementation and updates is detailed in the MetroFuture Implementation project description on page 6-28. MetroFuture's goals, objectives, and strategies were considered in the development of this UPWP, including in the UPWP focus areas used to rate proposed new projects.

You Move Massachusetts and We Move Massachusetts

You Move Massachusetts, a statewide initiative designed as a bottom-up approach to transportation planning, developed 10 core themes derived from a broad-based public participation process that articulated the expressed concerns, needs, and aspirations of Massachusetts residents that are related to their transportation network. These themes were considered in the development of this UPWP.

We Move Massachusetts (WMM) is MassDOT's statewide strategic multimodal plan. The initiative is a product of the transportation reform legislation of 2009, You Move Massachusetts civic engagement process, wider outreach to environmental justice and Title VI communities, and other outreach activities. In May 2014, MassDOT released We Move Massachusetts: Planning for Performance (WMM), the Commonwealth of Massachusetts' 2040 LRTP. WMM identifies high-level policy priorities, which were considered in the development of this UPWP. WMM also incorporates performance management into investment decision-making to calculate the differences in performance outcomes resulting from different funding levels available to MassDOT. In the future, MassDOT will use the scenario tool, described in WMM, to update and refine investment priorities.

GreenDOT and MassDOT's Statewide Mode-Shift Goal

GreenDOT, an initiative that MassDOT launched in June 2010, is a comprehensive environmental responsibility and sustainability policy that has three primary objectives: 1) reducing greenhouse gas (GHG) emissions; 2) promoting the healthy transportation options of walking, bicycling, and public transit; and 3) supporting smart-growth development. GreenDOT applies to MassDOT divisions and

contractors, as well as to Massachusetts's MPOs and regional transit authorities (RTAs). It responds to several critical laws and policies, which include:

- The Global Warming Solutions Act (GWSA) of 2008, which establishes legally enforceable requirements that Massachusetts significantly reduce its greenhouse gas emissions
- The Healthy Transportation Compact, which is discussed later in this section
- Executive Orders 484 (Leading by Example) and 515 (Environmental Purchasing Policy), which require state agencies to invest public resources in ways that support environmental sustainability by conserving energy and water, implementing efficiency measures, and producing or purchasing renewable energy

The GreenDOT Implementation Plan serves as the framework for incorporating the sustainability principles of GreenDOT into MassDOT's core business practices. The plan details 16 broad sustainability goals and related measurable tasks and performance indicators. These goals include MassDOT's statewide mode-shift goal, which aims to triple the current mode shares of bicycling, public transit, and walking by 2030. The statewide mode-shift goal is an important part of MassDOT's strategy for meeting the Commonwealth's commitments under the GWSA. In 2013, MassDOT built upon the mode-shift goal by passing the Healthy Transportation Policy Directive to formalize its commitment to the implementation and maintenance of transportation networks that serve all modes. The directive will ensure that all MassDOT projects are designed and implemented in a way that provides all customers access to safe and comfortable walking, bicycling, and transit options.

The goals outlined in the GreenDOT Implementation Plan, including the statewide mode-shift goal, were considered in developing this UPWP. Multiple programs and projects in this UPWP address GreenDOT sustainability goals, including the mode shift goal. Examples include the Air Quality Conformity and Support Activities (page 5-13) and Bicycle/Pedestrian Support Activities (page 6-7) programs. MPO staff also will continue to monitor and coordinate with MassDOT programs and initiatives that further GreenDOT goals.

Healthy Transportation Compact

The Healthy Transportation Compact (HTC) is a key requirement of the Massachusetts landmark transportation reform legislation that took effect on November 1, 2009. It is an interagency initiative that will help

ensure that the transportation decisions the Commonwealth makes balance the needs of all transportation users, expand mobility, improve public health, support a cleaner environment, and create stronger communities.

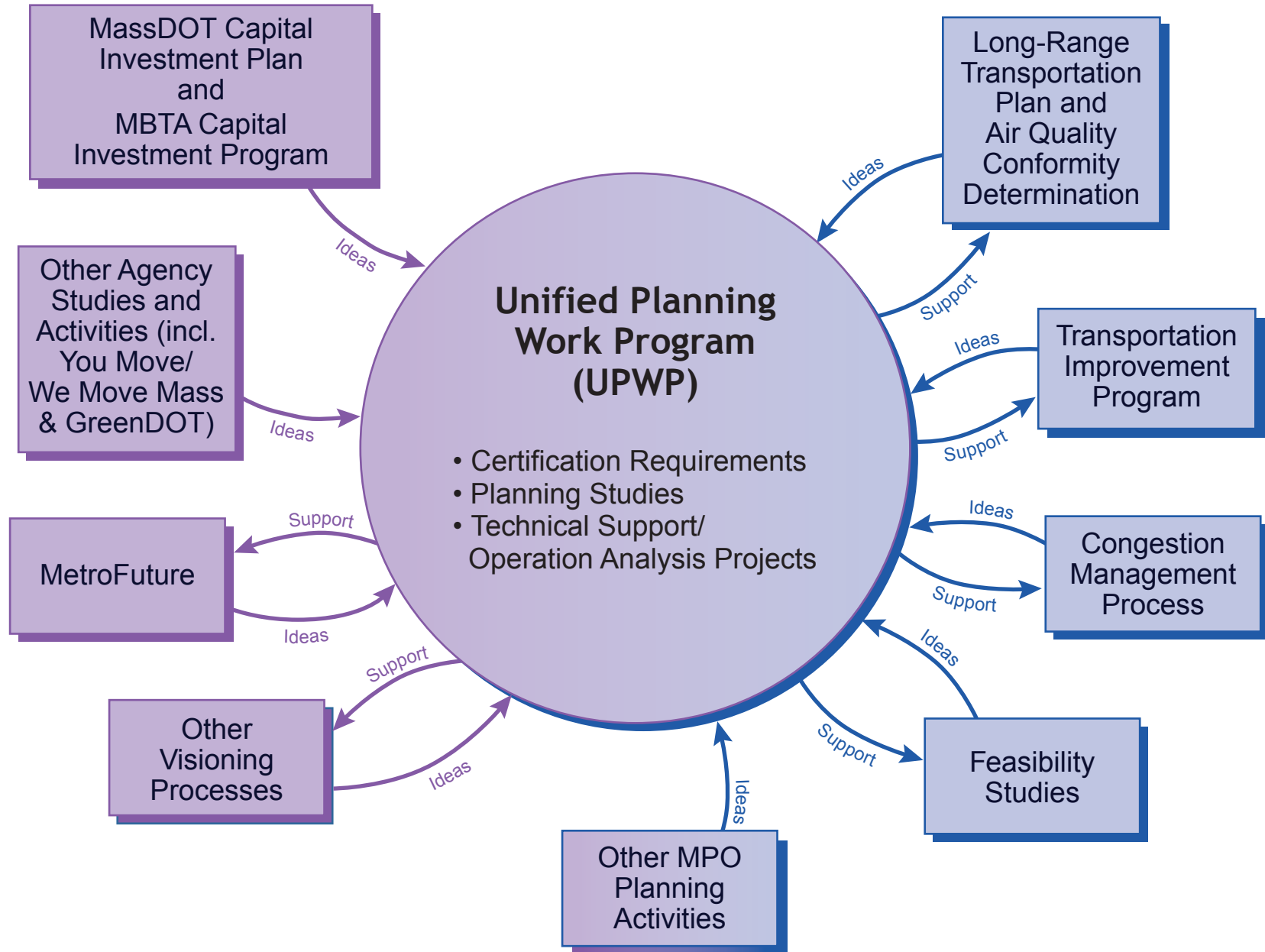
Participating agencies work together to achieve positive health outcomes through the coordination of land use, transportation, and public health policy. HTC membership is made up of the Secretary of Transportation or designee (co-chair), the Secretary of Health and Human Services or designee (co-chair), the Secretary of Energy and Environmental Affairs or designee, the MassDOT Highway Administrator or designee, the MassDOT Transit Administrator or designee, the Commissioner of Public Health or designee, and the Secretary of Housing and Economic development or designee. The HTC will also promote improved coordination among the public sector, private sector, and advocacy groups, as well as among transportation, land use, and public health stakeholders. The charges of the Healthy Transportation Compact were considered developing this UPWP, and MPO activities that relate to the Healthy Transportation Compact are discussed in the Bicycle/Pedestrian Support Activities (page 6-7) MetroFuture Implementation (page 6-27), Alternative-Mode Planning and Coordination (page 7-3), and Livable Community Workshop Program (page 7-14) descriptions. MPO staff has also supported health impact assessments and addressed health-related topics through analysis for MassDOT-funded transportation- planning projects, such as the Grounding McGrath: Determining the Future of the Route 28 Corridor project. This work has enabled MPO staff to develop expertise in health impact assessments, and to better understand the relationship between public health and transportation, which the MPO can use to inform its transportation planning process.

Figure 1-4 shows the relationship of the UPWP to other transportation-planning documents, including those described above.

1.4 THE UPWP DEVELOPMENT PROCESS

Each year the MPO considers projects for the annual update of the UPWP through its UPWP Committee. The UPWP documents new projects and projects that are continuing from previous UPWPs, and it provides updates on the MPO's ongoing programs that fulfill the 3C process outlined above.

Figure 1-3: Planning Process - Relationship of UPWP to Other Transportation-Planning Documents



1.4.1 Updates for Ongoing and Continuing Activities

As part of developing the upcoming UPWP, the MPO reviews activities for 1) ongoing projects and programs and 2) discrete (or limited-term) projects that began as part of previous UPWPs. Collectively, these projects and programs include both 3C-funded activities and projects completed on behalf of transportation agencies that serve the Boston region. As part of this process, the MPO staff identifies and develops budgets for continuing activities that will be carried out in the upcoming federal fiscal year.

In addition, MPO staff reviews and revises descriptions of activities to be conducted through the ongoing programs conducted as part of the 3C planning process. If there are changes to the budget of any program as a result of revisions to the planned activities, these are proposed.

This annual project and program review and budget development process defines the amount of 3C funding (from federal grants that support the 3C process) that is available for new projects in the UPWP. After accounting for 3C-funded continuing and ongoing programs, the remaining funding is available for new projects.

To provide a comprehensive perspective of transportation-planning activity occurring in the region, MPO staff members also develop a list of other major transportation-planning activities occurring in the Boston region. This list includes projects that are not funded with MPO funding, but which are being implemented by individual transportation agencies, municipalities, or academic institutions. In some cases, these projects may receive support from MPO staff.

Additional information on funding sources for UPWP projects and programs is available in section 1.5: Funding the Projects.

1.4.2 FFY 2016 UPWP Universe of Proposed New Projects

To develop new planning projects for the FFY 2016 UPWP, the MPO drew from the following sources to generate a universe of proposed new projects for evaluation by MPO staff and the MPO's UPWP Committee:

1. Existing planning documents: the Congestion Management Process (CMP) reports; the Program for Mass Transportation (PMT), the MBTA's long-range capital plan; the MPO's long-range planning documents, including *Paths to a Sustainable Region*, and the LRTP Needs Assessment for *Charting Progress to 2040*; MetroFuture; and recent studies

2. Past guidance received from the Federal Highway Administration and the Federal Transit Administration on addressing planning emphasis areas
3. FFY 2015 UPWP comment letters and project proposals
4. Consultations with MassDOT, MAPC, and the MBTA
5. MPO staff-identified needs

MPO staff also requested planning project suggestions through outreach at MAPC subregional group meetings, at Regional Transportation Advisory Council meetings, and through outreach to the public at LRTP-, TIP- and UPWP-Development sessions, and workshops. Proposed planning projects are documented in the FFY 2016 UPWP Universe of Proposed New Projects, which is available in Appendix C of this UPWP.

1.4.3 New Planning Project Selection Process

After generating a universe of new proposed planning projects, MPO staff rated each proposed project in 14 focus areas in order to assess what visions, goals, policies, factors, and priorities the project would be likely to advance. These focus areas are based on the MPO's visions and policies, national goals and planning factors, federal guidance, and other state and regional priorities, including those outlined in other regional planning documents. The focus areas include:

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

In addition to conducting focus area reviews, MPO staff defined general scopes and estimated costs for proposed planning projects and considered potential study feasibility issues. MPO staff also noted how the proposed project might support *Paths to a Sustainable Region* visions and the types of functions that the project might fulfill, including serving regional transportation stakeholders; supporting MPO planning; or contributing to the region's transportation knowledge base. These various factors, along with the availability of funds for new studies, were considered as staff identified a recommended set of new proposed planning projects for review by the UPWP Committee. These proposed projects, along with their estimated costs, focus area rating results, potential relationships to *Paths to a Sustainable Region* visions, potential transportation-planning functions, relationship to the staff recommendation, and supporting comments are all documented in the FFY 2016 UPWP Universe of Proposed New Projects in Appendix C.

The UPWP Committee met five times to consider and provide guidance on the development process, proposed budgets for ongoing and continuing activities, new study ideas, idea ratings, and the staff recommendation for new projects. As part of this series of meetings, the Committee developed its recommendation for a public review Draft FFY 2016 UPWP. For this UPWP, the Committee selected a program of new studies that was based on the availability of funding and the factors described above, including planning priorities and state and federal guidelines. The MPO approved the UPWP Committee's recommendations for the public review of Draft FFY 2016 UPWP on June 11, 2015.

1.4.4 Finalizing the UPWP

Descriptive and financial information about ongoing, continuing, and new UPWP projects, along with information about the UPWP development process and other major transportation-planning projects occurring in the region, is incorporated into the public review Draft UPWP. Once the MPO votes to release the draft for public review, MPO staff posts the document for downloading from the MPO website (www.bostonmpo.org) and provides notice of its availability through

various media and MPO communication outlets. The public review and comment period lasts 30 days, during which time MPO staff members conduct workshops and make presentations at meetings to discuss and collect feedback on the draft document. Comments provided through other venues, including the MPO website, are also compiled during this time and presented to the MPO. Information about the public review process for Draft FFY 2016 UPWP is available in Appendix B.

1.5 FUNDING THE PROJECTS

The funding for the projects included in this UPWP (presented in Chapters 4 through 7) comes from a variety of federal and state sources, as described below. The source of funds has important implications with regard to which agency or organization is responsible for programming them, as well as the MPO's vote to approve both the UPWP and the subsequent work scopes for the projects included in it. The purview of the MPO is included in each of the funding descriptions.

- **FHWA 3C Planning (PL)/MassDOT Local Match** – These are FHWA planning funds distributed to MassDOT's Office of Transportation Planning (OTP), according to an allocation formula established by federal legislation, to carry out the 3C planning process. OTP distributes these funds to Massachusetts MPOs according to a formula based on population. The FFY 2016 3C PL funding allocation for the Boston Region MPO is \$2,708,770, which includes \$668,832 in state matching funds. The MPO votes on both the use of funds and the use of MPO staff for projects in this funding category.
- **FHWA Statewide Planning and Research (SPR)/MassDOT Local Match** – As in the case of 3C PL funds, FHWA provides SPR funds to OTP according to a distribution formula. OTP uses these funds to carry out planning and research projects throughout the state. This UPWP describes only the SPR projects that will be conducted in the Boston Region MPO area; however, OTP provides a complete listing of how these funds are distributed statewide in a document called the SPR Transportation-Planning Work Program. SPR funds in the amount of \$495,000 (including \$99,000 in state matching funds) are programmed in this UPWP for projects to be conducted by MPO staff. The MPO's role is to approve the use of MPO staff for projects in this category and to make recommendations on work scopes for implementing them. The MPO's role in these projects is crucial to the 3C process because it

provides an opportunity to coordinate projects with other related transportation work efforts that may be planned for the same area.

- **FTA/MassDOT 3C Planning (§5303) and MAPC Local Match** – FTA provides 3C planning funds for transit projects to MPOs under Section 5303 of the Federal Transit Act. These funds require a local match, are distributed according to an allocation formula, and are administered by MassDOT. The FFY 2016 FTA allocation, including a total local match for FFY 2016, is \$2,183,900. The total amount programmed in this UPWP for projects to be conducted by MPO staff, MassDOT, and MAPC on behalf of the MPO is \$1,890,140. As is the case for FHWA 3C PL funds, the MPO votes on both the use of these funds and the use of MPO staff on projects in this category.
- **MassDOT** – Funds in the amount of \$360,100 for MassDOT projects are included in this UPWP. The MPO's role is to approve the use of MPO staff time for these projects and to make recommendations on the work scopes for implementing them.
- **MBTA** – The MBTA provides \$1,328,720, in funding for this UPWP for transit projects to be conducted by MPO staff. As is the case of the SPR and MassDOT funds described above, the MPO's role is to approve the use of MPO staff time for these projects and to make recommendations on the work scopes for implementing them.
- **Other** – This UPWP also includes \$50,000 in funding provided by Massport for work being conducted by MPO staff on its behalf. The MPO's role is to vote on the use of MPO staff time for these projects and to make recommendations on the work scopes for implementing them.

1.6 MONITORING THE PROJECTS

The following procedures for monitoring the projects in this UPWP were approved by the MPO:

- Project work scopes supported by federal 3C planning funds must be approved by the MPO prior to the start of any CTPS activity.
- Monthly progress reports on all active projects must be submitted to the respective funding agency by CTPS and/or MAPC. The reports must include the following information for each project:
 - Brief narrative describing the work accomplished by task
 - Key personnel attendance at meeting(s) held each week

- Objectives/planned activities for the next month
- Percent of work completed by task
- Some measure of actual resources (hours, funds, etc.) charged to the contract over the past month
- Comparison of actual cumulative resources expended compared to the contract budget
- A quarterly report is presented by CTPS comparing the UPWP project budgets with the actual project spending.
- MPO approval for release of a 3C-funded project's work products is based on whether the objectives stated in the work scope were met and whether the stated deliverables were produced.

1.7 AMENDMENTS AND ADMINISTRATIVE MODIFICATIONS TO THE UPWP

Amendments and administrative modifications may be made to the UPWP, when necessary, throughout the year. If an amendment is under consideration, the Regional Transportation Advisory Council and other interested parties, including any affected communities, are notified. The MPO follows the procedures specified in the MPO's Public Participation Plan. Members of the public may attend and present comments at UPWP Committee meetings and MPO meetings at which amendments and administrative modifications are discussed. Administrative modifications may be made by the MPO without legal notice or a public review period, although these may be provided at the MPO's discretion.



Status of the Federal Fiscal Year 2015 UPWP Projects Conducted by Boston Region MPO Staff

2.1 INTRODUCTION TO FFY 2015 PROJECTS

During federal fiscal year (FFY) 2015, CTPS and MAPC conducted numerous projects for the MPO or for transportation agencies such as MassDOT, the MBTA, or Massport. For reporting purposes, these projects have been divided into four categories:

- **Completed:** These projects are either already complete or expected to be complete by October 1, 2015, when this document goes into effect.
- **Ongoing:** These ongoing projects and programs support the transportation-planning process from year to year.
- **Continuing Discrete:** These projects are continuing from FFY 2015 into FFY 2016. However, unlike ongoing activities that take place each federal fiscal year, these projects have a specific, limited duration. The projected percentage completed as of October 1, 2015, for each of these projects is included in the project descriptions presented in Chapters 6 and 7.
- **Inactive:** Contrary to expectations, when the FFY 2015 UPWP was being developed, work on these projects did not begin during FFY 2015.

2.2 FFY 2015 PROJECT AND BUDGET TABLES AND WORK PRODUCTS

This chapter includes four tables that describe the status of FFY 2015 projects. Tables 2-1 through 2-4 group the projects together according to the four categories described previously and provide FFY 2015 budget information for each project. Table 2-5 summarizes the project funding in each of the four categories. This chapter also contains Table

Boston Region MPO

2-6, which lists the projects expected to be complete in FFY 2014, but were completed, or are expected to be complete in FFY 2015. The FFY 2014 project budgets are provided in this table.

Following these six tables is a listing of work products and activities resulting from FFY 2015 UPWP projects, along with applicable work products from previous fiscal years. Information is provided on how to obtain MPO-approved reports.

**TABLE 2-1:
Complete FFY 2015 UPWP Projects with FFY 2015 UPWP Budgets**

UPWP Project	FFY 2015 UPWP Project ID	FFY 2015 PL Funding	FFY 2015 MPO \$5303 Funding	FFY 2015 SPR Funding	FFY 2015 MassDOT Funding	FFY 2015 MassDOT \$5303 Funding	FFY 2015 MBTA Funding	FFY 2015 Other Funding	FFY 2015 Total Funding
Barriers and Opportunities Influencing Mode Shift	11148	\$14,490	\$6,210	\$0	\$0	\$0	\$0	\$0	\$20,700
Bicycle Network Gaps: Feasibility Evaluations	11250	\$55,000	\$0	\$0	\$0	\$0	\$0	\$0	\$55,000
Foxborough JARC Transit Feasibility Study	43321	\$0	\$0	\$0	\$0	\$0	\$0	\$25,000	\$25,000
Greenhouse Gas Reduction Strategy Alternatives: Cost-Effectiveness Analysis	11151	\$5,390	\$2,310	\$0	\$0	\$0	\$0	\$0	\$7,700
Integrating Land Use in Regional Transportation Models ^{a,b}	11704	\$35,910	\$15,390	\$0	\$0	\$0	\$0	\$0	\$51,300
Low-Cost Improvements to Freeway Bottleneck Locations: FFY 2015	13268	\$40,000	\$0	\$0	\$0	\$0	\$0	\$0	\$40,000
Massachusetts Turnpike Allston Interchange Traffic Study	53219	\$0	\$0	\$0	\$84,000	\$0	\$0	\$0	\$84,000
MBTA 2014 Review of Fare Structure, Tariffs, and Policy	11378	\$0	\$0	\$0	\$0	\$0	\$60,000	\$0	\$60,000
MBTA 2014 National Transit Database: Data Collection and Analysis	14340	\$0	\$0	\$0	\$0	\$0	\$3,000	\$0	\$3,000
MBTA 2015 Title VI Program Monitoring	11394	\$0	\$0	\$0	\$0	\$0	\$49,000	\$0	\$49,000
Safety Analysis for Intersections Near MAGIC Schools ^{b,c}	13269	\$7,400	\$4,850	\$0	\$0	\$0	\$0	\$0	\$12,250

Cont'd.

TABLE 2-1:
Complete FFY 2015 UPWP Projects with FFY 2015 UPWP Budgets (Continued)

UPWP Project	FFY 2015 UPWP Project ID	FFY 2015 PL Funding	FFY 2015 MPO \$5303 Funding	FFY 2015 SPR Funding	FFY 2015 MassDOT Funding	FFY 2015 MassDOT \$5303 Funding	FFY 2015 MBTA Funding	FFY 2015 Other Funding	FFY 2015 Total Funding
South Boston Waterfront Transportation Plan: Modeling Support	23325	\$0	\$0	\$0	\$1,500	\$0	\$0	\$0	\$1,500
South Station Expansion Project Support	12311, 12320-12323	\$0	\$0	\$0	\$20,000	\$0	\$0	\$0	\$20,000
Title VI Service Equity Analyses: Methodology Development	11396	\$0	\$55,000	\$0	\$0	\$0	\$0	\$0	\$55,000
Total for Complete FFY 2015 UPWP Projects		\$158,190	\$83,760	\$0	\$105,500	\$0	\$112,000	\$25,000	\$484,450

Note: Projects shown in this table have been completed or are expected to be complete by October 1, 2015.

^a Ongoing work that was conducted under the Integrating Land Use in Regional Transportation Models project in FFY 2015 will be conducted as part of the Regional Model Enhancements project in FFY 2016.

^b A FFY 2015 UPWP budget adjustment approved by the MPO's UPWP Committee on 7/23/2015 reduced the Integrating Land Use in Regional Transportation Models budget by \$16,200 and the Safety Analysis at Intersections near MAGIC Schools budget by \$10,000. Updated budgets are shown in this table.

^c The Safety Analysis at Intersections near MAGIC Schools project may be amended out of the FFY 2015 UPWP as part of FFY 2015 UPWP Amendment One, pending MPO approval.

MAGIC = Minuteman Advisory Group on Interlocal Coordination. PL = Metropolitan Planning. SPR = State Planning and Research.

TABLE 2-2:
Continuing Discrete FFY 2015 UPWP Projects with FFY 2015 UPWP Budgets (continued)

UPWP Project	FFY 2015 UPWP Project ID	FFY 2015 PL Funding	FFY 2015 MPO §5303 Funding	FFY 2015 SPR Funding	FFY 2015 MassDOT Funding	FFY 2015 MassDOT §5303 Funding	FFY 2015 MBTA Funding	FFY 2015 Other Funding	FFY 2015 Total Funding
Addressing Safety, Mobility, and Access on Subregional Priority Roadways: FFY 2015	13266	\$66,000	\$44,000	\$0	\$0	\$0	\$0	\$0	\$110,000
Core Capacity Constraints	23326	\$50,000	\$70,000	\$0	\$0	\$0	\$0	\$0	\$120,000
Fairmount Line Station Access Analysis ^a	11249	\$32,000	\$8,000	\$0	\$0	\$0	\$0	\$0	\$40,000
Green Line Extension: Completion of New Starts Analysis	22336	\$0	\$0	\$0	\$0	\$0	\$12,000	\$0	\$12,000
Household-Survey-Based Travel Profiles and Trends: Selected Policy Topics ^b	11152	\$30,500	\$19,500	\$0	\$0	\$0	\$0	\$0	\$50,000
I-93/I-95 Interchange Improvements North of Boston: Modeling Support	73216	\$0	\$0	\$0	\$42,500	\$0	\$0	\$0	\$42,500
Intercity Bus and Rail Maps	14344	\$0	\$0	\$0	\$40,000	\$0	\$0	\$0	\$40,000
MassDOT State Planning and Research Program Support ^c	Varies by Project	\$0	\$0	\$559,000	\$0	\$0	\$0	\$0	\$559,000
MassDOT Title VI Program: FFY 2014 ^d	13154	\$0	\$0	\$0	\$70,000	\$0	\$0	\$0	\$70,000
MassDOT Title VI Program: FFY 2015 ^d	13156	\$0	\$0	\$0	\$40,000	\$0	\$0	\$0	\$40,000
MassDOT Transit Planning Assistance ^e	Varies by Project	\$0	\$0	\$0	\$0	\$264,770	\$0	\$0	\$264,770
Massport Technical Assistance: SFY 2015-17 ^f	22125	\$0	\$0	\$0	\$0	\$0	\$0	\$37,500	\$37,500

Cont'd.

**TABLE 2-2:
Continuing Discrete FFY 2015 UPWP Projects with FFY 2015 UPWP Budgets (continued)**

UPWP Project	FFY 2015 UPWP Project ID	FFY 2015 PL Funding	FFY 2015 MPO §5303 Funding	FFY 2015 SPR Funding	FFY 2015 MassDOT Funding	FFY 2015 MassDOT §5303 Funding	FFY 2015 MBTA Funding	FFY 2015 Other Funding	FFY 2015 Total Funding
MBTA 2015 National Transit Database: Data Collection and Analysis	14341	\$0	\$0	\$0	\$0	\$0	\$88,000	\$0	\$88,000
MBTA 2016 National Transit Database: Data Collection and Analysis	14345	\$0	\$0	\$0	\$0	\$0	\$31,250	\$0	\$31,250
MBTA 2016 Title VI Program Monitoring	11395	\$0	\$0	\$0	\$0	\$0	\$3,500	\$0	\$3,500
MBTA Bus Service Data Collection VIII	11384	\$0	\$0	\$0	\$0	\$0	\$110,000	\$0	\$110,000
MBTA Rider Oversight Committee Support	14339	\$0	\$0	\$0	\$0	\$0	\$6,000	\$0	\$6,000
Priority Corridors for LRTP Needs Assessment: FFY 2015	13267	\$66,000	\$44,000	\$0	\$0	\$0	\$0	\$0	\$110,000
Total for Continuing Discrete FFY 2015 UPWP Projects		\$244,500	\$185,500	\$559,000	\$192,500	\$264,770	\$250,750	\$37,500	\$1,734,520

^aThe Fairmount Line Station Access Analysis project may receive a transfer of \$12,250 in FFY 2015 UPWP funds as part of FFY 2015 UPWP Amendment One, pending MPO approval.

^b A FFY 2015 UPWP budget adjustment approved by the MPO's UPWP Committee on 7/23/2015 reduced the Household Survey-Based Travel Profiles and Trends: Selected Policy Topics budget by \$25,000. The updated budget is shown in this table.

^cThis UPWP entry is funded by contracts that support multiple individual projects or tasks. Two contracts support this project: one that began in April 2014 and ended in March 2015, and one that began in April 2015 and will end in March 2016. The dollar amount shown for this project reflects the portions of each contract (salary and overhead costs only) that are applicable to FFY 2015. (Direct costs are reflected in Table 2-3: Ongoing FFY 2015 UPWP Projects with FFY 2015 UPWP Budgets.)

^dIn FFY 2016, the MassDOT Title VI Program will cover any active MassDOT Title VI Program contracts.

^eThis UPWP entry is funded by contracts that support multiple individual projects or tasks. Two contracts support this project: one that began in July 2014 and will end 2015, and one that will begin in July 2015 and will end in June 2016. The dollar amount shown for this project reflects the portions of each contract (salary and overhead costs only) that are applicable to FFY 2015. (Direct costs are reflected in Table 2-3: Ongoing FFY 2015 UPWP Projects with FFY 2015 UPWP Budgets.)

^fThis UPWP entry is funded by a contract that supports multiple individual projects or tasks.

PL = Metropolitan Planning. SFY = State Fiscal Year. SPR = State Planning and Research.

TABLE 2-3
Ongoing FFY 2015 UPWP Projects with FFY 2015 UPWP Budgets (Continued)

UPWP Project	FFY 2015 UPWP Project ID	FFY 2015 PL Funding	FFY 2015 MPO §5303 Funding	FFY 2015 SPR Funding	FFY 2015 MassDOT Funding	FFY 2015 MassDOT §5303 Funding	FFY 2015 MBTA Funding	FFY 2015 Other Funding	FFY 2015 Total Funding
3C Planning and MPO Support ^a	90011- 90900	\$411,390	\$176,310	\$0	\$0	\$0	\$0	\$0	\$587,700
Access Advisory Committee Support	90024	\$60,340	\$25,860	\$0	\$0	\$0	\$0	\$0	\$86,200
Air Quality Conformity and Support Activities ^a	90061	\$21,000	\$9,000	\$0	\$0	\$0	\$0	\$0	\$30,000
Alternative-Mode Planning and Coordination	MAPC7	\$102,600	\$67,400	\$0	\$0	\$0	\$0	\$0	\$170,000
Bicycle/Pedestrian Support Activities	13208	\$28,000	\$12,000	\$0	\$0	\$0	\$0	\$0	\$40,000
Boston Region MPO Title VI Reporting	11355	\$12,040	\$5,160	\$0	\$0	\$0	\$0	\$0	\$17,200
Community Transportation Technical Assistance Program ^a	13150, MAPC9	\$47,790	\$21,910	\$0	\$0	\$0	\$0	\$0	\$69,700
Computer Resource Management ^a	60405- 60492	\$329,630	\$141,270	\$0	\$0	\$0	\$0	\$0	\$470,900
Congestion Management Process	11123	\$64,400	\$27,600	\$0	\$0	\$0	\$0	\$0	\$92,000
Corridor/Subarea Planning Studies	MAPC4	\$112,180	\$55,300	\$0	\$0	\$0	\$0	\$0	\$167,480
Data Resources Management ^a	60120- 60600	\$271,110	\$116,190	\$0	\$0	\$0	\$0	\$0	\$387,300
Direct Support	90000	\$37,000	\$22,000	\$18,000	\$100	\$3,500	\$970	\$500	\$82,070
Freight Planning Support: FFY 2015 ^b	11145	\$41,000	\$0	\$0	\$0	\$0	\$0	\$0	\$41,000

Cont'd.

TABLE 2-3
Ongoing FFY 2015 UPWP Projects with FFY 2015 UPWP Budgets (Continued)

UPWP Project	FFY 2015 UPWP Project ID	FFY 2015 PL Funding	FFY 2015 MPO §5303 Funding	FFY 2015 SPR Funding	FFY 2015 MassDOT Funding	FFY 2015 MassDOT §5303 Funding	FFY 2015 MBTA Funding	FFY 2015 Other Funding	FFY 2015 Total Funding
Land-Use Data for Transportation Modeling	MAPC10	\$53,600	\$26,400	\$0	\$0	\$0	\$0	\$0	\$80,000
Land-Use Development Project Reviews	MAPC5	\$59,400	\$30,600	\$0	\$0	\$0	\$0	\$0	\$90,000
Livable Community Workshop Program ^a	13801, MAPC8	\$18,720	\$15,880	\$0	\$0	\$0	\$0	\$0	\$34,600
Long-Range Transportation Plan ^a	10101	\$221,270	\$97,830	\$0	\$0	\$0	\$0	\$0	\$319,100
MetroFuture Implementation	MAPC6	\$69,400	\$30,600	\$0	\$0	\$0	\$0	\$0	\$100,000
MPO/MAPC Liaison and Support Activities	MAPC1	\$109,000	\$48,000	\$0	\$0	\$0	\$0	\$0	\$157,000
Provision of Materials in Accessible Formats ^a	90028	\$59,570	\$25,530	\$0	\$0	\$0	\$0	\$0	\$85,100
Regional Model Enhancement	11244	\$489,510	\$209,790	\$0	\$0	\$0	\$0	\$0	\$699,300
Regional Transit Service Planning Technical Support ^a	14342	\$0	\$9,100	\$0	\$0	\$0	\$0	\$0	\$9,100
Roadway Safety Audits	11150	\$13,100	\$0	\$0	\$0	\$0	\$0	\$0	\$13,100
Subregional Support Activities	MAPC2	\$109,000	\$48,000	\$0	\$0	\$0	\$0	\$0	\$157,000

Cont'd.

TABLE 2-3
Ongoing FFY 2015 UPWP Projects with FFY 2015 UPWP Budgets (Continued)

UPWP Project	FFY 2015 UPWP Project ID	FFY 2015 PL Funding	FFY 2015 MPO §5303 Funding	FFY 2015 SPR Funding	FFY 2015 MassDOT Funding	FFY 2015 MassDOT §5303 Funding	FFY 2015 MBTA Funding	FFY 2015 Other Funding	FFY 2015 Total Funding
Transportation Equity/Environmental Justice Support ^a	11147	\$75,180	\$32,220	\$0	\$0	\$0	\$0	\$0	\$107,400
Transportation Improvement Program ^a	10103	\$103,320	\$44,280	\$0	\$0	\$0	\$0	\$0	\$147,600
Travel Data Forecasts	90080	\$5,460	\$2,340	\$0	\$0	\$0	\$0	\$0	\$7,800
Travel Operations Analyses	90040	\$0	\$7,900	\$0	\$0	\$0	\$0	\$0	\$7,900
Unified Planning Work Program (CTPS)	10104	\$71,540	\$30,660	\$0	\$0	\$0	\$0	\$0	\$102,200
Unified Planning Work Program (MAPC)	MAPC3	\$7,000	\$3,000	\$0	\$0	\$0	\$0	\$0	\$10,000
Total for Ongoing FFY 2015 UPWP Projects		\$3,003,550	\$1,342,130	\$18,000	\$100	\$3,500	\$970	\$500	\$4,368,750

^aA FFY 2015 UPWP budget adjustment approved by the MPO's UPWP Committee on 7/23/2015 increased the 3C Planning and MPO support budget by \$6,700; reduced the Air Quality Conformity and Support Activities budget by \$22,100; increased the Community Transportation Technical Assistance Program budget by \$1,000; increased the Computer Resources Management budget by \$29,000; increased the Data Resource Management budget by \$30,000; reduced the Livable Community Workshop Program budget by \$20,000; increased the Long-Range Transportation Program budget by \$47,900; increased the Provision of Materials in Accessible Formats budget by \$13,000; reduced the Regional Transit Service Planning Technical Support Program by \$3,000; reduced the Transportation Equity/Environmental Justice Support budget by \$4,500; and reduced the Transportation Improvement Program budget by \$26,800. Updated budgets are shown in this table.

^b For FFY 2016, this project is listed as Freight Planning Support: FFY 2016.

3C = continuing, cooperative, and comprehensive transportation-planning process. PL = Metropolitan Planning. SPR = State Planning and Research.

**TABLE 2-4:
Inactive FFY 2015 UPWP Projects with FFY 2015 UPWP Budgets**

UPWP Project	FFY 2015 UPWP Project ID	FFY 2015 PL Funding	FFY 2015 MPO §5303 Funding	FFY 2015 SPR Funding	FFY 2015 MassDOT Funding	FFY 2015 MassDOT §5303 Funding	FFY 2015 MBTA Funding	FFY 2015 Other Funding	FFY 2015 Total Funding
MBTA 2015 Review of Fare Structure, Tariffs, and Policy	11393	\$0	\$0	\$0	\$0	\$0	\$100,000	\$0	\$100,000
Total for Inactive FFY 2015 UPWP Projects		\$0	\$0	\$0	\$0	\$0	\$100,000	\$0	\$100,000

PL = Metropolitan Planning. SPR = State Planning and Research.

**TABLE 2-5:
FFY 2015 UPWP Project Status and Funding Summary**

UPWP Project	FFY 2015 PL Funding	FFY 2015 MPO \$5303 Funding	FFY 2015 SPR Funding	FFY 2015 MassDOT Funding	FFY 2015 MassDOT \$5303 Funding	FFY 2015 MBTA Funding	FFY 2015 Other Funding	FFY 2015 Total Funding
Completed FFY 2015 UPWP Projects	\$158,190	\$83,760	\$0	\$105,500	\$0	\$112,000	\$25,000	\$484,450
Continuing Discrete FFY 2015 UPWP Projects	\$244,500	\$185,500	\$559,000	\$192,500	\$264,770	\$250,750	\$37,500	\$1,734,520
Ongoing FFY 2015 UPWP Projects	\$3,003,550	\$1,342,130	\$18,000	\$100	\$3,500	\$970	\$500	\$4,368,750
Inactive FFY 2015 UPWP Projects	\$0	\$0	\$0	\$0	\$0	\$100,000	\$0	\$100,000
Total for FFY 2015 UPWP Projects	\$3,406,240	\$1,611,390	\$577,000	\$298,100	\$268,270	\$463,720	\$63,000	\$6,687,720

PL = Metropolitan Planning. SPR = State Planning and Research.

**TABLE 2-6:
FFY 2014 UPWP Projects Complete in FFY 2015 with FFY 2014 UPWP Budgets**

UPWP Project	FFY 2014 UPWP Project ID	FFY 2014 PL Funding	FFY 2014 MPO \$5303 Funding	FFY 2014 SPR Funding	FFY 2014 MassDOT Funding	FFY 2014 MassDOT \$5303 Funding	FFY 2014 MBTA Funding	FFY 2014 Other Funding	FFY 2014 Total Funding
Addressing Safety, Mobility, and Access on Subregional Priority Roadways: FFY 2014	13265	\$68,000	\$12,000	\$0	\$0	\$0	\$0	\$0	\$80,000
Environmental Justice and Title VI Analysis Methodology Review	11389	\$36,000	\$24,000	\$0	\$0	\$0	\$0	\$0	\$60,000
MassDOT Transit Planning Assistance ^a	11380	\$0	\$0	\$0	\$0	\$256,120	\$0	\$0	\$256,120
Methodology for Evaluating the Potential for Limited-Stop Service on Transit Routes	11390	\$0	\$52,000	\$0	\$0	\$0	\$0	\$0	\$52,000
Pedestrian Signal Phasing Study	13264	\$30,000	\$0	\$0	\$0	\$0	\$0	\$0	\$30,000
Priority Corridors for LRTP Needs Assessment: FFY 2014	13257	\$73,500	\$31,500	\$0	\$0	\$0	\$0	\$0	\$105,000
Safety and Operations Analyses at Selected Intersections: FFY 2014	13261	\$45,630	\$21,470	\$0	\$0	\$0	\$0	\$0	\$67,100
TIP Project Impacts Before-After Evaluations: FFY 2014	12203	\$40,000	\$0	\$0	\$0	\$0	\$0	\$0	\$40,000
Traffic Signal Retiming Program	13263	\$36,000	\$4,000	\$0	\$0	\$0	\$0	\$0	\$40,000
Transportation Investments for Economic Development	11149	\$39,900	\$10,100	\$0	\$0	\$0	\$0	\$0	\$50,000
Total for FFY 2014 UPWP Projects Complete in FFY 2015	blank	\$369,030	\$155,070	\$0	\$0	\$256,120	\$0	\$0	\$780,220

Note: Projects shown in this table have been completed or are expected to be complete by October 1, 2015.

^aThis UPWP entry is funded by a contract that supports multiple individual projects or tasks. The dollar amount shown reflects salary, overhead, and direct costs that were applicable to FFY 2014.

HOV = High Occupancy Vehicle. PL = Metropolitan Planning. SPR = State Planning and Research.

2.3 FFY 2015 UPWP WORK PRODUCTS

Reports, memoranda, and other work products and activities associated with the projects in the federal fiscal year (FFY) 2015 UPWP are listed below. These products and activities are either complete or expected to be complete by the end of FFY 2015. Please note that some titles may change as products are finalized. All certification documents and many other work products are, or will be, available for download from the MPO website (www.bostonmpo.org). Work products not found on the MPO website may be requested by contacting CTPS at 857-702-3700 (voice), 617-570-9193 (TTY), or ctps@ctps.org (email). MAPC work products can be found at www.mapc.org.

This list also includes products expected to be completed in FFY 2014 or earlier, but were completed (or are expected to be complete) in FFY 2015. These products are noted with an asterisk (*).

2.3.1 CTPS Work Products

Certification Documents

Charting Progress to 2040, the Boston Region MPO's next Long-Range Transportation Plan

Federal Fiscal Years 2015-18 Transportation Improvement Program Amendments and Administrative Modifications

Federal Fiscal Years 2016-20 Transportation Improvement Program and Determination of Air Quality Conformity

Federal Fiscal Year 2016 Unified Planning Work Program

Update to the Public Participation Program of the Boston Region Metropolitan Planning Organization*

Update to the Coordinated Public Transit Human-Services Transportation Plan for the Boston Region Metropolitan Planning Organization

MPO Metropolitan Transportation Planning: Certification Review Advance Materials (2014)

CTPS Reports

Environmental Justice and Title VI Analysis Methodology Review*

Exploring the 2011 Massachusetts Travel Survey: Barriers and Opportunities Influencing Mode Shift

Buzzards Bay Commuter Rail Extension Feasibility Study
MBTA Passenger Noninteraction with Automated Fare Collection Equipment
TIP Project Impacts Before-After Evaluation*

CTPS Technical Memoranda

Federal Fiscal Year (FFY) 2014-15 I-93 North and Southeast Expressway HOV Lane Monitoring memoranda for fall 2014, winter 2015, spring 2015, and summer 2015

Approach and Assumptions for *Charting Progress to 2040* Long-Range Transportation Plan Scenario-Planning Initiative

Bicycle Network Gaps: Feasibility Evaluations memoranda

Community Transportation Technical Assistance technical memoranda summarizing the planning recommendations for locations in Foxborough, Lynnfield, and North Reading

Federal Fiscal Year (FFY) 2015 Priority Corridors for Long-Range Transportation Plan (LRTP) Needs Assessment: Selection of Study Locations

FFY 2015 Addressing Safety, Mobility, and Access on Subregional Priority Roadways: Selection of Study Locations

Foxborough JARC Transit Feasibility Study

Long-Range Transportation Plan Needs Assessment Priorities

Greenhouse Gas Reduction Strategy Alternatives: Cost Effectiveness Analysis technical memorandum

Low-Cost Improvements to Express-Highway Bottleneck Locations: FFY 2015 memorandum for locations on I-95 at the I-90 Interchange and on I-93, south of I-95 in Woburn

Low-Cost Improvements to Express-Highway Bottleneck Locations Selection of Study Locations

MBTA 2015 Title VI Program Monitoring

Limited-Stop Study, Phase 1: Review of Limited-Stop Bus Service; Phase 2: Methodology for Evaluating Limited-Stop Bus Service Potential; and Phase 3: Limited-Stop Service Potential of MBTA Bus Routes*

Methodology for Title VI Service Equity Analysis

Regional Transit Service Planning Technical Support: CrossTown Connect

Programmed TIP and UPWP Funds by MPO Municipality: FFYs 2008-13

MBTA 2014 National Transit Database: Data Collection and Analysis

Roadway Network Inventory for Emergency Needs: A Pilot Study*
Pedestrian Signal Phasing Study*

Safety and Operations Analyses—Milford Selected Intersection: Medway Road at Kmart Driveway in Milford*

Safety and Operations Analyses—Westwood Selected Intersections: High Street at Nahatan Street and High Street at Pond Street in Westwood*

Safety and Operations Analyses—Weymouth Selected Intersection: Washington Street at Broad Street in Weymouth*

Regional Transit Service Planning Technical Support: Town of Hudson

Traffic Signal Retiming Program—Town of Medfield*

Traffic Signal Retiming Program—Town of Walpole*

Transportation Investments for Economic Development*

Washington Street Subregional Priority Roadway Study in Newton*

Other CTPS Work Products and Activities

- **Access Advisory Committee to the MBTA (AACT) Support** – Developed materials, coordinated with, and provided administrative support for, the Access Advisory Committee to the MBTA. Developed meeting agendas, notices, minutes, correspondence, mailing lists, and databases. Scheduled and planned meetings and services for the AACT Board of Directors. Created an accessibility checklist for MPO meetings and distributed MPO notices to other entities to facilitate outreach. Planned and coordinated a forum on Transit Accessibility. Prepared materials, facilitated outreach, and provided logistics services for the forum.
- **Addressing Safety, Mobility, and Access on Subregional Priority Roadways: FFY 2015** – Selected study location. Collected data and provided analysis for Route 3A in Hingham and Hull. Developed recommendations with the communities to address

safety, operational, and mobility needs of pedestrians, bicyclists, and motorists.

- **Air Quality Conformity and Support Activities** – Provided coordination and inputs related to the implementation of GreenDOT and the Global Warming Solutions Act. Developed Motor Vehicle Emission Simulator (MOVES) emission factors. Performed air quality analyses and evaluations of requested projects for various pollutants. Conducted individual project analyses for use in GreenDOT implementation. Provided analysis and consultation for the statewide Congestion Mitigation and Air Quality (CMAQ) program.
- **All-Hazards Planning** – Participated in regional meetings focused on planning for climate-change impacts. Provided maintenance support for the MPO's All-Hazards Planning data set for use in TIP and LRTP development and other activities. Reviewed available data for possible inclusion in the All-Hazards Planning data set. Prepared briefings and memoranda for internal or MPO communications, as needed.
- **Bicycle/Pedestrian Support Activities** – Updated MPO bicycle and pedestrian traffic count interactive database. Reviewed opportunities to improve the MPO's bicycle and pedestrian data collection program.
- **Boston Region MPO Title VI Reporting** – Provided an annual update to MassDOT.
- **Cape Cod Canal Study** – Advised the project team about the development of market segments to better understand bridge users. Reviewed analysis results.
- **Community Transportation Technical Assistance Program** – Performed site visits to municipalities, provided consultations, recommended improvements, and facilitated reporting.
- **Computer Resource Management** – Provided maintenance and enhancements to CTPS's desktop and server computer systems; computer network back-up system; and peripheral devices such as printers, plotters, and mass-storage devices.
- **Congestion Management Process** – Analyzed purchased speed- and travel-time data for freeways and arterials. Collected data, provided analysis, and developed documentation for MBTA station parking lots and for bicycle parking at MBTA stations. Supported the CMP Committee. Developed and applied CMP performance measures for use in the LRTP. Supported the TIP Intersections

Improvement Program for the retiming of traffic signals. Developed congestion scans, monitored the TIP intersection program, analyzed regional economic congestion costs, and investigated other data sources for monitoring the region's transportation system.

- **Core Capacity Constraints** – Drafted memorandum documenting study findings. Drafted memorandum discussing the existing review processes used by core area communities to evaluate transportation-mitigation strategies.
- **Data Resources Management** – Provided maintenance and enhanced CTPS's database of standard reference geographic information system (GIS) layers and GIS layers required to carry out particular projects. Updated databases with new versions of standard reference GIS layers released by MassGIS, the MassDOT Office of Transportation Planning, and other agencies. Created GIS maps, computer map files, tables of socioeconomic and travel-related data, databases. Analyzed data.
- **Everett Transit Needs Study** – Developed tabular and graphical modeling work summaries, performed air quality analyses, and conducted environmental justice analyses. Created memorandum documenting methodology and results.
- **Fairmount Line Station Access Analysis** – Evaluated the areas surrounding the stations and provided recommendations to improve pedestrian and bicycle access to the stations.
- **Freight Planning Support: FFY 2015** – Supported the MPO and the Regional Transportation Advisory Council and coordinated MPO efforts with freight stakeholders. Created a South Boston waterfront truck travel profile with information by land-use type.
- **Ferry Compact Technical Assistance** – Provided technical assistance to the Massachusetts Ferry Transportation Compact.
- **General Graphics** – Created maps, charts, graphs, illustrations, report covers, brochures, posters, presentations, flyers, photographs, and other products to communicate information visually to the MPO.
- **Green Line Extension Completion of New Starts Analysis** – Supported the MBTA on the Green Line Extension FTA New Starts process. Created memoranda documenting the results of an economic impact analysis. Provided data from an on-board survey of off-peak commuter rail service, which will be impacted by Green Line Extension construction. Analyzed the survey data and provided recommendations for replacement transit strategies.

- **Household Survey-Based Travel Profiles and Trends: Selected Policy Topics** – Performed research using Massachusetts travel survey data to create community travel profiles.
- **I-93/I-95 Interchange Improvements North of Boston: Modeling Support** – Performed data analysis and summarized modeling results.
- **Integrating Land Use with Regional Transportation Models** – Worked on programs that will allow the Cube Land model to be used in a feedback environment with the TransCAD transportation model.
- **Intercity Bus and Rail Maps** – Created a New England Regional Transportation map depicting intercity bus and rail services and seasonal and year-round ferry services. Maps are provided in English, Spanish, Portuguese, Chinese and French.
- **Kendall Square Mobility Task Force** – Developed graphic and tabular summaries of modeling results.
- **Livable Community Workshop program** – Updated web-based data and maps for the MPO’s Livability Indicators database. Hosted Livable Community Workshops in MPO municipalities. Performed research; conducted site visits; and prepared materials and memoranda to support and document workshop discussions.
- **Long-Range Transportation Plan (LRTP) Needs Assessment Updates** – Gathered and incorporated data into the LRTP Needs Assessment databases, tables, and maps. Summarized identified needs to inform scenario planning and LRTP development. Reviewed and updated current Needs Assessment to provide the most up-to-date information to the MPO and the public. These updates incorporated the MPO regional travel demand model set’s new base year of 2012, which was developed using new census data and updated data sets, and a 2040 no-build scenario.
- **Massachusetts Turnpike Allston Interchange Traffic Study** – Documented methodology and results for Allston Interchange Study and Commonwealth Avenue Closure study.
- **MassDOT Diversity Posters** – Created eight diversity posters on the following topics: Asian Pacific Islanders; Gay, Lesbian, Bisexual, and Transgender; Disability Awareness; Hispanic Heritage; Native American; Black History; Women’s History; and Veteran’s Day.
- **MassDOT Road Inventory File** – Assisted MassDOT by updating MassDOT Road Inventory line work and attributes and other inventory enhancements.

- **MassDOT Title VI Program**– Provided ongoing technical support to the MassDOT Office of Diversity and Civil Rights. Assisted MassDOT in complying with FHWA and FTA Title VI requirements and responding to reporting deficiencies. Supported MassDOT in the implementation of its existing Title VI program; the preparation of its 2015 Title VI program for the FHWA; and in monitoring the compliance of its subrecipients, among other activities.
- **Massport Technical Assistance** – Created spreadsheet summaries of MBTA Silver Line passenger counts. Updated the Logan Ground Access Model.
- **MBTA 2014 Review of Fare Structure, Tariffs and Policy** – Developed and analyzed Youth Pass and University Pass programs. Analyzed other potential fare policy changes.
- **MBTA Bus Service Data Collection VIII** – Provided MBTA bus trip pointchecks and passenger counts on selected routes. Supported the MBTA in service planning.
- **MBTA Fiscal Year 2015 National Transit Database: Data Collection and Analysis** – Surveyed a sampling of passenger boardings and alightings on randomly selected directly-operated and purchased-service bus trips; surveyed a sampling of rail rapid transit passengers' trips.
- **MBTA Fiscal Year 2016 National Transit Database: Data Collection and Analysis** – Surveyed a sampling of passenger boardings and alightings on randomly selected directly-operated and purchased-services bus trips; surveyed a sampling of rail rapid transit passengers' trips.
- **MBTA-funded Graphics** – Created MBTA neighborhood maps and an MBTA Transit Map.
- **MBTA Rider Oversight Committee Support** – Provided technical assistance to the MBTA Rider Oversight Committee and attended committee and subcommittee meetings.
- **MBTA Service Standards and Service Delivery Policy: Phase II** – Reviewed the MBTA's service standards and service delivery policy. Identified portions of the standards and the policy to update in order to reflect both the large amounts of data available from various automated data collection systems and customer input.
- **MPO Public Participation Program** – Planned and implemented public outreach activities, which included producing materials to support the development of certification documents and other MPO

programs, and all other MPO public involvement activities. Developed and distributed surveys on MPO planning topics, and compiled and analyzed survey results. Developed LTRP outreach materials including handouts describing the overall LTRP process, transportation needs, and scenario planning, and handouts supporting the MAPC Winter Forum and other specific activities. Translated key documents. Prepared, publicized, and posted MPO notices and informational materials. Solicited responses to public comments on documents under review and gathered and continually responded to other comments, questions, and requests for information from the public. Prepared press releases, email notifications, Tweets, and website news flashes.

- **MPO Support (including support for the Congestion Management Program Committee, the UPWP Committee, and the Administration and Finance Committee)** – Prepared the FFY 2015 MPO Certification Activities schedules; planned meetings; communicated and coordinated with MPO members and interested parties; prepared meeting agendas, minutes, other meeting materials and informational materials, and various memoranda and presentations. Provided staff support for activities such as meeting logistics. Provided database maintenance. Prepared for the MPO's recertification review and prepared related materials.
- **MPO Website Development** – Posted meeting materials and minutes for all MPO meetings. Deployed Vehicle Miles Traveled (VMT) and Emissions data browser. Deployed Express Highway Performance Dashboard, Arterial Highway Performance Dashboard, and LRTP Needs Assessment web application. Updated data for interactive TIP database and bicycle/pedestrian traffic count web application. Added new entries to regional data catalog.
- **Other Accessibility Initiatives** – Ensured all meeting locations were free of physical barriers for people with limited mobility by using a meeting checklist and other means. Trained staff on the importance of accessibility and ways it can be achieved.
- **Other State Planning and Research (SPR) Graphics** – Developed a Massachusetts state map.
- **Performance Measures and Performance-Based Planning Process** – Developed staff recommendations for the MPO's performance-based planning process and performance measures.

- **Planning Topics** – Created notes documenting research and pertinent information for MPO consideration on topics such as climate change adaptation and all-hazards and emergency planning.
- **Pioneer Valley Technical Assistance** – Reviewed the suitability of the Pioneer Valley Planning Commission (PVPC) travel demand for conducting travel forecasts for the I-91 Interchange Improvement Project. Identified and corrected model deficiencies.
- **Priority Corridors for LRTP Needs Assessment: FFY 2015** – Selected study location. Collected data and analyzed Route 1A (Lynnway) in Lynn. Provided recommendations and worked with the community to address safety, operational, and mobility needs of pedestrians, bicyclists, and motorists.
- **Provision of Materials in Accessible Formats** – Ensured accessible formatting of the LRTP; the TIP and amendments; the UPWP; meeting minutes and agendas; materials for the MPO, the Regional Transportation Advisory Council, and the Access Advisory Committee to the MBTA (AACT); and other materials upon request. Developed and implemented procedures to ensure that the needs of people with disabilities are accommodated so that they can participate in the MPO’s transportation-planning and decision-making processes. Documented internal accessibility policies and procedures; maintained and updated document-production standards and templates (to ensure materials can be easily translated onto paper or into electronic formats that are accessible to people with limited vision); and maintained an accessible website.
- **Regional Model Enhancement** – Developed in-house training materials and model documentation.
- **Regional Model Enhancement, Land Use Enhancements** – Worked with MAPC to calibrate the Cube Land land-use allocation model and developed post-processing programs to make outputs suitable for use in TransCAD. Worked with MAPC to evaluate land-use allocations predicted by Cube Land.
- **Regional Model Enhancement, Model Updates** – Refined and calibrated the model set using statistics from the Massachusetts Statewide Travel Survey, which included the examination of commuter rail, transit lines, and bus routes. Began development of a scenario manager to support faster scenario creation and project coding. Built a new parking choice model. Converted the Logan Airport ground access model to TransCAD software. Developed a new truck model.

- **Regional Transit Service Planning Technical Support** – Provided technical assistance to regional transportation authorities, subregions, and municipalities to improve transit services.
- **Regional Transportation Advisory Council Support (including the Freight Committee, Program Committee, Membership Committee, LRTP Committee, TIP and UPWP committees, and ad hoc committees)** – Planned meetings; scheduled speakers; coordinated with the MPO; supported the Advisory Council election process; prepared meeting agendas, minutes, materials, and various memoranda; conducted outreach for new members; and coordinated the Advisory Council’s review and revision of the bylaws. Provided staff support for activities such as preparing for meetings and ensuring ADA compliance. Performed database maintenance.
- **Roadway Safety Audits** – Participated on audit teams for roadway safety audits.
- **Statewide Travel Model Assistance** – Made highway and transit skimming functions in the statewide model operational. Revised the transportation analysis zone (TAZ) structure in the model to reflect the 2010 Census. Prepared land-use inputs for trip generation processes.
- **South Boston Waterfront Transportation Plan: Modeling Support** – Loaded assigned transportation networks and associated data files into the transportation model.
- **South Station Expansion** – Provided model data to the project team.
- **Transportation Equity/Environmental Justice Program** – Engaged in transportation needs assessment outreach (including meetings) to organizations and agencies familiar with the needs of environmental justice areas, and developed memoranda to document outreach activities’ results. Coordinated a Transportation Equity Forum. Updated the transportation equity and environmental justice contact database. Supported MassDOT Division of Rail and Transit Community Transit Grant program, including solicitation notices and project evaluations. Updated information on available TMA and private carrier services. Developed a benefits and burdens threshold policy. Surveyed contacts in the environmental justice database. Conducted various demographic and socioeconomic analyses.

- **Transportation Improvement Program (TIP)** – Updated the Project Funding Application Form in the TIP Interactive Database; evaluated TIP projects using TIP evaluation criteria; and provided staff recommendations for the FFYs 2016–20 TIP. Analyzed impacts of TIP projects for performance measure development and greenhouse gas (GHG) emissions. Developed and circulated amendments to the FFYs 2015–18 TIP.
- **TRANSREPORT** – Produced the MPO’s bimonthly newsletter.
- **Travel Data Forecasts** – Responded to data requests about travel data forecasting.
- **Travel Operations Analyses** – Responded to requests for transit data.
- **Unified Planning Work Program (UPWP)** – Developed outreach materials and proposed projects; developed evaluation criteria and processes; provided staff recommendations for the FFY 2016 UPWP, developed FFY 2015 UPWP quarterly reports; and performed research to improve the UPWP development and monitoring process. Developed and circulated an amendment to the FFY 2015 UPWP.
- **Work Scopes** – Developed work scopes for MPO evaluation and approval and, where applicable, transmission to the FHWA and FTA.

2.3.2 MAPC Work Products

MAPC Reports and Technical Memoranda

Downtown Cohasset Parking Analysis

Downtown Malden Parking Analysis

Downtown Scituate Parking Analysis

Everett Casino Parking Technical Assistance memorandum

LandLine: MAPC’s Regional Greenway Plan

Lynnfield Downtown Technical Assistance memorandum

Melrose Lynn Fells Parkway Technical Assistance memorandum

Population and Housing Projections for Metro Boston

Regional Employment Projections for Metro Boston

Salem Bicycle Infrastructure Plan

Transit-Oriented-Development Opportunities and Impediments at Braintree MBTA Red Line Station

Transit-Oriented-Development Opportunities and Impediments at Dedham Corporate Center Commuter Rail Station

Other MAPC Work Products and Activities

- **Alternative Mode Planning and Coordination** – Assisted the 128 Business Council Transportation Management Association (TMA) with the development of automated dispatching software. Coordinated with Department of Conservation and Recreation (DCR) on advancing bicycle facilities on parkways. Worked with Boston, Cambridge, Somerville, and Brookline to support Hubway bicycle sharing program and supported Hubway system implementation and expansion planning. Updated and reformatted GIS off-road trail inventory to integrate MassDOT mapping into MAPC formats. Developed Municipal Complete Streets policies adopted by Acton, Beverly, Everett, Framingham, Maynard, Reading, and Salem. Procured regional parking meters for cities and towns. Procured vendor services to retrofit existing municipal vehicles to make them hybrid electric vehicles, and coordinated a workshop about this technology for interested municipalities. Developed technical memorandum for the CrossTown Connect TMA on strategies to fund local transit service.
- **Community Transportation Technical Assistance** – Conducted site visits to municipalities, provided consultations, and offered recommendations for improvements.
- **Corridor/Subarea Planning Studies** – Developed Right-Size Parking Calculator memo on the utilization rates of residential parking spaces at selected sites. Conducted an inventory of stream crossings in the Ipswich River Watershed to identify roadways and bridges with underperforming culverts or bridge spans.
- **Land-Use Data for Transportation Modeling** – Updated development database for creating employment projections used in LRTP and land-use allocation model activities.
- **Land-Use Development Project Reviews** – Developed comment letters analyzing major development projects across the region, including:
 - Wynn Everett Casino FEIR
 - Allston I-90 Interchange ENF

- I-495/I-90 Interchange ENF
- South Station Expansion DEIR
- Harvard Institutional Master Plan for Allston FEIR
- **Livable Communities Workshops** – Engaged with municipalities and recommended transportation and land-use improvements to support livability principles.
- **MetroFuture Implementation** – Provided MetroFuture community engagement at the local level, updated the Regional Indicators reports, and continued development of Smart Growth profiles.
- **MPO/MAPC Liaison and Support Activities** – Provided interagency coordination; developed work scopes; participated in advisory and corridor committees; conducted outreach for public participation, oversaw 2015 MPO elections, and attended relevant meetings. Prepared meeting agendas; coordinated with transportation agencies; reviewed traffic studies; developed presentations for the MPO; and supported subregion and corridor advisory committee meetings. Developed information for the MAPC Executive Committee, MAPC officers, and MAPC subregional groups on MPO transportation activities and issues. Supported TIP and LRTP project evaluations, focusing on land-use and economic development criteria.
- **Subregional Support Activities** – Supported subregional meetings and forums focused on transportation, land use, and economic development.
- **Unified Planning Work Program (UPWP)** – Provided UPWP project listings and monthly reports on UPWP activities. Supported CTPS staff by developing the FFY 2015 UPWP and specific project work scopes. Supported MAPC subregions regarding participation in the UPWP development process.



Index of Projects by Agency

This index of projects is intended both to facilitate finding specific projects in this document and to provide a summary of the various parts of this UPWP for which each agency is responsible.

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Administration and Resource Management Projects

Chapters 4 through 7 of the UPWP present project descriptions and budget information for transportation-planning work that will be carried out between October 1, 2015, and September 30, 2016. The activities described in these chapters will be conducted by the Central Transportation Planning Staff (CTPS) of the Boston Region Metropolitan Planning Organization (MPO) and by the Metropolitan Area Planning Council (MAPC) acting on behalf of the MPO.

The projects in the UPWP are funded by a variety of federal and state sources. Each project description identifies the project's funding source or sources. With respect to funding, there are two types of projects:

1. Projects funded with federal 3C planning funds, to be carried out by CTPS and MAPC. The MPO programs these funds and approves the use of staff time.
2. Projects funded from other sources (federal, state, and local), to be carried out by CTPS for an individual transportation agency. The MPO approves the use of staff time for these projects and provides guidance to the implementing entities on their coordination with other planning efforts.

In reviewing the project listings, it is important to remember that the 3C transportation-planning process is a coordinated effort that is often carried out simultaneously by several agencies. For example, when the MBTA hires a consultant to prepare an environmental impact report for a transit project, CTPS may provide the travel-demand and air-quality modeling for the consultant and MAPC may perform land-use analysis. Thus, if the same project is mentioned in more than one place in this UPWP, it is because of this kind of interagency coordination. To help clarify the distinctions between the various work activities, cross-referencing is provided, where appropriate, to show the interrelationship between projects.

Boston Region MPO

The budget tables for the Computer Resource Management and Data Resources Management projects in this chapter describe the salary and overhead costs associated with those projects. Any direct costs associated with these projects are included in the Direct Support budget table (page 4-6).

The administration and resource management projects, presented in this chapter, are:

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60405-60492	Computer Resource Management	4-3
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90000	Direct Support	4-6



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 60405-
60492

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

In order to carry out its functions, the MPO staff, CTPS, maintains state-of-the-practice computer resources through the following tasks:

60405 System Administration and Computer Room Management: Manage and maintain hardware and software for all CTPS computer systems to ensure that staff has maximum access to the computing resources required for its work, including an intranet site. Increased emphasis will be given to the security and integrity of all hardware, software, and data resources. Plan, monitor, and maintain CTPS's server room and computing facilities.

60406 Boston Region MPO Website: Develop and maintain a website that provides information regarding the MPO's activities, reports, and studies produced by MPO staff, a data catalogue, and several interactive-mapping applications. Continue to improve the site's design, information provided, and accessibility of this communication tool to those who are visually impaired. The website plays a critical role in the MPO's public-participation program by providing information and eliciting public comment. All MPO and Regional Transportation Advisory Council meetings, committee meetings, and their related materials are posted on the website.

60430 Software Development: Develop computer software to support CTPS's analytical, administrative, and documentation requirements. Maintain and enhance software developed by CTPS and/or others when program maintenance is no longer available from the original vendor.

60465 Staff Assistance and Training: Assist staff in using computer resources; organize and distribute vendor-supplied documentation, and, where appropriate, provide written and online user guides for particular resources.

60470 Liaison with Other Agencies: Work with other public agencies, including MAPC and the Commonwealth's Office of Geographic Information (MassGIS), to encourage sharing of computer and data resources and techniques.

COMPUTER RESOURCE MANAGEMENT [CONT.]



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 60405-60492

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

60475 Computing Resource Purchasing and Maintenance: Purchase and maintain CTPS's computing resources. These include in-house assets such as servers, desktop and laptop computers, tablet and handheld computers, mass-storage devices, networking and communications hardware, printers and plotters, system and application software, and consumable supplies. These also include out-of-house resources, such as software purchased as a service, cloud-based storage, and other cloud-based computing resources.

60492 Computer Resource Planning: Update the CTPS Five-Year Plan for Computer Resource Development, in conjunction with developing the next CTPS budget.

FFY 2016 Activities and Expected Work Products: Work on these tasks will continue as described above.

FHWA/FTA Grant Application Task and Element: 44.22.03

FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$478,300	\$478,300			\$334,810	\$143,490					



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 60120-60600

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

CTPS provides travel data and analyses at regional, corridor, and site-specific levels to support transportation planning and decision making. The categories below comprise the variety of tasks encompassed by this work:

60130 Socio-economic Data: CTPS’s database of statistics from the US Census Bureau’s decennial census and American Community Survey, and products derived from these sources, will be maintained and kept current.

60201, 60202 Response to Data Requests: Data will be processed or analyzed upon request to meet the needs of local, state, and federal agencies, and private institutions and firms. The 60201 project number is used for data requests handled by CTPS’ Information Technology and Systems (IT&S) group; the 60202 number is used for data requests handled by all other CTPS groups.

60600 Geographic Information System/Database Management System (GIS/DBMS): CTPS will continue to develop and enhance its GIS database. CTPS will coordinate data development and distribution with MassDOT and MassGIS in order to prevent duplication of effort, ensure data quality, and reduce costs. CTPS’s GIS database will be made available to staff through ArcSDE, ArcMap layer files, Web services, and Web applications.

FFY 2016 Activities and Expected Work Products: Databases of standard reference GIS data, socio-economic data, Registry of Motor Vehicles (RMV) data, and travel data; GIS processing tools; tabular and spatial data analyses; Web service and Web applications; responses to data requests.

FHWA/FTA Grant Application Task and Element: 44.22.01
FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$323,240	\$323,240			\$213,730	\$109,510					

DIRECT SUPPORT



STAFF: Central Transportation Planning Staff

CLIENT: Various

ID #: 90000

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

CTPS provides integral direct support to all CTPS projects and functions in the following areas:

Computer Equipment: CTPS computer needs are programmed in the CTPS Five-Year Plan for Computer Resource Development, as amended.

Consultants: Consultants are hired periodically to perform specialized, time-specific tasks as project work demands.

Printing: Project-specific printing costs, such as those for surveys, maps, reports, presentation boards, and other informational materials, are included in this budget.

Travel: Periodically, the US DOT and other organizations sponsor courses and seminars that enhance staff's ability to do project work; the costs of registration, travel, and lodging associated with attending such programs are direct-support expenditures. Mileage, tolls, and parking expenses associated with project work also are charged as direct-support expenditures. Additional project work, such as high-occupancy-vehicle (HOV) lane monitoring is funded through this budget to cover rental vehicles and fuel costs.

Other: Various other expenditures may become necessary during the term of this UPWP. Costs associated with postage for return mail, services for preparing and processing data for specific projects, and translations of MPO materials into other languages are direct-support expenditures. Other nonrecurring costs, such as software for specific project work, video-camera equipment for license-plate surveys, or traffic-counting equipment, also may be funded through this line item.

DIRECT SUPPORT [CONT.]



STAFF: Central Transportation

CLIENT: Boston Region MPO

ID #: 90000

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

FFY 2016 Activities and Expected Work Products: This includes computer and general office equipment, professional consulting services, in-state project-related travel, out-of-state travel associated with staff attendance at professional and training conferences, and other costs deemed appropriate.

FHWA/FTA Grant Application Task and Element: 44.27.01
FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$171,470	\$171,470			\$50,000	\$22,500	\$15,000		\$6,000	\$77,870	\$100



Certification Requirements

The projects in this chapter are categorized as certification requirements because they include work that the Boston Region MPO must do to maintain its certification by the Federal Highway Administration and the Federal Transit Administration. The projects also include activities that are necessary to comply with federal and state laws, such as the federal Clean Air Act Amendments and the Americans with Disabilities Act.

The budget tables for the individual projects in this chapter describe the salary and overhead costs associated with those projects. Any direct costs associated with these projects are included in the Direct Support budget table (page 4-6) in Chapter 4, Administration and Resource Management projects.

The projects in this chapter are:

Project ID #	Project Name	Page
90011-90090	3C Planning and MPO Support	5-3
90024	Access Advisory Committee Support	5-11
90061	Air Quality Conformity and Support Activities	5-13
11355	Boston Region MPO Title VI Reporting	5-17
10101	Long-Range Transportation Plan	5-19
MAPC1	MPO/MAPC Liaison and Support Activities	5-24
90028	Provision of Materials in Accessible Formats	5-26
11244	Regional Model Enhancement	5-27
MAPC2	Subregional Support Activities	5-31

Boston Region MPO

Project ID #	Project Name	Page
11132	Transportation Equity/Environmental Justice Support	5-33
10103	Transportation Improvement Program	5-37
10104	Unified Planning Work Program (CTPS)	5-41
MAPC3	Unified Planning Work Program (MAPC)	5-43



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 90011-
90090

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

The following projects are called 3C activities because they support the federally mandated continuing, cooperative, and comprehensive transportation-planning process. This process creates numerous products and materials and furthers MPO operations and decision making.

SUPPORT TO THE MPO

90011 Support to the MPO and Its Committees (\$262,300): Support includes conducting metropolitan transportation planning and implementing planning activities for the MPO. The goal of this work is compliance with federal regulations and requirements and excellence in transportation planning processes, techniques, and outcomes. The work involves researching, analyzing, and reporting information on 3C planning topics, including those identified in federal reauthorization legislation, and issues related to other federal policies, regulations, and guidance. It also involves responding to federal recommendations or requirements for certification documents or MPO certification and incorporating new requirements into the MPO's 3C program. MPO staff will continue to implement MAP-21 (see Chapter 1) as guidance from this legislation is communicated to the MPO, and staff will also be prepared to implement future legislation.

Support for the MPO and its committees includes implementing MPO policies on planning and programming, planning and coordinating delivery of information for MPO decision making, and supporting the work and operation of the MPO and its committees. It involves providing process support for MPO management and planning, delivering MPO communications, and implementing the MPO's public participation program. MPO staff plans and supports MPO, MPO committees, and MPO-sponsored meetings. Some tasks include:

- > Developing agendas
- > Preparing and distributing informational materials through postings on the MPO's website



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 90011-
90090

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

- > Conducting meeting site selection and logistics planning
- > Setting up audio/visual equipment for meetings
- > Attending and recording meetings
- > Completing meeting follow-up activities such as maintaining the information flow for the MPO and the public, processing approved work scopes, and preparing audio files and approved minutes for posting on the MPO's website

Technical and process support is provided to the MPO's UPWP Committee, Administration and Finance (A&F) Committee, Congestion Management Process (CMP) Committee, and other ad hoc committees that are formed as needed.

- > The CMP Committee meets as needed throughout the year to discuss the federally required Congestion Management Process. Activities include developing and reviewing its TIP Intersection Improvement Program and making recommendations to the MPO.
- > The Administration and Finance Committee (A&F) meets periodically to make recommendations to the MPO on the staff's operating budget, legal matters, and other administrative functions.
- > The UPWP Committee meets as needed throughout the year to develop a UPWP for the upcoming federal fiscal year and monitor expenditures and the progress of programs in the current fiscal year.

This work also includes consultation with other entities and agencies involved with or interested in 3C planning activities; communication activities among Massachusetts MPOs (with more detailed coordination with those in the Boston Region Urbanized Area); and communication with MAPC subregional groups.

Other activities include the day-to-day oversight of 3C-program-related activities, reports on the progress of projects listed in the UPWP, collection and fielding of day-to-day comments, and responses to requests for information and support.



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 90011-
90090

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

90014 Planning Topics (\$3,200): MPO staff provides planning work related to planning topics such as the 3C planning factors, the MAP-21 National Goals, and other topics highlighted in federal planning guidance, such as sustainability, health, freight, economic effects, all-hazards planning, climate change, and environmental issues. MPO staff members maintain expertise in these topics so that the MPO will have the capability and flexibility to respond to unforeseen needs in these areas.

Information on these topics is gathered, analyzed, and presented to the MPO in memoranda and white papers for consideration in the development of the Transportation Improvement Program (TIP), the Long-Range Transportation Plan (LRTP), and other planning programs and documents undertaken by the MPO. This project also includes work needed to respond to possible new federal guidance and requirements following a certification review.

90019 Subregional Outreach (\$4,800): MPO staff members attend MAPC subregional group meetings to listen to and learn about community issues in the region and to answer questions about the MPO and its activities. This helps staff incorporate subregional issues and concerns into the development of MPO documents.

90021 Regional Transportation Advisory Council Support (\$74,800): The Regional Transportation Advisory Council is the MPO's citizens' advisory committee. MPO staff provides planning and operations support to this body and its committees. This includes planning programs and meetings, scheduling speakers, and preparing and distributing agendas, meeting notices, informational packets, and minutes. It also includes helping to conduct meetings; attending and making presentations at meetings; organizing and conducting field trips; soliciting new members; implementing and updating the bylaws; coordinating other activities, such as Advisory Council elections; and maintaining contact lists. MPO staff provides information, updates, and briefings on MPO activities, studies, and reports; requests and coordinates comments on MPO documents; and works with the Advisory Council and its committees as they conduct their programs, planning, and reviews.



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 90011-
90090

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

90025 TRANSREPORT (\$31,400): The MPO’s newsletter, TRANSREPORT, is an important part of the MPO’s public involvement program. MPO staff is responsible for soliciting, researching, and writing articles and for managing all aspects of production: writing and editing, layout, graphics, proofreading, and distribution via email and US mail. MPO staff coordinates the participation of MPO staff, MPO members, and other interested organizations in the development of articles.

MPO staff is responsible for the newsletter’s distribution. It is distributed in an accessible format on the MPO website, electronic- transfer formats for email subscribers, and hard-copy format for the few recipients who request it. Once posted on the website, the newsletter can be translated into the languages (besides English) most frequently spoken in the region, using the website’s Google Translate tool.

MPO staff stays current on newsletter software and styles with an eye to making improvements in the newsletter’s visual appeal and ability to communicate. Staff plans to improve format and delivery mechanisms this year.

90026 Public Participation Process (\$96,300): MPO staff implements the MPO’s Public Participation Program and coordinates and conducts MPO public outreach activities. These activities are opportunities to involve all members of the public, including:

- > Local, regional, state, and federal officials and agencies
- > Transportation, environmental, and social-service advocacy groups
- > Seniors, minorities, people with low incomes, people with disabilities, those with limited English proficiency, youth, veterans, and people living in zero- vehicle households
- > Freight operators
- > Transit service providers
- > Other interested parties and other members of the general public



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 90011-
90090

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

This program provides information to these parties and collects input from them for the MPO to use in its planning, decision making, and development of certification documents, including programming the region's transportation funding. The program is intended to supplement the involvement of the Regional Transportation Advisory Council.

Communication is ongoing and conducted through a variety of means.

> **Public meetings** are important in this process, and several types of meetings are planned and conducted throughout each year. The MPO holds public information sessions three to four times a year, and conducts TIP- and UPWP-development workshops in December and January. The MPO also holds workshops and special-issue forums throughout the year to gather input on MPO activities and on draft certification documents and other plans. MPO staff and MAPC collaborate on public involvement activities whenever possible. MPO and MAPC staffs hold timely and constructive discussions of MPO issues at MAPC subregional group meetings. Other types of collaboration involve hosting and co-sponsoring special events. For example, MAPC dedicated its 2015 Winter Council Meeting to interactive activities related to the long-range transportation plan and in 2014 co-sponsored the MPO's Transportation Equity Forum. This collaboration was very fruitful and will be continued.

> The **MPO's website** is another important tool that provides and gathers information for MPO planning and programming. Highly visible and frequently updated News Flashes are published on the MPO home page. These quickly-read items promote short news clips and information on how the public can be involved in MPO planning. Material on all MPO plans and programs is posted on the website. The MPO also hosts on its website a public-information email address and comment tool so that members of the public may request information and provide input. MPO staff monitors input from this address to coordinate responses and refer comments received to the appropriate recipient. The MPO also solicits input through web-based surveys.



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 90011-
90090

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

The MPO recently adopted an updated Public Participation Plan reflecting an improved Public Participation Program and has been implementing improvements discussed in this plan. In FFY 2016, the MPO will continue the following improvements, many of them designed to break down barriers to participation for groups currently underrepresented in the planning process:

- > Maintain frequent e-based communications, including press releases, public notices, and refreshed website newsflashes regarding ongoing planning products and MPO milestones and events
- > Team with other entities to conduct joint programs and outreach
- > Integrate the Title-VI-related Four Factor Analysis for guidance on providing materials in languages other than English
- > Expand the MPO program to involve people in the region with limited English proficiency by translating critical documents (the Title VI Complaint Process and Form and notices of MPO-sponsored public-participation meetings) into the MPO languages of policy—Spanish, Portuguese, and Chinese—and into Vietnamese whenever possible
- > Take additional steps, when planning meetings, to understand the language and cultural needs of those who might attend
- > Make it a standard practice to solicit comments on the Public Participation Program from meeting participants and conduct periodic assessments of the effectiveness of public involvement activities
- > Encourage public libraries to make MPO information publicly available
- > Increase the MPO's use of graphical materials to provide information



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 90011-
90090

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

- > Offer more web-based surveys at timely points in the planning process
- > Continue the quest for tools and practices to make outreach activities as interactive, engaging, and easily accessible as feasible
- > Expand the use of Twitter and participation in the MPO website's Rich Site Summary (RSS) feed to enhance communication

Maintaining contact with members of the public requires continuous updates to the MPO's contact database and email lists. A significant part of the MPO's public-participation program involves keeping contact information current and identifying and including new contacts, particularly those in or representing minority communities; persons with disabilities, low incomes, or limited English proficiency; the elderly; veterans; and youth.

The MPO's public participation program also involves consultations as specified in federal guidance; arranging, upon request, for the provision of American Sign Language (ASL) and other language-interpretation services at meetings; and providing public participation support to MPO member entities.

OTHER 3C PLANNING SUPPORT ACTIVITIES

90012 Professional Development (\$15,000): MPO staff maintains its technical expertise in part by participating in courses, programs, and workshops offered by the Federal Highway Administration (FHWA), Federal Transit Administration (FTA), Transportation Research Board (TRB), Association of Metropolitan Planning Organizations (AMPO), Institute of Transportation Engineers (ITE), and other public and private organizations. Previous professional development endeavors have related to topics such as traffic engineering issues and applications, regional modeling, bicycle/pedestrian issues, transit planning, public involvement, environmental justice, air quality, computer operations and maintenance, database applications, and other areas related to the provision of technical support services.



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 90011-90090

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

90090 General Graphics (\$90,600): Graphics support will be provided to MPO staff and MPO agencies. This includes designing and producing maps, charts, illustrations, report covers, brochures, slides, and photographs; applying other visualization techniques; and creating other products that improve communication.

FFY 2016 Activities and Expected Work Products: Staff will prepare materials—including agendas, minutes, notices, document translations, memoranda, reports, correspondence, summaries, website postings, and maps, charts, illustrations and other visual materials—as needed; continue to support the MPO and its committees and the Regional Transportation Advisory Council; conduct communications with the public, including publishing TRANSREPORT; conduct planning to support compliance with federal requirements and guidance; engage in professional-development activities; and remain prepared for unforeseen issues as they arise.

Note: The above activities support all other projects in this UPWP in compliance with the 3C planning process. They foster the implementation of MPO policies, federal planning factors and guidance, the MAP-21 National Goals, and all applicable orders and requirements, including Executive Order 13166 (governing outreach to persons with limited English-language proficiency). These activities are supported by the Provision of Materials in Accessible Formats project.

FHWA/FTA Grant Application Task and Element: 44.21.02
FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$578,400	\$578,400			\$404,880	\$173,520					



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 90024

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

MPO staff supports the MBTA in meeting Americans with Disabilities Act (ADA) requirements by providing ongoing support to the Access Advisory Committee to the MBTA (AACT), a user group representing people with disabilities. AACT advises the MBTA on all accessibility matters relating to the use of the MBTA's systemwide fixed-route services and THE RIDE paratransit service by people with disabilities, and ensures that users' ideas concerning accessible transportation are heard.

AACT is a member of the MPO's Regional Transportation Advisory Council and MPO staff solicits input from AACT regarding the transportation-planning process. Staff provides a variety of support services detailed below.

FFY 2016 Activities and Expected Work Products:

- > Support regularly scheduled AACT Membership, AACT Executive Board, and other related meetings at which attendees advise and comment on projects being planned or implemented throughout the system for commuter rail, rapid transit, surface transit, and paratransit service
- > Distribute monthly reports on System-Wide Accessibility, the MBTA THE RIDE service statistics, and other materials pertinent to AACT meeting agenda items
- > Support the AACT Chair by attending special consultations and other meetings
- > Support the activities of the AACT Executive Board of Directors
- > Maintain awareness of and provide guidance on the AACT Memorandum of Understanding, AACT bylaws, and disability issues in general
- > Coordinate AACT elections and other committee activities, as needed
- > Prepare and distribute AACT meeting agendas and minutes, meeting announcements, correspondence, meeting calendars to post in THE RIDE vans, and updated AACT informational materials



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 90024

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

- > Produce and distribute orientation packets for new AACT members
- > Track follow-up for members' requests for information
- > Maintain AACT databases for mailings, attendance log, and membership standing, AACT archives, supplies, and accessible-formatting equipment
- > Coordinate briefings on MPO activities
- > Produce meeting materials in accessible formats for AACT members and members of the public upon request
- > Coordinate forums on transit accessibility
- > Update AACT brochure

Note: This project supports MPO public outreach and planning activities presented in this Chapter. It is supported by 3C planning support activities, the Provision of Materials in Accessible Formats project, and transportation equity activities described in this chapter.

FHWA/FTA Grant Application Task and Element: 44.21.04
FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$85,900	\$85,900			\$60,130	\$25,770					



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 90061

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

This program has two objectives:

1. To ensure that the MPO's plans, programs, and projects comply with the Clean Air Act Amendments (CAAA) of 1990 and to secure federal funding for the Boston MPO's transportation system
2. To provide ongoing support services for the MPO regarding air-quality matters and maintain technical expertise in air-quality and climate-change matters, including conformance with federal air-quality requirements and the state's climate-change policies

Air-Quality Conformity Determinations

Under the CAAA, states must monitor emissions from transportation vehicles and other sources to determine whether ambient emissions levels exceed health-based allowable levels of air pollutants. Areas in which the emissions exceed the allowable levels are designated as nonattainment areas. For these, the state must develop a State Implementation Plan (SIP) establishing emissions budgets and must show how the plan would reduce emissions in the area sufficiently to comply with national ambient air quality standards. MPOs with nonattainment areas must complete air-quality conformity determinations to demonstrate the conformity of transportation plans, programs, and projects with the Massachusetts SIP. Typically, a conformity determination is performed annually for the TIP and every four years for a new LRTP. However, a conformity determination may be required if an LRTP amendment is undertaken during the year. This program covers the tasks needed to demonstrate that an MPO's federally funded transportation programs meet conformity requirements.

The city of Boston, the surrounding cities and towns, and the city of Waltham are classified as maintenance areas for carbon monoxide (CO). A maintenance area is an area that had been reclassified from nonattainment to attainment and for which a maintenance plan has been approved as part of the Massachusetts SIP. The MPO must show that, overall, its federally funded transportation programs maintain air quality in a manner consistent with the Massachusetts SIP in this maintenance area.



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 90061

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

The Boston Region MPO area had also previously been classified as a nonattainment area for ozone but was reclassified as an attainment area under the new 2008 ozone standard. Because the reclassification resulted from a new standard, a maintenance plan was not required, and the area was not classified as a maintenance area. As an attainment area, the MPO is not required to demonstrate that the LRTP and TIP conform to national standards for the two pollutants that form ozone: volatile organic compounds (VOCs) and nitrogen oxides (NOx). A new ozone standard was recently proposed and released for public comment by the Environmental Protection Agency (EPA), and the Boston Region MPO area may again be classified as a nonattainment area if this standard is approved; however, this may not occur within this UPWP year. If the MPO area is again reclassified as a nonattainment area, conformity determinations for ozone will be required.

Other Air Quality Support

This program supports the MPO's expertise in air-quality and climate-change matters, as well as the MPO's response to changing requirements for planning, analysis, and reporting. This includes initiatives known today as well as the ability to participate in issues that might emerge during the year. This program also supports implementation of air-quality-related transportation programs and projects and includes consultation, research, and coordination between the MPO and federal, state, local, and private entities.

FFY 2016 Activities and Expected Work Products:

Conformity Determinations: These determinations will be performed and presented as noted below. They include a detailed analysis of air-quality impacts (carbon monoxide [CO] and carbon dioxide [CO₂]) of the projects in the FFYs 2015–18 Transportation Improvement Program (TIP), any changes to the Long-Range Transportation Plan (LRTP), and any work required for implementing GreenDOT. MPO staff will also complete analysis of volatile organic compounds (VOCs) and nitrogen oxides (NOx) emissions.



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 90061

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

- > A systemwide conformity determination will be prepared if there are changes to regionally significant projects in the LRTP and the TIP.
- > A detailed project-level analysis will be conducted for each project to receive Congestion Mitigation/Air Quality Program funding in the TIP and for any projects that will help meet the GreenDOT initiative.

Support to MassDOT (including the Highway Division, the Office of Transportation Planning, and the MBTA), and Massport: Activities will include analysis of transportation-control measures (TCMs), park-and-ride facilities, and proposed high-occupancy-vehicle (HOV) projects throughout the Boston Region MPO area, as well as evaluation of emerging and innovative highway and transit clean-air activities.

Support for Climate-Change Initiatives: Activities will include integrating concerns about climate change and opportunities for emissions reduction into the MPO's planning process relative to: the regional travel-demand model set, the TIP, project-specific work products, the LRTP, the Congestion Management Process, the UPWP, and performance measures. Staff will work with MassDOT to implement its GreenDOT policy and comply with the Department of Environmental Protection (DEP)'s newly adopted Global Warming Solutions Act Requirements for the Transportation Sector and MassDOT. Staff will also confer with agencies and organizations concerned about climate-change issues to inform actions in the MPO region.

Mobile-Source Element of the State Implementation Plan (SIP): The Massachusetts Department of Environmental Protection (DEP) is required to submit a SIP to the US EPA documenting strategies and actions to bring Massachusetts into compliance with air-quality standards. CTPS support will include:

- > Support for amendments or revisions to the Memorandum of Understanding between the MPO and the DEP



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 90061

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

- > Support to regional, local, and private entities, and the agencies involved in monitoring, updating, and revising the mobile-source section of the SIP
- > Data collection and analysis to measure regional air-quality conditions, support development of MOVES2014 emission factors, validate emissions inventories and budgets, and evaluate the air-quality impacts of policies regarding long-term growth, transportation, and land use
- > Coordination with DEP to develop statewide regulations and programs concerning transportation and air quality
- > Support to regional, local, and private entities
- > Providing data and recommendations to MPO agencies regarding funding and the implementation of transportation programs and projects with air-quality benefits

Note: This project is supported by 3C planning support activities, the Provision of Materials in Accessible Formats project, and transportation equity and public outreach activities described in this chapter.

FHWA/FTA Grant Application Task and Element: 44.21.03
FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$24,500	\$24,500			\$17,150	\$7,350					



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 11355

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

Title VI of the federal Civil Rights Act prohibits discrimination in programs and activities that receive federal financial assistance based on race, color, and national origin, including individuals with limited English proficiency (LEP). FTA and FHWA require the MPO to develop programs that ensure compliance with Title VI. This is accomplished by reaching out to protected populations and involving them in MPO planning and decision making, which includes development of the UPWP, TIP, and LRTP. In addition to the populations given protection under Title VI, FHWA's Title VI/Nondiscrimination Program prohibits discrimination based on a person's sex, age, disability/handicap, and income status.

This program's objective is to develop a report documenting Title VI-related activities undertaken by the MPO during the past year. The report will show the MPO's full compliance with the requirements of both the FTA Title VI Circular C 4702.1B and the FHWA Title VI/Nondiscrimination Program.

FFY 2016 Activities and Expected Work Product: The MPO will comply with FTA and FHWA Title VI requirements by preparing and submitting reports on the implementation of its nondiscrimination programs, as required. The MPO will provide updates on Title VI-related activities to determine the equity of TIP spending, as required by MassDOT. The MPO also will continue consulting and coordinating with the MassDOT Office of Diversity and Civil Rights (ODCR) to achieve best practices in this area.

Note: This project is supported by 3C planning support activities, the Provision of Materials in Accessible Formats project, public outreach activities, and work promoting transportation equity and environmental justice as presented in this chapter. See Chapter 7 for information on projects that will support MPO, MassDOT, and MBTA Title VI compliance.



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 11355

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

**FHWA/FTA Grant Application Task and Element: 44.21.01
FFY 2016 Budget**

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$32,000	\$32,000			\$22,400	\$9,600					



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 10101

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

Under the current federal transportation funding legislation, Moving Ahead for Progress in the 21st Century Act (MAP-21), a new long-range transportation plan (LRTP) must be produced every four years.

The LRTP guides transportation system investments for the Boston metropolitan region for at least the next 20 years. The MPO adopted its most recent LRTP, Charting Progress to 2040, in August 2015. This LRTP serves as the Boston Region MPO's guiding document as it plans for the year 2040. It establishes regional goals and objectives, which the MPO will use for future decision making.

While the quadrennial LRTP document was endorsed in FFY 2015, the MPO's continuing, cooperative, and comprehensive planning process—including its long-range planning activities—is ongoing. The MPO's robust LRTP development program helps meet MAP-21 requirements, which include measuring and tracking performance of the region's transportation system and the effectiveness of MPO programming in meeting regional goals. This program also supports scenario planning to generate data for decision making.

LRTP Needs Assessment: The Needs Assessment has become a foundational resource for the MPO's transportation planning work. Staff developed a Needs Assessment as part of Charting Progress to 2040, and it is available to the public via the Needs Assessment application on the MPO's website. In FFY 2016, staff will continue to update the Needs Assessment with new information as it becomes available. Staff also will perform further analyses to keep the Needs Assessment current and will use this information for future studies, reports, and deliberations. The updated information also will be made available to the public via the website. Data from the Needs Assessment will support two of the following MPO initiatives: the MPO's scenario planning activities and its performance-based planning practice.

In FFY 2016, staff will use output from the Needs Assessment to develop and analyze land use and transportation options and scenarios. This information also will be used to review performance measures, set MPO performance targets, evaluate progress toward them, and track other indicators of interest.



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 10101

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

The LRTP and Performance-Based Planning: The MPO adopted its goals, objectives, and an initial set of performance measures in FFY 2015 as part of developing Charting Progress to 2040, which were used for scenario planning and evaluating LRTP projects and programs. In FFY 2015, the MPO also initiated the development of performance targets, which are specific levels of performance the MPO desires to achieve within a certain time frame. The TIP and LRTP programs work together to support the MPO's performance-based planning program.

In FFY 2016, the MPO will formalize and expand its performance-based planning practice as components of the LRTP and TIP programs. Staff will review the MPO's performance measures developed in FFY 2015 under the LRTP program. This review may result in fine tuning the existing set of performance measures. Additional updates or measures may be made based on FHWA and FTA guidance, new MassDOT measures, or emerging data sources. Staff will use the MPO goals, objectives, and performance measures to develop a set of targets for the MPO's performance-based planning. The MPO will use the performance measures to track how well TIP-implemented projects and programs are helping to meet the region's targets and goals.

In the Boston Region MPO, the LRTP and the TIP will each include a performance report that describes progress towards targets and the trends of non-target indicators of interest. The LRTP will report progress at the systems and project levels, as applicable, and will include a full assessment of progress made toward the region's goals. The TIP will report on project-level performance and the results of system-level analysis, as applicable. Each LRTP will provide an opportunity to review and document progress in meeting performance goals and, if needed, make adjustments to the LRTP to meet those goals.

In FFY 2016, staff will plan performance reports to include in the TIP and future LRTPs. Staff will monitor trends of non-target indicators of interest. In the future, the MPO will review and possibly revise the performance measures and further develop the targets. LRTP program work will include pre-planning for data needs to support performance-based planning. Staff will coordinate internally and externally, as needed, to understand data availability, determine future data needs, and set a plan for meeting those needs.



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 10101

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

The LRTP and Scenario Planning: The MPO has begun an ongoing practice of using model-based planning tools and off-model processes to generate forecasts and information about regional conditions and future needs. These tools also will assess the effects of potential options for changes to the transportation network. The MPO plans to use this information to make policy and capital-investment decisions. Throughout the year, staff will seek to identify one or more opportunities to explore options and compare various alternative scenarios to better understand impacts on transportation, air quality, climate change, mode-shift, the economy, and land use. Using these tools will provide additional and more substantive answers to various planning questions. Possible examples include:

- > What transportation improvements will yield the greatest mobility on the truck freight network?
- > Which investment scenario would result in the most CO2 reduction?
- > Which investment program would generate the land-use pattern closest to MetroFuture development goals?
- > Where are the congestion points in a regional evacuation scenario?

Some of this work also may explore policy-related implications. In this way, the LRTP program serves as an ongoing resource for current information, insights, and analysis for all those involved in managing and improving the regional transportation network.

Laying the Groundwork for the Next LRTP: Prior to the next LRTP endorsement year, staff will research, plan, coordinate with interested parties, and review priorities. Through ongoing performance-based planning and scenario planning, MPO staff generate information that will help guide the investment strategies for the next LRTP.

The LRTP program plays an important role keeping the MPO abreast of current state-of-the-practice methods of communication and planning tools and approaches.



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 10101

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

In collaboration with MAPC, the MPO will explore effective ways to gather information, understand the region's needs, and analyze transportation and land-use options. As part of FFY 2016 activity, staff will research best practices in metropolitan transportation planning and other facets of planning.

L RTP Amendments: If any changes are made to regionally significant projects in the TIP in FFY 2016, an amendment to the LRTP may be required. Staff will prepare the informational materials for MPO decision making and follow MPO procedures for informing and involving the public.

FFY 2016 Activities and Expected Work Products:

- > Update details and analyses in the current Needs Assessment to supply the most current information to the MPO and public
- > Prepare amendments to *Charting Progress to 2040*, as needed
- > Expand the MPO's scenario-planning capabilities by using the regional travel demand model set and various planning tools such as TREDIS and CubeLand to support the performance-based planning and programming process
- > Produce summaries of results from transportation scenario analyses for the MPO
- > Review and possibly update performance measures and prepare targets for the MPO's goals and objectives
- > Prepare memoranda on performance-based planning topics such as performance targets and guidelines for the LRTP system performance report.
- > Plan LRTP system performance reports for monitoring measures-of-interest trends and tracking the MPO's performance-meeting targets



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 10101

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

- > Conduct public outreach on all LRTP topics, including Needs Assessment updates, scenario planning, and further development of performance measures and targets; report results to the MPO for use in all its planning and programming
- > Address comments or changes from FHWA and FTA or changes to the State Implementation Plan (SIP)

Note: This project is supported by 3C planning support activities, air quality conformity and support activities, the Provision of Materials in Accessible Formats project, and transportation equity and public outreach activities described in this chapter. Also see Chapters 5 and 7 for other CTPS and MAPC activities related to the development of the LRTP. For information on performance-based planning activities being implemented as part of the TIP, please see page 5-37.

FHWA/FTA Grant Application Task and Element: 44.23.01
FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$318,200	\$318,200			\$222,740	\$95,460					



STAFF: Metropolitan Area Planning Council

CLIENT: Boston Region MPO

ID #: MAPC1

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

This project includes working with MPO members and staff to establish work priorities and meeting agendas. It also includes reporting to the MAPC Executive Committee, MAPC Council members, MAPC subregions, and MAPC staff on MPO activities to ensure strong coordination of land-use and transportation planning across the region.

Statewide and Regional Planning Committees: MAPC actively participates in statewide and regional planning committees and task forces to represent the interests of the region, with a particular focus on the critical links between land use and transportation. These committees include the Massachusetts Association of Regional Planning Agencies (MARPA), Regional Coordination Councils, and various MassDOT, MBTA, or municipally-led transportation planning initiatives. MAPC will also be actively involved in regional and statewide plans and programs concerning the state's mode-shift goal, GreenDOT implementation, and other climate-change and greenhouse-gas issues as they relate to transportation. Advisory committees may change from year to year as studies are begun or completed, but participating in various advisory committees is an ongoing task.

Support of the Public Participation Process for Metropolitan Planning

Documents: MAPC provides education and outreach on a wide variety of transportation-and land- use-related topics in the region, with emphasis on outreach through the subregions to municipal officials. MAPC also supports CTPS in its outreach to environmental-justice and senior populations and people with disabilities.

MPO Elections: Working with the MBTA Advisory Board, MAPC will coordinate and implement annual elections for municipal representatives on the MPO.

Transportation Improvement Program Evaluation and Criteria: MAPC will advise CTPS about land-use and economic- development aspects of TIP evaluations. MAPC will provide updated TIP criteria and help to implement the comprehensive regional growth plan, MetroFuture. MAPC will research TIP projects and work with municipalities to advance TIP projects.



STAFF: Metropolitan Area Planning Council

CLIENT: Boston Region MPO

ID #: MAPC1

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

MPO Agenda Setting and Coordination: MAPC will work with CTPS and MassDOT to develop MPO meeting agendas and presentations.

FFY 2016 Activities and Expected Work Products: Interagency coordination, work scopes and agendas, participation in advisory and corridor committees, public participation and outreach, reports to the MAPC Executive Committee, MAPC Council members, MAPC subregions, and MAPC staff, MPO elections, TIP criteria update and project evaluations, and attendance at relevant meetings.

Note: This project supports 3C planning and MPO support and Transportation Improvement Program activities presented in this chapter.

FHWA/FTA Grant Application Task and Element: 44.21.02

FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$157,000		\$157,000		\$109,000	\$48,000					

PROVISION OF MATERIALS IN ACCESSIBLE FORMATS



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 90028

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

The MPO conducts its transportation-planning activities and public outreach process in accordance with the Americans with Disabilities Act, Section 508 of the Rehabilitation Act as amended in 1998, and other policies and regulations governing accessibility standards. In support of these standards, the MPO produces written and electronic materials in accessible formats. In addition to producing these materials, the MPO will continue to maintain a library of templates that incorporate accessibility guidelines and standards.

FFY 2016 Activities and Expected Work Products:

- > Production of materials in accessible formats for public meetings, website postings and as requested
- > Ongoing maintenance of accessible document templates
- > Development of accessibility guidelines and standards for MPO products

Note: This project supports the development of MPO products for projects throughout this UPWP.

FHWA/FTA Grant Application Task and Element: 44.21.04 FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$68,400	\$68,400			\$47,880	\$20,520					

**STAFF:** Central Transportation Planning Staff**CLIENT:** Boston Region MPO**ID #:** 11244**BUDGET:** Not applicable to ongoing projects**STATUS:** Ongoing

CTPS builds and maintains a state-of-the-practice regional travel-demand model set, which helps staff assess the area's transportation needs and evaluate alternatives to improve the transportation system.

The model predicts how many trips will be made by people in a given region, on a typical day; where those trips will go; and what modes and routes those trips will use. These travel behavior decisions generate more than 16 million person-trips per day across the 164 municipalities in the CTPS-modeled area. Metrics produced by the multi-modal model set help in policy planning and technical analysis, and in meeting federal reporting requirements. MPO-member transportation agencies also use the model set because it is a robust tool that represents and forecasts travel by all of the region's transit modes, by all types of single-occupant and multiple-occupant vehicles, and by biking and walking.

During FFY 2015, CTPS and MAPC jointly developed a Cube Land model implementation, which covers all 101 communities in the MPO region, as well as 63 additional border communities. Cube Land is a land-use allocation model that allows users to project future land-use patterns. MPO staff will use Cube Land to forecast land-use allocation.

MPO staff plan to begin or continue the following activities associated with the Boston Region MPO travel-demand model set and the Cube Land land-use allocation model:

- > Continue to use the 2011 Massachusetts Travel Survey, the most recent MBTA user surveys, the most recent traffic counts, and the latest MBTA counts to update and calibrate the model set.
- > Continue to collect data needed to expand geographic coverage of the model set to include all of the MBTA service area.
- > Continue to refine the in-house scenario-management program within the regional modeling software, TransCAD, which will make it easier for MPO staff to evaluate multiple scenarios.



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 11244

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

- > Make changes to the model set's inputs and execution script to work with TransCAD version 7. The MPO's model set currently runs TransCAD version 6. However, the software vendor, Caliper, soon will release TransCAD version 7, which has improved runtimes and many new features, but is not fully backward compatible with version 6.
- > Develop destination choice models to improve the trip distribution component of the model set.
- > Using the newly completed parking space inventory, develop a parking choice model for the Boston core. Continue to update the parking inventory as new data becomes available.
- > Develop adequate model documentation.
- > Provide technical support and training to model users.
- > Continue to convert the model set to use the Environmental Protection Agency's (EPA) Motor Vehicle Emissions Simulator (MOVES) software, which calculates vehicle emissions.
- > Continue to test dynamic traffic assignment methods for use in the MPO model set. Current practice suggests that dynamic traffic assignment (DTA) helps planners understand traffic flows at a finer temporal and spatial resolution than other assignment methods.

These activities support projects in this UPWP that rely on the regional model set for travel forecasting and analysis, particularly analysis that supports the LRTP and the TIP.



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 11244

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

Additional regional model enhancement activities may include:

- > Continue to refine the link between the regional travel demand model set and Cube Land, and examine the potential for using Cube Land for land-use forecasting. MPO staff will coordinate with MAPC and consult with peers and colleagues—including those in other regions—to learn more about best practices and lessons-learned based on their experiences with alternative modeling approaches.
- > Build a better modeling process to predict external-internal, internal-external, and external-external travel. This may be achieved by using a statewide model that MPO staff coordinates with MassDOT.
- > Update the Boston Logan International Airport ground access model to reflect the latest survey data, and implement in TransCAD.
- > Update the MPO's truck model to use the latest land-use and survey data, and implement in TransCAD.
- > Re-examine and make improvements to the MPO's transit parking choice model.
- > Examine the use of tour-based modeling capability to enhance the model's sensitivity to human behavior and analyze how behavior plays a role in the trip generation by households, trip chaining, and mode selection.

FFY 2016 Activities and Expected Work Products: Incorporate new or advanced techniques into the current regional travel-forecasting model set in TransCAD, and maintain a well-calibrated 2012 base-year regional model set and a future-year regional model set. Develop and update model documentation. Provide technical support to others, as needed. Continue to work toward making the Cube Land more robust, in coordination with MAPC and others.



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 11244

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

Note: These activities support projects in this UPWP that rely on the regional travel demand model set for travel forecasting and analysis, particularly the air quality conformity determinations for the LRTP and the TIP presented in this chapter. Also see Chapter 7 for activities related to coordinating land use and transportation modeling.

FHWA/FTA Grant Application Task and Element: 44.22.03

FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$740,400	\$740,400			\$518,280	\$222,120					

SUBREGIONAL SUPPORT ACTIVITIES



STAFF: Metropolitan Area Planning Council

CLIENT: Boston Region MPO

ID #: MAPC2

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

The Metropolitan Area Planning Council (MAPC) region consists of 101 cities and towns. The region is subdivided into eight geographic areas that are represented by subregional councils comprising municipal officials, business leaders, community-based organizations, and other local participants. MAPC staff planners are assigned as coordinators to each of the subregional groups to assist members in developing an understanding of subregional and regional transportation and land-use issues.

Subregions are encouraged to recommend subregional projects and priorities for the Transportation Improvement Program (TIP), the long-range transportation plan (LRTP), and the UPWP. Subregional coordinators and MAPC transportation staff report back to the MPO through formal and informal communications. MAPC subregional groups will continue to participate in local corridor advisory committees whenever these committees are appropriate vehicles for working on projects in their areas. The subregions will continue to advance Priority Development Area and Priority Preservation Area planning and mapping activities.

MAPC staff ensures timely discussions of transportation-related issues by placing the topics on meeting agendas, by leading and participating in the discussions, and by distributing appropriate documents and notices relating to region-wide and statewide transportation meetings.

FFY 2016 Activities and Expected Work Products: Preparation of monthly meeting agendas for transportation topics at subregional meetings, coordination with transportation agencies, reviews of transportation studies in subregions, support for subregional and corridor advisory committee meetings, and assistance in setting subregional transportation priorities. This project supports community involvement in development of transportation-planning documents.

SUBREGIONAL SUPPORT ACTIVITIES [CONT.]



STAFF: Metropolitan Area Planning Council

CLIENT: Boston Region MPO

ID #: MAPC2

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

FHW 2017 Budget Application Task and Element: 44.21.02

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$157,000		\$157,000		\$109,000	\$48,000					



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 11132

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

The purpose of this program is to foster awareness and consideration of transportation equity and transportation needs of environmental-justice (EJ) populations in MPO planning and programming. This program is instrumental in maintaining compliance with federal and state requirements and guidelines regarding civil rights. This program also seeks to stimulate participation of low-income, minority, elderly, and limited English language proficient (LEP) populations in MPO's planning process.

Gathering Input and Supporting Participation in Transportation Planning:

Gathering input and generating participation in transportation planning from low-income, minority, elderly, and LEP populations will be accomplished in several ways.

First is through continued outreach to these populations primarily by attending regularly scheduled meetings held by the state's newly formed Regional Coordinating Councils (RCCs), which are umbrella social-service groups working in areas that include MPO communities of concern. (The RCCs' mission is to identify and address paratransit, human services, and community transportation service gaps at the multi-municipality level.)

Recently, RCCs have been forming, under the direction of MassDOT, in response to recommendations made in the Executive Order 530: Community, Social Service, and Paratransit Transportation Commission Report to Governor Deval Patrick. RCCs are voluntary advisory bodies that provide a forum for open discussion, information exchange, and decision making about regional transportation priorities. Their capture areas range from two communities to as many as several dozen communities.

In FFY 2016, staff will focus on gathering information on transportation gaps and needs in each RCC area through the RCC coordination process. Staff also will inform the RCCs about MPO activities, and provide technical support, if feasible. Attending these meetings will give staff an opportunity to foster working relationships with community advocates and promote direct participation in the Regional Transportation Advisory Council and other MPO planning and programming activities.



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 11132

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

Staff will survey individuals living in, and community organizations serving EJ communities of concern to identify transportation needs and solicit ideas for transportation and program improvements. Information gathered through these initiatives—that target low-income, minority, LEP, and elderly populations— will be analyzed and presented to the MPO, which will use the information to plan activities.

Staff will continue to bring together various entities to discuss transportation-equity-related topics at an MPO-sponsored meeting or focus group.

Staff will use results of the MPO’s Title VI four factor analysis process to guide decisions on materials to translate, and make other recommendations regarding MPO outreach.

Supporting TIP and LRTP Development: Staff supports TIP and LRTP development by adopting EJ definitions for the TIP and LRTP, evaluating projects, and conducting LRTP analysis of benefits and burdens. Staff also will support the LRTP Needs Assessment on an ongoing basis.

Supporting and Coordinating with Other Agencies: Staff will continue to support Federal Transit Administration programs that target low-income populations, elderly individuals, and people with disabilities in the region. For example, MPO staff will continue to help MassDOT publicize its Community Transit Grant Program solicitation, and evaluate that program’s grant applications. MPO staff will continue to coordinate with MassDOT’s Office of Diversity and Civil Rights to ensure consistency of MPO Title VI-related processes, procedures, and activities.

Creating Maps: Staff will continue to identify and map major destinations such as hospitals, government agencies, schools, social service agencies, and grocery stores within selected EJ areas of concern in the MPO region. Staff will map other important destinations identified in the Coordinated Public Transit–Human Services Transportation (CPTHST) Plan outreach to MPO communities of concern. Mapping will include an overlay of existing public and active transportation like walking and biking options in those areas. This work will be useful in documenting transportation gaps and needs.



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 11132

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

Conducting Special Studies: As budget permits, staff will conduct special studies and analyses during the year and report results to the MPO via technical memoranda. This year, staff plans to study emergency evacuation and transportation infrastructure vulnerabilities of Transportation Equity households. As budget allows, staff will review and inventory current community planning initiatives for vulnerable populations' transportation needs. This process will help staff understand which agencies or organizations are addressing this topic. Staff will summarize plans that are in place or under development, and identify geographic or programmatic planning gaps. Another possible study would involve analyzing the transportation options available to older MPO-area residents.

FFY 2016 Activities and Expected Work Products:

- > Continue MPO outreach to minority, low-income, and LEP communities by attending monthly RCC meetings, conducting surveys, and holding an MPO-sponsored meeting
- > Prepare a summary of issues, gaps in service, and transportation priorities obtained from RCCs for use in planning and programming discussions
- > Monitor developments at the US Department of Transportation regarding civil rights, Title VI, and EJ; participate in workshops, conferences, and seminars, as appropriate; and use this knowledge to inform MPO activities
- > Prepare survey results and meeting summaries and other updates for the MPO
- > Publicize the Community Transit Grant Program solicitation for projects and help to evaluate applicant proposals
- > To the extent that the budget will allow, research and prepare a memorandum on the state of emergency evacuation transportation planning for transportation equity households and areas of concern, or on the issue of transportation for seniors
- > Complete EJ analyses as needed
- > Produce additional maps and technical memoranda.



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 11132

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

Note: This project is supported by 3C planning support activities, the Provision of Materials in Accessible Formats project, and public outreach activities described in this chapter.

FHWA/FTA Grant Application Task and Element: 44.21.04
FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$100,900	\$100,900			\$70,630	\$30,270					



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 10103

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

The Boston Region MPO's Transportation Improvement Program (TIP) presents a multiyear, financially constrained program of planned investments in the metropolitan area's transportation system. Although federal regulations require the TIP to be updated every four years, Massachusetts and its MPOs have committed themselves to producing annual updates.

Development of the FFYs 2017–21 TIP: MPO staff coordinates the collection of TIP project-funding requests, evaluates the requests, proposes programming of current and new projects based on anticipated funding levels, supports the MPO in its decision making about programming and in developing a draft document, and facilitates public review of the draft document before the MPO endorses the final TIP.

Outreach and Compilation of the Universe of Projects: MPO staff communicates with the 101 cities and towns in the region through TIP and UPWP workshops, MAPC subregional meetings, and correspondence with municipal TIP contacts and chief elected officials to gather existing and new TIP funding requests. MPO staff compiles the projects into a Universe of Projects list for the MPO.

Based on the list of project funding requests, MPO staff will compile and update information on each project for the TIP Interactive Database. Data inputs and updates will consist of mapping the project boundaries, inventorying pavement condition, documenting the extent of bicycle and pedestrian accommodations, computing crash rates, documenting traffic volumes and the severity of congestion, calculating greenhouse gas (GHG) impacts, and compiling other background information. The TIP Interactive Database integrates frequently updated information from the MPO, the Massachusetts Department of Transportation (MassDOT) divisions, municipal TIP Contacts, members of the general public, and MPO staff in order to inform TIP evaluations.



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 10103

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

Project Evaluation: The MPO uses TIP project evaluation criteria to identify projects that will help the region attain the vision, goals, and objectives established by the LRTP. The MPO's evaluation criteria enhance decision making for transportation projects in the region by establishing a transparent, inclusive, and data-driven process. The evaluation results are posted on the MPO website to allow project proponents to review the ratings and provide feedback.

A review of the project evaluation criteria is conducted each year. In FFY 2016, the MPO will revise the evaluation criteria based on the new goals and objectives of the LRTP, Charting Progress to 2040. These revisions will help align the MPO's goals, objectives, and performance measures with TIP investment decisions.

Staff Recommendation: Staff develops a recommendation that proposes how to prioritize the MPO's Regional Target funding. MPO staff first prepares a First-Tier List of Projects using the results of the evaluation ratings and project-readiness information. Staff then develops the staff recommendation giving strong consideration to the First-Tier List of Projects, and accounts for cost (to comply with the fiscal-constraint requirement) and geographic equity.

In addition to preparing a staff recommendation, MPO staff also prepares and presents the Statewide Infrastructure Items and Bridge Programs and the capital programs for the MBTA, the Cape Ann Transportation Authority (CATA), and the MetroWest Regional Transit Authority (MWRTA) for the MPO's consideration.

TIP Document Preparation and Endorsement: Staff prepares a draft TIP that maintains compliance with federal regulations and requirements for a 30-day public review and comment period. During the public comment period, MPO staff compiles and summarizes comments on the draft TIP and relays the comments to the MPO for its consideration before endorsing the final TIP document.



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 10103

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

Amendments and Administrative Modifications: In a typical year, various projects experience cost or schedule changes that require an amendment or administrative modification to the TIP. MPO staff manages all public review processes regarding TIP amendments and administrative modifications, including posting TIP materials on the website.

For these actions, MPO staff collects information on the project(s) involved, the change(s) needed, and the reason(s) for the change(s). Staff prepares draft TIP tables that reflect the proposed changes and indicate their rationale. Staff briefs the MPO on the proposed changes to the TIP. The MPO reviews, discusses, and takes appropriate action regarding public review of the proposed changes. Staff also compiles and summarizes comments on the proposed amendment. MPO staff relays public comments to the MPO for its consideration prior to endorsement of the TIP amendment. Staff estimates as many as six amendments and/or administrative modifications to the FFYs 2016–20 TIP during FFY 2016.

Implementing Performance-Based Planning: The FFYs 2017–21 TIP will continue to report on the MPO’s implementation of its performance-based planning program and the results of tracking trends in the region. Staff has dedicated Chapter 4 of the TIP document to reporting on the progress of performance-based planning. This chapter tracks trends for safety and system preservation measures and establishes baselines for measures other goal areas, such as congestion. It also demonstrates that the MPO investments through the TIP are making progress toward these goals. For example, for safety, MPO staff will account for investments that have a significant impact on reducing crash severity across modes. The FFYs 2017–21 TIP will seek to further develop the performance-based planning process by monitoring trends and setting targets.



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 10103

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

FFY 2016 Activities and Expected Work Products: The FFYs 2017–21 TIP, and amendments and administrative modifications to the FFYs 2016–20 TIP, will be prepared as described above. The interactive TIP database for tracking projects will be maintained and enhanced to support the development and tracking of performance measures. The performance-based planning process will expand the tracking of performance measures and initiate the discussion of setting targets.

Note: This project is supported by 3C planning support activities, air-quality conformity and support activities, the Provision of Materials in Accessible Formats project, and transportation equity and public outreach activities described in this chapter. MAPC work efforts related to the TIP are also presented in this chapter under MPO/MAPC Liaison and Support Activities. For information on performance-based planning activities being implemented as part of the LRTP, please see page 5-19.

FHWA/FTA Grant Application Task and Element: 44.25.01
FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$174,200	\$174,200			\$121,940	\$52,260					

**STAFF:** Central Transportation Planning Staff**CLIENT:** Boston Region MPO**ID #:** 10104**BUDGET:** Not applicable to ongoing projects**STATUS:** Ongoing

The Boston Region MPO produces an annual Unified Planning Work Program (UPWP). This document outlines the transportation-planning activity for all surface-transportation modes that is expected to be undertaken in the region during a given federal fiscal year. It also includes detailed budget information on the expenditure of federal planning funds.

The MPO's UPWP development and implementation activities are focused on 1) complying with federal regulations and requirements; and 2) supporting a framework that provides the MPO with information needed for planning processes and activities in pursuit of its vision, goals, and objectives. MPO staff prepares materials for and coordinates all phases of this work, including soliciting, evaluating, and recommending study ideas; conducting background research; preparing budgets and project descriptions; coordinating document development with the MPO's UPWP Committee; responding to federal guidance; and preparing draft and final documents. MPO staff members are responsible for coordinating public participation in the UPWP process, distributing the draft UPWP, preparing the final UPWP, and making administrative modifications and amendments as needed. MPO staff also prepares quarterly reports on the implementation of the UPWP.

FFY 2016 Activities and Expected Work Products:

- > Amendments and administrative modifications to the FFY 2016 UPWP, as necessary
- > Development of, and public outreach for, the FFY 2017 UPWP, as described above
- > Planning for relevant meetings
- > Quarterly implementation reports for the FFY 2016 UPWP
- > Other information materials as needed



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 10104

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

Note: This project is supported by 3C planning support activities, the Provision of Materials in Accessible Formats project, and transportation equity and public outreach activities described in this chapter. MAPC work efforts related to the UPWP are also presented in this chapter.

FHWA/FTA Grant Application Task and Element: 44.21.01
FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$98,000	\$98,000			\$68,600	\$29,400					



STAFF: Metropolitan Area Planning Council

CLIENT: Boston Region MPO

ID #: MAPC3

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

This UPWP task supports MAPC’s management and oversight of UPWP-funded planning studies, projects, and programs, which includes preparing updates and budget information in monthly reports to MassDOT. MAPC also assists with the annual development of the UPWP and supports, in coordination with MassDOT and CTPS, the development of UPWP project ideas and specific work scopes. Through community liaison and subregional support activities, MAPC staff also will help communities identify and develop studies to be included in the UPWP.

FFY 2016 Activities and Expected Work Products: MAPC staff will prepare UPWP project listings and monthly reports on UPWP activities. MAPC will provide assistance with the annual development of the UPWP and support for the development of specific project proposals and work scopes. Staff will also provide assistance to communities in identifying and developing studies to be included in the UPWP through community liaison and subregional support activities.

Note: This project supports CTPS UPWP activities presented in this chapter.

FHWA/FTA Grant Application Task and Element: 44.21.01
FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$10,000		\$10,000		\$7,000	\$3,000					



Planning Studies

The projects in this chapter are planning studies that will be conducted during federal fiscal year 2016. They are technical in nature and may include support for larger projects that are described in Appendix A: Other Boston Region Transportation-Planning Projects.

The budget tables for the individual projects and contracts in this chapter describe the salary and overhead costs associated with those projects. Any direct costs associated with these projects are included in the Direct Support budget table (page 4-6) in Chapter 4, Administration and Resource Management projects.

The projects in this chapter are:

Project ID #	Project Name	Page
13266	Addressing Safety, Mobility, and Access on Subregional Priority Roadways: FFY 2015	6-3
13270	Addressing Safety, Mobility, and Access on Subregional Priority Roadways: FFY 2016	6-5
13208	Bicycle/Pedestrian Support Activities	6-7
11123	Congestion Management Process	6-9
23326	Core Capacity Constraints	6-11
MAPC4	Corridor/Subarea Planning Studies	6-12
11249	Fairmount Line Station Access Analysis	6-15
11399	First-Mile-and-Last-Mile Transit Connections Studies	6-18
22336	Green Line Extension: Completion of New	6-19

Project ID #	Project Name	Page
	Starts Analysis	
73216	I-93/I-95 Interchange Improvements North of Boston: Modeling Support	6-20
11400	Identifying Opportunities to Alleviate Bus Delay	6-21
MAPC5	Land Use Development Project Reviews	6-23
11153	MassDOT Highway Division On-Call Modeling Support	6-25
22127	Massport Technical Assistance: SFY 2015–17	6-26
MAPC6	MetroFuture Implementation	6-27
13267	Priority Corridors for LRTP Needs Assessment: FFY 2015	6-29
13271	Priority Corridors for LRTP Needs Assessment: FFY 2016	6-31
23325	Route 3 South Express Toll Lanes – Public-Private Partnership Study: Modeling Support	6-33
13272	Safety and Operations Analyses at Selected Intersections: FFY 2016	6-34



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 13266

BUDGET: \$110,000

STATUS: 98%

During MPO outreach, MAPC subregional groups identify transportation problems and issues that concern them, often which relate to bottlenecks or lack of safe access to transportation facilities in their areas. 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 will identify priority arterial roadway segments in the MPO region, emphasizing issues identified by the relevant subregional groups, and will develop recommendations. Staff will pay particular attention to transit service, the nonmotorized modes, and truck activity along these arterial segments. Staff will 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
- > Location and management of pedestrian crossings and signals, including Americans with Disabilities Act (ADA) requirements
- > Travel-lane utilization by motorized and bicycle traffic
- > Speed-limit assessment
- > Access management

These improvements will provide a guide to designing and implementing a “complete street” corridor and could be recommended to implementing agencies and funded through various federal, state, and local sources, separately or in combination.



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 13266

BUDGET: \$110,000

STATUS: 98%

The Boston Region MPO has conducted Addressing Safety, Mobility, and Access on Subregional Priority Roadways studies as part of the FFY 2013, 2014, and 2015 UPWPs. In FFY 2015, the MPO selected the Summer Street/Rockland Street/George Washington Boulevard corridor in Hingham and Hull as a study location. MPO staff will complete its recommendations and documentation for this corridor in FFY 2016.

FFY 2016 Activities and Expected Work Products: Complete development of recommendations and documentation for the Summer Street/Rockland Street/George Washington Boulevard corridor in Hingham and Hull.

FHWA/FTA Grant Application Task and Element: 44.24.01
FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$1,100	\$1,100			\$770	\$330					



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 13270

BUDGET: \$110,000

STATUS: 0%

During MPO outreach, MAPC subregional groups identify transportation problems and issues that concern them, often which relate to bottlenecks or lack of safe access to transportation facilities in their areas. 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 will identify priority arterial roadway segments in the MPO region, emphasizing issues identified by the relevant subregional groups, and will develop recommendations. Staff will pay particular attention to transit service, the nonmotorized modes, and truck activity along these arterial segments. Staff will 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
- > Location and management of pedestrian crossings and signals, including Americans with Disabilities Act (ADA) requirements
- > Travel-lane utilization by motorized and bicycle traffic
- > Speed-limit assessment
- > Access management

These improvement strategies will provide a guide to designing and implementing a “complete street” corridor and could be recommended to implementing agencies and funded through various federal, state, and local sources, separately or in combination.



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 13270

BUDGET: \$110,000

STATUS: 0%

The MPO conducted corridor studies for its Address Safety, Mobility, and Access on Subregional Priority Roadways project as part of the FFY 2013, FFY 2014, and FFY 2015 UPWPs.

FFY 2016 Activities and Expected Work Products: Data collection, technical analysis, development of recommendations, and documentation for selected corridors.

**FHWA/FTA Grant Application Task and Element: 44.24.01
FFY 2016 Budget**

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$110,000	\$110,000			\$77,000	\$33,000					



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 13208

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

MPO staff supports the MPO's and the region's needs for bicycle and pedestrian planning through ongoing data collection, analysis, and technical assistance. In addition to the items listed below, during the federal fiscal year, other bicycle and pedestrian planning studies often are identified collaboratively by MPO members, communities, bicycle and pedestrian advisory groups, and CTPS. Through such studies, MPO staff provide support to communities in creating bicycle and pedestrian improvement projects that can be advanced through the MassDOT Project Development process.

FFY 2016 Activities and Expected Work Products: Technical assistance, data collection, analysis, review of materials, and attendance at state, regional, and local forums and committee meetings. Tasks not related directly to separate studies or activities may include the following:

- > Coordinate with state agencies, MAPC, other MPOs, the Safe Routes to School Program at MassRIDES, WalkBoston, MassBike, Livable Streets, municipalities, and other groups regarding bicycle and pedestrian planning for the region, and possibly including issues pertaining to bicycle/pedestrian law enforcement and education
- > Collect data on bicycle and pedestrian volumes at selected on-road and off-road facilities
- > Examine bicycle and pedestrian crash data at the intersection, corridor, and regional level to support the development of strategies to address bicycle and pedestrian safety problems
- > Provide ongoing technical support on current tools and practices to communities on bicycle and pedestrian issues with a particular focus on promoting safety
- > Conduct technical analyses to quantify the impacts of proposed bicycle facilities, including air quality improvements, reductions in vehicle miles traveled, and parking needs

BICYCLE/PEDESTRIAN SUPPORT ACTIVITIES [CONT.]



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 13208

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

- > Conduct analyses to identify critical sidewalk gaps in the region, and possibly provide guidance to communities in accessing available Transportation Alternatives Program (TAP) funding to close gaps on federal-aided roadways
- > Examine potential routes, both on- and off-road, to increase the connectivity of the existing transportation system, including trails, on-road facilities, and public transit, emphasizing connections on the Bay State Greenway, where applicable
- > Consider development of future possible strategic bicycle and pedestrian safety plans

FHWA/FTA Grant Application Task and Element: 44.22.02 FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$47,400	\$47,400			\$33,180	\$14,220					



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 11123

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

The MPO's Congestion Management Process (CMP) is a federally mandated requirement that seeks to monitor congestion, mobility, and safety needs and recommend appropriate strategies. The CMP is developed in an integrated manner along with the MPO's certification documents—the LRTP, TIP, and UPWP—to ensure cohesive strategy evaluation and implementation.

In the Boston Region MPO area, the CMP follows federal guidelines and recommendations from the MPO's CMP committee to fulfill the following activities:

- > Set goals, objectives, and performance measures
- > Identify congested locations
- > Determine the causes of congestion
- > Develop alternative strategies to mitigate congestion
 - > Evaluate the strategies' potential for efficacy
- > Recommend the strategies that best address the causes and impacts of congestion
 - > Coordinate with and support development of the TIP, LRTP, and UPWP
 - > Create needs priorities for planning studies

Depending upon CMP committee recommendations, monitoring and analysis will continue for highways, arterial roads, park-and-ride lots, freight movements, and bicycle and pedestrian facilities. CMP activities will include using electronic travel-time and speed data to monitor roadways, identifying existing conditions, and recommending appropriate improvements in accordance with federal guidelines.



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 11123

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

FFY 2016 Activities and Expected Work Products: CMP activities will include monitoring, assessing needs, and recommending strategies for multimodal facilities and services, including:

- > Using electronic travel-time and speed data to monitor MPO arterials and freeways
- > Mapping and tabulating electronic data for analysis and performance evaluation
- > Coordinating with the MPO’s certification activities (UPWP, TIP and LRTP)
- > Supporting the CMP committee of the MPO

Note: This project informs decisions related to the LRTP and the TIP and identifies areas requiring additional study through the UPWP.

FHWA/FTA Grant Application Task and Element: 44.22.02

FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$92,200	\$92,200			\$64,540	\$27,660					

CORE CAPACITY CONSTRAINTS



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 23326

BUDGET: \$120,000

STATUS: 90%

The transportation system, which encompasses the roadway network and the MBTA transit system, is heavily used within the city of Boston and its immediately surrounding communities—the metropolitan region’s core area. Congested roadways and a crowded transit system result from density of land use, trip-making activity associated with different land-use types, and the capacity of each transportation mode to handle trip making during specific times of day.

In this study, MPO staff will complete work begun in FFY 2015 to examine existing and future conditions of the transportation system in the core area, its ability to accommodate future growth, and the effect of major developments on the transportation system. This analysis will support long-range planning and improvement activities by highlighting existing and future capacity problems. Currently, municipalities require developers to take measures to offset and mitigate problems caused by their projects. This study also will examine how different stakeholders in the core area identify and implement mitigation measures, including the processes for directing funds to the appropriate agencies that oversee each transportation mode.

FFY 2016 Activities and Expected Work Products: Finalize presentations and memoranda analyzing how existing and projected conditions will affect the roadway and transit system in the study area, and examine existing practices for mitigating the impact of transportation development on the transit system.

FHWA/FTA Grant Application Task and Element: 44.24.01 FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$12,700	\$12,700			\$8,890	\$3,810					



STAFF: Metropolitan Area Planning Council

CLIENT: Boston Region MPO

ID #: MAPC4

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

This UPWP task includes funding to support MAPC's work on several corridor and subarea studies in the region. Some of these projects will be funded jointly through the UPWP and the District Local Technical Assistance program.

Opportunities for and Impediments to Creating Transit-Oriented Development (\$60,000): MAPC will continue planning work that can support transit-oriented development (TOD). MAPC will use demographic data to identify two or three existing transit stations (subway or commuter rail) or high-volume bus corridors that have the potential to support TOD. MAPC will analyze these sites and identify their development potential, along with impediments to development. Factors that may affect the potential for TOD include existing zoning, inadequate pedestrian connections, outdated parking requirements, existing levels of travel demand management (TDM) implementation, and infrastructure elements. MAPC will offer recommendations about how to improve the sites' potential for TOD. Where applicable, MAPC will conduct a market analysis to determine whether the market can support additional development at the chosen station areas or corridors. Where appropriate, MAPC will work with the MBTA, CTPS, MassDOT, EOHED, DCAMM, land owners, and the municipalities in which the stations or corridors are located.

FFY 2016 Activities and Expected Work Products: Analysis to identify transit stations or bus corridors with the potential to support TOD, market analysis, mapping and visualization products, demographic and vehicle-miles-traveled data for chosen station areas or corridors, community engagement, recommendations to overcome impediments to TOD, and technical support to municipalities.

Right Size Parking Calculator (\$30,000): MAPC will continue creating and refining an online parking calculator that would provide MassDOT, MBTA, municipalities, developers, non-profits, and the general public with information to better understand the parking supply and demand of multi-family housing developments in the region. This project could benefit air quality and reduce congestion by providing information that municipalities and developers can use when deciding whether to reduce the total number of parking spaces required as a component of a new development. In locations where parking requirements are reduced, the number of households with one or more vehicles could decline, resulting in higher percentages of walking, biking, and transit ridership.



STAFF: Metropolitan Area Planning Council

CLIENT: Boston Region MPO

ID #: MAPC4

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

Parking also has a direct impact on overall development costs, and can hinder developers looking to construct multi-family housing from investing in a particular area. A better understanding of parking supply and demand could help communities achieve a parking balance, and thereby assist in the state's goal of creating 10,000 new housing units each year.

MAPC has gathered data in Malden, Chelsea, Everett, and Revere. This body of work seeks to expand data collection to other community types and refine analysis of parking utilization relative to parking supply. As part of this work, MAPC will research how traffic circulation might be affected because of changes in parking availability across various community types. This research may involve coordination with CTPS. MAPC also will educate municipal decision makers, developers, and the public about the impact of parking locally and regionally.

FFY 2016 Activities and Expected Work Products: Coordinating with municipalities, identifying residential properties from which to collect data, collecting off-street residential parking utilization data, analyzing data, reporting findings, and building a web portal to host reporting tools and an interactive calculator. This calculator would allow users to identify the amount of parking needed for new residential development by community type. Conducting parking-related educational activities for municipal decision makers, developers, and the public. Researching the relationship between parking availability and impacts on traffic circulation.

Local Parking Management Plans in Selected Communities (\$50,000): MAPC will work with selected municipalities to develop local parking-management plans to provide better parking availability to stimulate local economic prosperity, reduce congestion caused by circling vehicles, and help municipalities plan for greater land-use density by decreasing parking ratios. The goal of this work program is to address the problems municipalities face from not managing their parking supply in commercial and mixed-used areas. This work would benefit local air quality and congestion by managing parking supply and demand and creating places where people can park once, then walk to multiple destinations. In locations where parking requirements can be reduced, the number of households with one or more vehicles could decline, which could result in higher percentages of walking, biking, and transit ridership.



STAFF: Metropolitan Area Planning Council

CLIENT: Boston Region MPO

ID #: MAPC4

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

FFY 2016 Activities and Expected Work Products: Parking utilization data collection, analysis of data, and recommendations to municipalities in the form of a report with pricing and parking-management solutions.

Corridor Level Transportation and Land-Use Planning (\$27,480): MAPC will work in two-to-three selected roadway corridors to coordinate transportation planning conducted by MassDOT, Department of Conservation and Recreation (DCR), and/or municipalities with local land-use planning to achieve livability and smart growth goals.

FFY 2016 Activities and Expected Work Products: Coordination between agencies and municipalities, recommendations for roadway improvements and coordinated land-use planning, solutions documented in reports or memoranda.

FHWA/FTA Grant Application Task and Element: 44.23.01

FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$167,480		\$167,480		\$112,180	\$55,300					



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 11249

BUDGET: \$40,000

STATUS: 75%

The 9.2-mile Fairmount Line is an MBTA commuter rail service running from South Station in Boston’s central business district (CBD) to Readville, passing through the following neighborhoods: Downtown Boston, South Boston, Roxbury, Dorchester, Mattapan, and Hyde Park. Until 2012, there were only four stations outside of Boston’s CBD: Uphams Corner, Morton Street, Fairmount, and Readville. As part of the Fairmount Line Improvements Program, the MBTA opened three new stations: Talbot Avenue, Newmarket, and Four Corners/Geneva. There are plans to construct a fourth station at Blue Hill Avenue. The Boston Redevelopment Authority (BRA) and other entities are engaged in various planning activities for the Fairmount Line Corridor. These activities include a corridorwide study and plans to improve connections between stations—particularly Uphams Corner, Four Corners/Geneva, and Blue Hill Avenue—and their surrounding neighborhoods.

In this study, MPO staff will build upon this planning work by analyzing safety problems and other possible impediments to bicycle and pedestrian access to as many as four Fairmount Line stations. Using this analysis, MPO staff will generate recommendations for improving bicycle and pedestrian connections to these stations. This study will also build on a previous MPO study of bicycle and pedestrian access for the Morton Street station. These results could provide valuable information for the City of Boston and others in their ongoing efforts to support the success of the Fairmount Line and the surrounding corridor. This work could also enhance transportation access for neighboring communities, including for low-income and minority populations and for those with limited English proficiency, in the vicinity of the Fairmount Line.

FFY 2016 Activities and Expected Work Products:

- > Continue analyzing bicycle and pedestrian impediments for accessing Fairmount Line stations
- > Develop recommendations for improving network connections
- > Create presentations and memoranda

FAIRMOUNT LINE STATION ACCESS ANALYSIS [CONT.]



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 11249

BUDGET: \$40,000

STATUS: 75%

FHWA 2017 Grant Application Task and Element: 44.24.01

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$800	\$800			\$560	\$240					



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 11399

BUDGET: \$55,000

STATUS: 0%

During the MPO’s LRTP outreach in fall 2014, a frequent topic was the need 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 (including expanding the frequency and hours of existing services) to link MBTA commuter rail stations and suburban communities.

In this project, MPO staff would assist municipalities, Transportation Management Associations (TMAs) or other service providers that request planning support for addressing first-and-last-mile connections to transit. Candidate locations might be identified through outreach to MAPC subregions and other MPO outreach activities.

For identified locations, MPO staff will document existing conditions, including barriers and opportunities for linking residential, commercial, and employment areas to transit services and stations, and will propose services that could fill the gaps. Staff also may recommend improvements to support access for pedestrians and bicyclists, where applicable.

FFY 2016 Activities and Expected Work Products: Selection of study locations. Data collection and analysis and development of recommendations pertaining to first-and-last-mile connections to transit. Creation of presentations and memoranda.

FHWA/FTA Grant Application Task and Element: 44.24.01

FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$55,000	\$55,000			\$0	\$55,000					



STAFF: Central Transportation Planning Staff

CLIENT: MBTA

ID #: 22336

BUDGET: \$271,740

STATUS: 85%

This project will provide planning and modeling assistance to the MBTA, which has completed a Federal Transit Administration (FTA) New Starts submission for the Green Line Extension, but is required to provide information to track its performance before and after construction. This transit capital project will include extension of Green Line service from a relocated Lechmere Station through Cambridge to Somerville and Medford, with a spur to Union Square in Somerville. In January 2015, the MBTA and the US Department of Transportation Federal Transportation Administration (FTA) signed a Full Funding Grant Agreement (FFGA), which establishes the scope of federal participation in the Green Line Extension project.

CTPS will continue to provide needed analytic support for state and federal documents related to the Green Line Extension.

FFY 2016 Activities and Expected Work Products: CTPS will continue to support the MBTA as the Green Line Extension project advances, will respond to FTA requests as needed, and will produce memoranda as requested and required. CTPS will answer any questions the FTA may have about results of the travel demand analysis.

Note: This work relates to a recommended, regionally significant project that is identified in the LRTP and included in the MBTA's Program for Mass Transportation (PMT).

Note: Please see Appendix A for additional information.

FHWA/FTA Grant Application Task and Element: 44.23.02

FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$18,600	\$18,600								\$18,600	



STAFF: Central Transportation Planning Staff

CLIENT: MassDOT

ID #: 73216

BUDGET: \$215,989

STATUS: 79%

The I-93/I-95 interchange north of Boston was built in the early 1970s using then-current design standards and serving substantially lower volumes than do the roadways today. As the number of vehicles increases, so does congestion, especially that caused by merging and weaving. This interchange has been ranked among the five worst crash sites in Massachusetts in terms of safety between 2006 and 2010. As part of the processes required by the National Environmental Policy Act (NEPA) and Massachusetts Environmental Policy Act (MEPA), and to complete an Environmental Impact Statement (EIS), MassDOT’s Highway Division will examine three projects to improve the I-93/I-95 interchange in the towns of Reading, Stoneham, and Wakefield, and the city of Woburn:

- > Redesigning the interchange
- > Widening the Washington Street Bridge
- > Adding a lane on I-95 northbound between Exit 37 and Exit 40

CTPS will model and analyze a set of alternatives, including interchange, transit service, and other types of improvements, using the Boston Region MPO’s regional travel demand model set.

FFY 2016 Activities and Expected Work Products: Tasks associated with this project will be conducted as requested by MassDOT.

Note: See Appendix A for additional information.

FHWA/FTA Grant Application Task and Element: 44.23.02
FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$45,000	\$45,000						\$45,000			

IDENTIFYING OPPORTUNITIES TO ALLEVIATE BUS DELAY



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 11400

BUDGET: \$65,000

STATUS: 0%

Reliable public transit provides mobility, access, and livability benefits to residents throughout the region and improves transportation capacity on congested roadways; however, traffic delays can counteract these benefits. Increasing the use of operational and infrastructure improvements—such as bus queue jumps, transit signal priority, and bus-only lanes—could decrease delay, improve on-time performance, reduce travel times, and make transit a more attractive travel mode.

To help address the problem of bus delays, MPO staff will use automatic passenger counter (APC) and automatic vehicle location (AVL) data to identify roadway locations where bus routes regularly experience significant delay. Staff will perform further analysis using roadway geometry, congestion, passenger boarding, and/or fare payment data sets to identify causes of the delays—such as operational issues related to fare payment, heavy passenger loads, stop locations, roadway design, and congestion—at the identified locations. MPO staff will then recommend low-, medium-, and high-cost transit operational or infrastructure improvements that could reduce delays on the bus routes studied. Staff will also compare the recommended improvements and rank them in terms of their effects on transit delay, on-time performance, travel time, and potential operational cost savings.

MPO staff will coordinate this study with work that is underway or proposed by the MBTA Advisory Board, the MBTA, the city of Cambridge, and others to avoid duplication of effort on this topic.

FFY 2016 Activities and Expected Work Products: Analysis to identify priority locations for transit-priority upgrades. Recommendations to reduce bus delays at those locations. Creation of memoranda and presentations.

IDENTIFYING OPPORTUNITIES TO ALLEVIATE BUS DELAY [CONT.]



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 11400

BUDGET: \$65,000

STATUS: 0%

FHWA/FTA Grant Application Task and Element: 44.24.01
FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$65,000	\$65,000			\$0	\$65,000					



STAFF: Metropolitan Area Planning Council

CLIENT: Boston Region MPO

ID #: MAPC5

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

This UPWP task supports MAPC’s review of potential development projects in the region. In particular, projects will be reviewed for consistency with MetroFuture, impacts on the transportation network and projects identified in the TIP and LRTP, and for consistency with the MPO’s livability goals and the Commonwealth’s sustainable-development principles.

MAPC tracks all projects reviewed in the region under the Massachusetts Environmental Policy Act (MEPA), and provides a regional-planning analysis to the Secretary of Energy and Environmental Affairs for all developments considered to have significant impact. Special attention is given to local zoning ordinances and regulations that serve to reduce auto travel by encouraging carpooling, transit, and other travel-demand management techniques. MAPC also will recommend appropriate mitigation measures. MAPC coordinates these reviews with MassDOT, and works with MassDOT to identify updated requirements to be included in Transportation Impact Assessments that developers must conduct.

MAPC also reviews notices of offered railroad property from MassDOT, consults with municipalities as necessary, and provides appropriate input. Often, these notices involve rail trails, but they also may involve other types of proposed developments.

FFY 2016 Activities and Expected Work Products: Analysis and write-up of MEPA reviews, development of mitigation recommendations, coordination with municipalities and transportation agencies, maintenance and updates of MAPC’s development database, and input into the project evaluations for the TIP and LRTP. In addition, MAPC will continue to review and respond to notices of offered railroad property.

LAND USE DEVELOPMENT PROJECT REVIEWS [CONT.]



STAFF: Metropolitan Area Planning Council

CLIENT: Boston Region MPO

ID #: MAPC5

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

FHWA/FTA Grant Application Task and Element: 44.23.02
FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$88,280		\$88,280		\$59,400	\$28,880					



STAFF: Central Transportation Planning Staff

CLIENT: MassDOT

ID #: 73220

BUDGET: \$400,000

STATUS: Contract¹

For the past few years, the Massachusetts Department of Transportation (MassDOT), Highway Division, has employed CTPS to provide travel demand modeling support and planning assistance for a number of its projects, each of which has necessitated creating either a new contract or a contract amendment. In an effort to streamline the process, MassDOT’s Highway Division will create a general on-call contract to engage CTPS’ services for three years to provide necessary assistance to MassDOT Highway Division projects.

FFY 2016 Activities and Expected Work Products: CTPS will support MassDOT and its study teams in planning work associated with its bridge project management, and other projects, producing necessary memoranda and data upon request.

¹This UPWP entry reflects a contract that will include multiple individual projects or tasks.

FHWA/FTA Grant Application Task and Element: 44.23.02
FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$138,000	\$138,000						\$138,000			



STAFF: Central Transportation Planning Staff

CLIENT: Massport

ID #: 22124

BUDGET: \$150,000

STATUS: Contract¹

CTPS will provide technical assistance to Massport’s Department of Economic Planning and Development, which will support Massport in its desire to examine and improve ground-access options. Activities may include support for Logan Airport ground-access planning, ground-access model development, and related data-collection and analysis; analysis related to Logan Airport; air-quality analysis, and support for additional, to-be-determined transportation-planning activities. This work may be redirected or modified in response to emerging issues.

FFY 2016 Activities and Expected Work Products: Work activities and products will be determined by Massport.

¹This UPWP entry reflects a contract that will include multiple individual projects or tasks.

FHWA/FTA Grant Application Task and Element: Not Applicable
FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$49,900	\$49,900									\$49,900



STAFF: Metropolitan Area Planning Council

CLIENT: Boston Region MPO

ID #: MAPC6

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

This UPWP task will continue to support implementation of the local transportation and land-use elements of MetroFuture—the comprehensive land-use plan for Metro Boston—by increasing community engagement in MAPC’s local planning work with emphasis on reaching diverse groups of people. It also will identify transportation and land-use best practices by evaluating the different approaches and strategies used in MAPC’s work, and through case studies of positive models from around the region.

Building Constituencies for Local Decisions that Enable Livable Communities and Sustainable Transportation: MAPC will continue to work with municipal officials and residents at the local level to seek changes in land use that will support livable communities and sustainable transportation. This will include engaging the public in planning and dialogue that enhances corridor planning, identifying priority development and preservation areas, and other decision making to enhance the land-use/transportation connection.

Honing MAPC’s Practice of Planning for Livable Communities and Sustainable Transportation: MAPC will evaluate the approaches, strategies, and implementation status of its transportation and land-use planning work, with particular emphasis on bicycle, pedestrian, and parking studies implementing these plans’ recommendations can take time and typically rely on local, municipal actions. MAPC will conduct interviews with municipal staff to assess progress toward implementing the plans’ recommendations, identify any barriers that exist, and document successes across the region. Lessons learned will be documented in a fashion that will facilitate their application to future work of a similar nature.

Research and Policy Development that Support Livable Communities and Sustainable Transportation: Best practices and state policy that support sustainable land-use planning, including local and state practices from across the country, provide both ideas and “proof of concept.” MAPC will identify such best practices and employ appropriate means to promote their use in the region. Activities may include researching transportation funding strategies that are successfully employed in other



STAFF: Metropolitan Area Planning Council

CLIENT: Boston Region MPO

ID #: MAPC6

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

parts of the country to assess their applicability in Massachusetts, as well as researching recent developments along major highways in our region to determine compatibility of land uses and the extent to which they advance MetroFuture goals and federal livability principles.

Updating MetroFuture Objectives and Strategies: As it nears its seventh anniversary, MetroFuture’s goals remain as “bold but achievable” as ever. However, intervening studies—including those undertaken as part of the Metro Boston Sustainable Communities Regional Planning Grant “gap-filling” activities, the Long Range Transportation Plan update, and greater data availability—make it incumbent upon MAPC to augment and update the objectives and strategies that were defined for each goal when MetroFuture was adopted in December 2008. This work will support updates in each component of the MetroFuture plan, with a specific emphasis on strategy number 12, Implement Coordinated Transportation and transportation content contained in other strategies.

FFY 2016 Activities and Expected Work Products: Public engagement, assessments of bicycle, pedestrian, and parking plans, case studies identifying best practices, and updated MetroFuture objectives and strategies.

FHWA/FTA Grant Application Task and Element: 44.23.01

FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$90,000		\$90,000		\$59,400	\$30,600					



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 13267

BUDGET: \$110,000

STATUS: 98%

The study of a roadway corridor or corridor segment is a logical way to address regional multimodal transportation needs, including those expected from potential future developments. It allows a corridor to be evaluated comprehensively: pedestrians, bicyclists, motorists, and public-transportation users all are considered, using a holistic approach to the analyzing the problems and recommending associated improvements. Typically, this type of study is multimodal; it addresses issues, analyzes services, and makes recommendations for areas within the roadway’s right-of-way, accounting for the needs of abutters and other users.

Through this study, staff will recommend conceptual improvements for one or more corridors, or several small sections within a corridor, that the CMP and the LRTP identify as part of the needs-assessment process. Staff will select locations for study—considering municipal, subregional, and other public feedback—and collect data, conduct technical analysis, and develop recommendations for improvements. The recommendations will be forwarded to implementing agencies, which may choose to fund improvements through various federal, state, and local sources, separately or in combination.

The Boston Region MPO has conducted Priority Corridors for Long- Range Transportation Plan (LRTP) Needs Assessment studies as part of the FFY 2012, 2013, 2014 and 2015 UPWPs. In FFY 2015, the Boston Region MPO selected the Lynnway/Route 1A corridor in Lynn as a study location. MPO staff will complete the analysis of this corridor in FFY 2016.

FFY 2016 Activities and Expected Work Products: Study location selection, data collection, technical analysis, development of recommendations for improvements, and creation of presentations and memoranda.



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 13267

BUDGET: \$110,000

STATUS: 98%

FFY 2016 Budget Application Task and Element: 44.23.01

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$1,100	\$1,100			\$770	\$330					



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 13271

BUDGET: \$110,000

STATUS: 0%

Studying a roadway corridor or corridor segment is a logical way to address regional transportation needs, including those expected from future developments. Such a study evaluates a corridor comprehensively and holistically. It considers pedestrians, bicyclists, motorists, and public-transportation users when analyzing the problems and recommending associated improvements. Typically, this type of study is multimodal; it addresses issues, analyzes services, and makes recommendations for areas within the roadway's right-of-way, accounting for the needs of abutters and other users.

Through this study, staff will recommend conceptual improvements for one or more corridors, or several small sections within a corridor, that the CMP and LRTP identify as part of the needs-assessment process. Staff will select locations for study—considering municipal, subregional, and other public feedback—and collect data, conduct technical analysis, and recommend improvements. Recommendations will be sent to implementing agencies, which may choose to fund improvements through various federal, state, and local sources, separately or in combination.

The MPO has conducted Priority Corridors for LRTP Needs Assessment studies through the FFY 2012, FFY 2013, FFY 2014, and FFY 2015 UPWPs. For the next UPWP, *Charting Progress to 2040*, the MPO staff has identified a new set of potential study corridors via the Needs Assessment process. Some of these corridors already may be under study. The list below presents a sampling of these new candidate corridors for study:

- > Rte. 1 Westwood to Sharon – Southwest Corridor
- > Rte. 138 (Canton) – Southwest Corridor
- > Rte. 1A from Salem to Revere – Northeast Corridor
- > Rte. 107 Western Ave. at Route 129 Washington St. (Lynn) – Northeast Corridor
- > Rte. 114 (Peabody, Salem) – Northeast Corridor
- > Rte. 1A (Revere) – Northeast/Central Corridor
- > Rte. 2 Bypass Rd./Cambridge Turnpike-Piper Road/Taylor Rd. (Concord, Acton) – Northwest Corridor



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 13271

BUDGET: \$110,000

STATUS: 0%

- > Rte. 60 from Rte. 2 to Rte. 2A and Medford St. (Arlington) – Northwest Corridor
- > Rte. 62 Main Street in Concord between Elm St. and Rte. 2 – Northwest Corridor
- > Rtes. 62, 225 and 4 corridor (Bedford, Lexington) – Northwest Corridor
- > Rte. 16 Fresh Pond Parkway and Alewife Brook Parkway – Northwest/Central Corridor
- > Memorial Drive (Cambridge) – Northwest/Central Corridor
- > Rte. 3A Marshfield to Quincy – Southeast Corridor
- > Rte. 18 (Weymouth) – Southeast Corridor
- > Rte. 28 Milton to Randolph – Southeast Corridor
- > Rte. 138 (Milton) – Southeast Corridor
- > Rte. 9 Southborough to Newton – West Corridor
- > Rte. 16 Holliston to Newton – West Corridor
- > Rte. 20 (Weston) – West Corridor
- > Rte. 30 between I-90 and Rte. 9 (Framingham) – West Corridor
- > Rte. 135 Wellesley to Natick – West Corridor
- > Rte. 16 Mystic Valley Parkway and Revere Beach Parkway – North/Central Corridor
- > Rte. 99 Broadway (Everett) – North/Central Corridor
- > Rte. 129 Wilmington to Reading – North Corridor

FFY 2016 Activities and Expected Work Products: Study location selection, data collection, technical analysis, development of recommendations for improvements, and creation of presentations and memoranda.

FHWA/FTA Grant Application Task and Element: 44.23.01
FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$110,000	\$110,000			\$77,000	\$33,000					



STAFF: Central Transportation Planning Staff

CLIENT: MassDOT

ID #: 73218

BUDGET: \$197,970

STATUS: 81%

MassDOT is studying ways to reduce the cost of adding roadway capacity by using private funding and electronic tolling technology to control traffic flow. For several years, traffic congestion has been increasing on Route 3 South, the segment of Route 3 that is south of the Braintree Split (the interchange of I-93/US Route 1 and Route 3). FHWA allowed temporary use of the breakdown lanes north of Route 18 to address this congestion. However, even with this accommodation, a traffic queue often builds in the northbound direction during the morning peak period between Interchange 15 (Derby Street) and Interchange 18 (Burgin Parkway/MBTA Quincy Adams Station). On the southbound side, a queue is common during the afternoon peak period from Interchange 17 onto the Southeast Expressway.

This MassDOT project will explore options for increasing traffic capacity and improving safety by reclaiming the breakdown lane as a shoulder and by adding express toll lanes along this stretch of the roadway. MassDOT tasked CTPS to provide modeling support for this project. These modeling activities will provide estimates of the changes in travel demand that would result from additions to the infrastructure of Route 3 South, and the impacts of those changes on traffic congestion.

FFY 2016 Activities and Expected Work Products: CTPS will support MassDOT (and its project team) in this planning work. Memoranda and data will be produced upon request.

FHWA/FTA Grant Application Task and Element: 44.23.02
FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$37,100	\$37,100						\$37,100			



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 13272

BUDGET: \$65,000

STATUS: 0%

This project's purpose is to examine mobility and safety issues at major intersections on the region's arterial highways. According to the MPO's crash database, many crashes occur at these locations, which also are congested during peak traffic periods. While the resulting bottlenecks may only occur at the intersections, they usually spill over to a few, adjacent intersections along an arterial. These intersections may also accommodate multiple transportation modes including buses, bicyclists, and pedestrians.

In this study, MPO staff will examine intersection locations based on a review of the MPO's crash database and the MPO Congestion Management Process's travel-time and delay information. MPO staff will recommend management and operations improvements to enhance the intersections' operations for all transportation modes, including transit, bicycling, and walking, and to enhance the safety of drivers, bicyclists, pedestrians.

Municipalities are receptive to these studies, as they provide an opportunity to review the locations' needs, starting at the conceptual level, before municipalities commit funds for project design. If a project qualifies for federal funds, the study's documentation is also useful to the Massachusetts Department of Transportation (MassDOT).

FFY 2016 Activities and Expected Work Products: Selection of intersection locations for study, data collection, technical analysis, development of recommendations for improvements, and creation of presentations and memoranda.



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 13272

BUDGET: \$65,000

STATUS: 0%

FHWA/FTA Grant Application Task and Element: 44.24.01
 FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$65,000	\$65,000			\$45,500	\$19,500					



Technical Support/Operations Analysis Projects

The projects in this chapter will be conducted during federal fiscal year 2016. They are technical in nature and may include support for larger projects, which are described in Appendix A: Other Boston Region Transportation-Planning Projects.

The budget tables for the individual projects and contracts in this chapter describe the salary and overhead costs associated with those projects. Any direct costs associated with these projects are included in the Direct Support budget table (page 4-6) in Chapter 4, Administration and Resource Management projects.

The projects in this chapter are:

Project ID #	Project Name	Page
MAPC7	Alternative-Mode Planning and Coordination	7-3
13150, MAPC9	Community Transportation Technical Assistance Program	7-6
11145	Freight Planning Support: FFY 2016	7-8
11152	Household-Survey-Based Travel Profiles and Trends: Selected Policy Topics	7-10
14344	Intercity Bus and Rail Maps	7-12
MAPC10	Land Use Data for Transportation Modeling	7-13
13801, MAPC8	Livable Community Workshop Program	7-14
Varies by Project	MassDOT Statewide Planning and Research Program Support	7-16

Project ID #	Project Name	Page
Various	MassDOT Title VI Program	7-18
Varies by Project	MassDOT Transit Planning Assistance	7-19
14341	MBTA 2015 National Transit Database: Data Collection and Analysis	7-20
14345	MBTA 2016 National Transit Database: Data Collection and Analysis	7-22
14351	MBTA 2017 National Transit Database: Data Collection and Analysis	7-24
14346	MBTA 2015–16 Systemwide Passenger Survey	7-26
11395	MBTA 2016 Title VI Program Monitoring	7-27
11384	MBTA Bus Service Data Collection VIII	7-29
11393	MBTA Review of Fare Structure, Tariffs, and Policy for SFY 2017	7-30
14339	MBTA Rider Oversight Committee Support	7-31
14348	MBTA Youth Pass Program Evaluation and Title VI Fare Equity Analysis	7-32
13273	Pedestrian Level-of-Service Metric Development	7-33
14342	Regional Transit Service Planning Technical Support	7-35
90200	Research Topics Generated by MPO Staff	7-36
11150	Roadway Safety Audits	7-37
11356	Systemwide Title VI/Environmental Justice Assessment of TIP Projects	7-38
90080	Travel Data Forecasts	7-39
90040	Travel Operations Analyses	7-40



STAFF: Metropolitan Area Planning Council

CLIENT: Boston Region MPO

ID #: MAPC7

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

MAPC provides alternative-mode transportation-planning support to the Boston Region MPO and municipalities that focuses on non-single-occupant vehicle modes. This work benefits bicycle and pedestrian transportation, encourages transit in areas currently underserved by existing regional transit authorities (RTAs), and identifies and supports transportation-demand management (TDM) strategies.

Transportation Management Association Support (\$25,000): MAPC will continue to work with various Transportation Management Associations (TMAs) in the region. MAPC will support municipal and business participation in TMAs and help TMAs to expand services for first-mile and last-mile connections to transit. MAPC work will include facilitating development of technology to increase transit ridership, participating in regional committees and meetings, analyzing corridor-level data to support planning, and coordinating meetings and events to encourage increased local participation. This work will be integrated with CTPS, MassDOT, MassRIDES, and MassCommute activities.

Bike Share Program Implementation (\$25,000): MAPC will continue to work with the Cities of Boston, Cambridge, and Somerville, and the Town of Brookline to implement the regional Hubway Bike Share system, expanding the system within these municipalities and to neighboring cities and towns such as Watertown, Newton, and Winthrop. Seed funding for the program came from the MPO's Clean Air and Mobility Program, a separate FTA Bus Livability award, and local support from the municipalities. In order to implement the system more fully, MAPC will continue to support the municipalities in their planning.

Local Bicycle and Pedestrian Plans and Technical Assistance in Selected Communities (\$40,000): MAPC will continue to work with selected municipalities to develop local bicycle and pedestrian plans. MAPC will provide technical support to identify implementable steps that the municipalities, MassDOT, the Massachusetts Department of Conservation and Recreation (DCR), and other entities could take to advance bicycle and pedestrian infrastructure in specific locations. MAPC also



STAFF: Metropolitan Area Planning Council

CLIENT: Boston Region MPO

ID #: MAPC7

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

will provide small-scale technical assistance to municipalities that are seeking support. This work continues the implementation efforts of the MPO's 2007 Regional Bicycle Plan and 2010 Regional Pedestrian Plan.

Electric Vehicle Infrastructure (\$10,760): MAPC will work with municipalities in the Inner Core to plan for electric-vehicle infrastructure. In coordination with MassDOT and the Department of Energy Resources, MAPC will help cities and towns plan for electric-vehicle charging stations, provide these municipalities with data to understand the market for electric vehicles, and help them draft policies to support electric vehicles and infrastructure.

Regional Greenway Planning and Mapping (\$70,000): MAPC will continue to work with MassDOT, CTPS, municipalities, and trail organizations to better develop and implement portions of a regional bicycle and pedestrian network of off- and on-road connections (a greenway) that form a contiguous system around greater Boston. In 2015, MAPC—working with the above-cited partners—developed the branding of this system, called the LandLine. Trail development is increasingly frequent in most communities in the Boston region. The trails consist of shared-use paths along former railroad rights-of-way, hiking trails through conservation land, and historic corridors connecting points of interest. The binding theme of the proposed and completed corridors is creating attractive places to walk, bike, or otherwise travel through low- or no-traffic green areas. These greenways often are local in nature; however, if all of these separate projects could be brought into a regional system, a world-class regional network could be created.

FFY 2016 Activities and Expected Work Products: Data collection, research and analysis to support TMAs; completed bicycle and pedestrian plans in selected municipalities, technical support for bicycle and pedestrian improvements; support for regional trail and greenway development; implementation of the regional bike share program; research and recommendations to support electric-vehicle infrastructure.

ALTERNATIVE-MODE PLANNING AND COORDINATION [CONT.]



STAFF: Metropolitan Area Planning Council

CLIENT: Boston Region MPO

ID #: MAPC7

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

FHWA/FTA Grant Application Task and Element: 44.22.02
FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$170,760		\$170,760		\$103,360	\$67,400					



STAFF: Central Transportation Planning Staff & Metropolitan Area
Planning Council

CLIENT: Boston Region MPO

ID #: 13150,
MAPC9

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

Community officials often identify transportation issues of concern about which they would like to have technical advice. In this program, a team of CTPS and MAPC engineers and planners will meet with community officials to learn more about specific problems and provide advice on next steps on issues that the community may have identified, such as those related to parking, traffic calming, walking, bicycling, and bus stops. In many cases, there will be a site visit to better understand the potential problem, review existing data, and make suggestions on further data that may be needed. General types of solutions, along with appropriate follow-up and contact information, might be recommended. Descriptions of the various planning processes at MassDOT, the MBTA, the MPO, and MAPC, and guidance on how communities can get involved, might also be provided. Technical assistance activities may produce conceptual designs for some project locations. This program is a mechanism for providing quick-response advice to communities for resolving the issues they have identified.

This work will advance the MPO's goals for system preservation, modernization, and efficiency; mobility; and land use and economic development. It will be consistent with the MPO's Congestion Management Process (CMP) and other staff-identified needs. It also will include a safety component in which staff will respond to community requests to conduct analyses at crash locations and recommend possible mitigation strategies.

FFY 2016 Activities and Expected Work Products: In early FFY 2016, staff will solicit town technical assistance requests. The number of technical assistance cases will depend on the funding amount, and MAPC and CTPS will coordinate and collaborate on a case-by-case basis. CTPS and MAPC will field and prioritize each service request, and expect to spend three to four weeks working on community technical assistance requests that are selected for funding. Professional teams will be dispatched to client municipalities, and memoranda on the consultations will document the work, recommendations, and outcomes.



STAFF: Central Transportation Planning Staff & Metropolitan Area Planning Council

CLIENT: Boston Region MPO

ID #: 13150, MAPC9

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

FHW 2017 Budget Application Task and Element: 44.24.01

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$70,600	\$48,420	\$22,180		\$40,600	\$30,000					

**STAFF:** Central Transportation Planning Staff**CLIENT:** Boston Region MPO**ID #:** 11145**BUDGET:** Not applicable to ongoing projects**STATUS:** 0%

As part of its FFY 2014 UPWP, the Boston Region Metropolitan Organization established a formal freight-planning program. The freight analysis within the framework of this program will be ongoing, and conducted on a multiyear basis. In September 2013, MPO staff proposed a Freight Planning Action Plan, which presented possible studies for one or more of the MPO's freight planning goals.¹ The goals for MPO freight planning are to:

- > Fulfill the Boston Region MPO's freight-planning needs
- > Complement state and other official planning efforts
- > Study specific freight-related issues
- > Fulfill new analysis requirements of the current federal surface transportation legislation
- > Address the lack of freight data for the MPO region, including developing enhanced technical capabilities for MPO staff to use in estimating freight demand

The MPO's FFY 2015 freight-planning activities included analyzing truck traffic serving the South Boston waterfront, and collecting freight data to support MPO model development. The MPO will look to the Freight Planning Action Plan to determine future activities for the MPO's freight-planning program. In its freight-planning activities, MPO staff will incorporate input from stakeholders who represent the freight-shipping community in the Boston region to learn about obstacles and transportation needs for freight movement.

¹ "Proposed Freight Planning Action Plan for the Boston Region MPO: Meeting the Goals and Addressing the Issues," memorandum, Boston Region MPO, September 12, 2013.



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 11145

BUDGET: Not applicable to ongoing projects

STATUS: 0%

FFY 2016 Activities and Expected Work Products: Potential issues to study are documented in the FFY 2013 Freight-Planning Action Plan. MPO staff will collect data, conduct analysis, and develop recommendations and documentation, as appropriate to the study topics.

FHWA/FTA Grant Application Task and Element: 44.21.05
FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$46,000	\$46,000			\$46,000						



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 11152

BUDGET: \$75,000

STATUS: 98%

In 2011, the Massachusetts Travel Survey obtained travel information from about 15,000 households across the state—10,400 of them located in the Boston Region MPO model region. A similar survey, administered only in the Boston region, had been performed in 1991. These kinds of travel surveys generally are performed primarily to obtain data with which to build or rebuild travel models; and Boston Region MPO staff indeed are engaged in rebuilding the MPO's model set with the data from the 2011 survey.

In addition to their use in model building, the data from these household travel surveys make up a rich source of information about the travel behavior of Massachusetts households, and as such, provide an opportunity for MPO staff and others to gain valuable insights that are particularly useful in the transportation-planning process. To that end, the FFY 2013 UPWP contained a study entitled Household-Survey-Based Travel Profiles and Trends that was intended to be the first step in “mining” the information from the 2011 survey; however, it actually went further than that. Ultimately, this study yielded a general profile of household travel behavior as measured in 2011 and compared the characteristics of work trips reported and described in 2011 to those reported in the earlier 1991 survey.

With the initial study of the 2011 travel survey completed, MPO staff began a second, more selective study during FFY 2015 and will continue this work in FFY 2016. In this study, selected topics of policy, programming, or other areas of interest to the MPO will serve as the basis to explore the 2011 survey data further. In all cases, the object will be to examine the survey data for insights about travel behavior that then could be used by the MPO to inform its decision making when developing policies and funding projects and programs in the LRTP and TIP. In each case, the deliverable will be a report documenting staff's findings and their implications.



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 11152

BUDGET: \$75,000

STATUS: 98%

FFY 2016 Activities and Expected Work Products: Continued analysis of Massachusetts Travel Survey data to answer research questions about policy, programming, and other topics of interest to the MPO. Development of memoranda and presentations.

FHWA/FTA Grant Application Task and Element: 44.24.01
FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$25,000	\$25,000			\$17,500	\$7,500					



STAFF: Central Transportation Planning Staff

CLIENT: MassDOT

ID #: 14344

BUDGET: \$110,270

STATUS: 43%

CTPS has developed a series of new rail and bus network maps for New England, including a comprehensive transit map of all New England, individual maps of each New England state, and a web-based schematic map of New England. MassDOT has asked CTPS to continue producing versions of these maps for the MassDOT website and to keep the maps up to date.

FFY 2016 Activities and Expected Work Products: Explore accessibility issues and develop web-based versions of the already-created New England transit maps that are accessible to all, including those with visual, cognitive, or other disabilities and individuals who speak other languages, etc).

FHWA/FTA Grant Application Task and Element: 44.24.01
FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$40,000	\$40,000						\$40,000			



STAFF: Metropolitan Area Planning Council

CLIENT: Boston Region MPO

ID #: MAPC10

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

In FFY 2016, MAPC will support the MPO’s planning and decision making by helping CTPS staff to develop and implement the land-use allocation model and to conduct analysis supporting transportation modeling and project evaluation.

Land Use Allocation Model Development: MAPC will continue to participate in integrating a land-use allocation model with the regional transportation-demand model, working closely with CTPS and MassDOT.

Development Database: MAPC will continue to monitor development projects that are being planned across the region. MAPC has created an interactive website to work closely with its municipal partners.

FFY 2016 Activities and Expected Work Products: Operational land-use allocation model, data development and analysis, documentation, and mapping products to support advanced transportation modeling.

FHWA/FTA Grant Application Task and Element: 44.22.03
FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$77,450		\$77,450		\$51,050	\$26,400					

LIVABLE COMMUNITY WORKSHOP PROGRAM



STAFF: Central Transportation Planning Staff & Metropolitan Area Planning Council

CLIENT: Boston Region MPO

ID #: 13801,
MAPC8

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

This program furthers the goals of the state’s Healthy Transportation Compact and federal guidance, which encourages MPOs to think about how the built environment, mobility, affordability, health, and quality of life in a community are related to one another. This means offering information, analysis, and technical assistance from a number of different perspectives, such as active transportation, transit, parking, air quality, environment, land use, transit-oriented development, urban design, and public health. The program seeks to support livability via workshops and online resources, described below.

Workshops: MAPC and CTPS will identify communities to participate in the workshops through regional forums and discussions at subregional meetings. MAPC and CTPS will work with municipalities interested in promoting livability locally. They will conduct a “livability” assessment and then, with this information, conduct a workshop with local planning staff and residents to identify short- and long-term recommendations that will improve livability in the municipality. These may include specific steps to facilitate active transportation modes, access to transit (if applicable), and coordinated land use and transportation solutions. Staff will update and develop toolkits on topics such as parking policies, complete streets, funding opportunities, public engagement, and transit-oriented development. In addition, because the workshops will seek to involve people with a broad range of interests and expertise (elected officials, planning and health boards, conservation commissions, public safety, public works and school representatives, engineering departments, chambers of commerce and businesses, community groups, and interested individuals), it is hoped that the workshops would stimulate community-based discussion of other livability-related topics and locally based actions.

Online Resources: Staff will update and expand the MPO Livability Indicators Database. The database serves as an online resource for exploring data associated with livability throughout the Boston region. The database provides access to data, by municipality, related to demographics, transportation options, existing transportation patterns, and other topics related to livability. The purpose is to facilitate a better understanding of the conditions that support livability. Staff will conduct research, provide analysis, and update the indicators.

LIVABLE COMMUNITY WORKSHOP PROGRAM [CONT.]



STAFF: Central Transportation Planning Staff & Metropolitan Area Planning Council

CLIENT: Boston Region MPO

ID #: 13801, MAPC8

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

FFY 2016 Activities and Expected Work Products:

- > Outreach through regional forums and local workshops to be held in selected MPO municipalities
- > Livability analysis of selected areas
- > Recommendations and ideas for municipalities to use to improve local livability
- > Updated Livability Indicators database
- > Development and distribution of toolkits

FHWA/FTA Grant Application Task and Element: 44.21.05

FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$40,200	\$25,200	\$15,000		\$22,640	\$17,560					



STAFF: Central Transportation Planning Staff

CLIENT: MassDOT Office of Transportation Planning

ID #: Varies by Project

BUDGET: \$495,000

STATUS: Contract¹

CTPS provides support to MassDOT’s Statewide Planning and Research (SPR) Program as requested. This work includes studies, analyses, and technical assistance. Projects that are either underway or expected to begin during FFY 2016 are listed below. Other projects may be added during FFY 2016.

- > 2015–16 I-93 North and Southeast Expressway High-occupancy Vehicle (HOV) Lane Monitoring
- > Diversity Posters
- > Everett Transit Study
- > Ferry Compact
- > Kendall Square Mobility Task Force
- > MBTA Research of Survey Data
- > Miscellaneous Graphics
- > Program for Mass Transportation (PMT) Assistance and Support
- > Road Inventory and Related Support Maintenance
- > Route 107 Corridor Traffic Growth Estimation
- > State Transportation Map Update
- > Statewide Travel Model Assistance

FFY 2016 Activities and Expected Work Products: Activities and work products will depend on tasks requested by MassDOT’s Office of Transportation Planning. Projects of appropriate scope will be submitted to the MPO before proceeding.

Note: See Appendix A for additional information on several of the projects described above. The

¹ This UPWP entry reflects a contract that will include multiple individual projects or tasks.



STAFF: Central Transportation Planning Staff

CLIENT: MassDOT Office of Transportation Planning

ID #: Varies by Project

BUDGET: \$495,000

STATUS: Contract¹

**FHWA/FTA Grant Application Task and Element: 44.24.01
FFY 2016 Budget**

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$480,000	\$480,000					\$480,000				

MASSDOT TITLE VI PROGRAM



STAFF: Central Transportation Planning Staff

CLIENT: MassDOT

ID #: Various

BUDGET: \$269,900

STATUS: N/A

MassDOT, as a recipient of federal funds through both the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA), is required to comply with Title VI of the Civil Rights Act of 1964 and with protections enacted through several additional laws and executive orders that prohibit discrimination on the basis of gender, age, income, and disability. CTPS will continue to provide technical support to MassDOT in the implementation of its Title VI Program for both the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA).

FFY 2016 Activities and Work Products: Staff will assist MassDOT in preparing its FFY 2016 Title VI/Nondiscrimination Program for FHWA and provide technical support to MassDOT as described above.

Note: For more information on Title VI efforts carried out by MPO staff, see Boston Region MPO Title VI Reporting, Transportation Equity/Environmental Justice Support, and MBTA 2016 Title VI Program Monitoring.

FHWA/FTA Grant Application Task and Element: 44.21.04

FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$100,000	\$100,000						\$100,000			



STAFF: Central Transportation Planning Staff

CLIENT: MassDOT Office of Transportation Planning

ID #: Varies by Project

BUDGET: \$266,870

STATUS: Contract¹

CTPS provides transit-planning assistance to MassDOT and the MBTA by conducting various studies under MassDOT’s FTA-funded Section 5303 Program. This assistance may include:

- > Short-term and ongoing analysis of projects and proposals, including travel-demand modeling, impact analyses, air quality analyses, traffic engineering analyses, and other types of quick-response analyses
- > Preparation of supporting data, graphics, maps, and other materials for MassDOT studies and presentations
- > Support of environmental document preparation for projects under development
- > Other studies and activities, as requested by MassDOT

FFY 2016 Activities and Expected Work Products: Activities and work products will depend on tasks requested by MassDOT’s Office of Transportation Planning. Projects of appropriate scope will be submitted to the MPO before proceeding.

¹ This UPWP entry reflects a contract that will include multiple individual projects or tasks.

FHWA/FTA Grant Application Task and Element: 44.24.01

FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$260,870	\$260,870							\$260,870		



STAFF: Central Transportation Planning Staff

CLIENT: MBTA

ID #: 14341

BUDGET: \$130,000

STATUS: 97%

For many years, in support of the MBTA's National Transit Database (NTD) submittals to the Federal Transit Administration (FTA), CTPS has produced estimates of passenger miles and boardings for MBTA services. This project will develop these estimates for:

1. Directly operated MBTA transportation modes (including motor bus, trackless trolley, heavy and light rail, and bus rapid transit).
2. Purchased-service bus routes (that is, local routes for which the MBTA contracts with a private carrier).

CTPS will also verify MBTA estimates of average passenger-trip length on its commuter-rail mode.

The data underlying these estimates are collected in various ways:

- > Full-route ridechecks on buses used in contracted MBTA local bus service and trackless trolleys (Ridechecks refer to a method of collecting sample data with one or more persons observing and recording passenger activities while riding in a transit vehicle.)
- > MBTA automatic passenger counter (APC) data
- > Electronic passenger fare-mix counts from automated fare-collection (AFC) faregates at heavy- and light-rail subway stations and fareboxes on motor bus and trackless-trolley routes
- > Origin-destination information inferred from AFC data
- > Commuter-rail ridership data from passenger counts conducted by the MBTA or its contractors, or from the MBTA's mobile ticketing vendor



STAFF: Central Transportation Planning Staff

CLIENT: MBTA

ID #: 14341

BUDGET: \$130,000

STATUS: 97%

- > Fare-mix counts from AFC faregates at stations and from fareboxes on vehicles
- > Passenger surveys on the heavy-rail, light-rail, and gated portions of the bus rapid-transit systems to collect origin and destination information

The MBTA will be submitting its state fiscal year (SFY) 2015 National Transit Database estimates of passenger boardings and passenger miles for various transit modes to the FTA with the aid of CTPS during FFY 2016. The final technical memorandum will be completed in FFY 2016.

FFY 2016 Activities and Expected Work Products: Technical memorandum for the MBTA summarizing estimates of passenger miles and boardings for both purchased transportation services and directly operated bus, trackless trolley, and heavy- and light-rail services for SFY 2015 NTD reporting.

FHWA/FTA Grant Application Task and Element: 44.24.01
FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$2,000	\$2,000								\$2,000	



STAFF: Central Transportation Planning Staff

CLIENT: MBTA

ID #: 14346

BUDGET: \$1,180,000

STATUS: 5%

In CY 2008–09, CTPS conducted the most recent set of comprehensive, onboard passenger surveys for the MBTA. The FTA requires that the MBTA collect information on its riders for use in Title VI analyses no less than every five years. The required information to be collected includes: race, color, national origin, English proficiency, language spoken at home, household income fare usage by fare type, and travel patterns. In this project, MPO staff will conduct a systemwide survey of the passengers who use rapid transit, bus, BRT, commuter rail, and water transportation services. The survey results also will provide the MBTA, other state and federal agencies, consultants, and the public, with more up-to-date data to support transportation-planning activities.

FFY 2016 Activities and Expected Work Products: CTPS will design and conduct the survey by mode, and will process the survey results.

FHWA/FTA Grant Application Task and Element: 44.24.01

FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$700,000	\$700,000								\$700,000	



STAFF: Central Transportation Planning Staff

CLIENT: MBTA

ID #: 14345

BUDGET: \$135,000

STATUS: 5%

For many years, in support of the MBTA's National Transit Database (NTD) submittals to the Federal Transit Administration (FTA), CTPS has produced estimates of passenger miles and boardings for MBTA services. This project will develop these estimates for:

1. Directly operated MBTA transportation modes (including motor bus, trackless trolley, heavy and light rail, and bus rapid transit).
2. Purchased-service bus routes (that is, local routes for which the MBTA contracts with a private carrier).

CTPS will also verify MBTA estimates of average passenger-trip length on its commuter-rail mode.

The data underlying these estimates will be collected in a variety of ways:

- > Full-route ridechecks on buses used in contracted MBTA local bus service and trackless trolleys (Ridechecks refer to a method of collecting sample data with one or more persons observing and recording passenger activities while riding in a transit vehicle.)
- > MBTA automatic passenger counter (APC) data
- > Electronic passenger fare-mix counts from automated fare-collection (AFC) faregates at heavy- and light-rail subway stations and fareboxes on motor bus and trackless-trolley routes
- > Origin-destination information inferred from AFC data
- > Commuter-rail ridership data from passenger counts conducted by the MBTA or its contractors, or from the MBTA's mobile ticketing vendor



STAFF: Central Transportation Planning Staff

CLIENT: MBTA

ID #: 14345

BUDGET: \$135,000

STATUS: 5%

- > Fare-mix counts from AFT faregates at stations and from fareboxes on vehicles
- > Passenger surveys on the heavy-rail, light-rail, and gated portions of the bus rapid-transit systems to collect origin and destination information

The MBTA will submit its state fiscal year (SFY) 2016 National Transit Database estimates of passenger boardings and passenger miles for various transit modes to the FTA with the aid of CTPS during FFY 2017. The final technical memorandum will be completed in FFY 2017.

FFY 2016 Activities and Expected Work Products:

In SFY 2016, CTPS will continue data collection begun in SFY 2015.

- > Ridechecks will be conducted for the trackless-trolley and contracted local bus service portions of the SFY 2016 National Transit Database reporting. Ridecheck data to be collected for bus routes will include boardings and alightings by stop, farebox readings, trip-level travel times, departure and arrival times, and arrival times at intermediate stops.
- > For heavy and light rail, origin-and-destination surveys will be conducted and fare-mix data will be obtained.

FHWA/FTA Grant Application Task and Element: 44.24.01

FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$88,000	\$88,000								\$88,000	



STAFF: Central Transportation Planning Staff

CLIENT: MBTA

ID #: TBD

BUDGET: \$135,000

STATUS: 0%

For many years, in support of the MBTA's National Transit Database (NTD) submittals to the Federal Transit Administration (FTA), CTPS has produced estimates of passenger miles and boardings for MBTA services. This project will develop these estimates for:

1. Directly operated MBTA transportation modes (including motor bus, trackless trolley, heavy and light rail, and bus rapid transit).
2. Purchased-service bus routes (that is, local routes for which the MBTA contracts with a private carrier).

CTPS will also verify MBTA estimates of average passenger-trip length on its commuter rail mode.

The data underlying these estimates will be collected in a variety of ways:

- > Full-route ridechecks on buses used in contracted MBTA local bus service and trackless trolleys (Ridechecks refer to a method of collecting sample data with one or more persons observing and recording passenger activities while riding in a transit vehicle.)
- > MBTA automatic passenger counter (APC) data
- > Electronic passenger fare-mix counts from automated fare-collection (AFC) faregates at heavy- and light-rail subway stations and fareboxes on motor bus and trackless-trolley routes
- > Origin-destination information inferred from AFC data
- > Commuter rail ridership data from passenger counts conducted by the MBTA or its contractors, or from the MBTA's mobile ticketing vendor



STAFF: Central Transportation Planning Staff

CLIENT: MBTA

ID #: TBD

BUDGET: \$135,000

STATUS: 0%

- > Fare-mix counts from AFC faregates at stations and from fareboxes on vehicles
- > Passenger surveys on the heavy-rail, light-rail, and gated portions of the bus rapid-transit systems to collect origin and destination information

The MBTA will submit its state fiscal year (SFY) 2017 National Transit Database estimates of passenger boardings and passenger miles for various transit modes to the FTA with the aid of CTPS during FFY 2018. The final technical memorandum will be completed in FFY 2018.

FFY 2016 Activities and Expected Work Products:

CTPS will begin SFY 2017 data collection.

- > Ridechecks will be conducted for the trackless-trolley and contracted local bus service portions of the SFY 2017 National Transit Database reporting. Ridecheck data to be collected for bus routes will include boardings and alightings by stop, farebox readings, trip-level travel times, departure and arrival times, and arrival times at intermediate stops.
- > For heavy and light rail, origin-and-destination surveys will be conducted and fare-mix data will be obtained.

FHWA/FTA Grant Application Task and Element: 44.24.01

FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$31,250	\$31,250								\$31,250	



STAFF: Central Transportation Planning Staff

CLIENT: MBTA

ID #: 11395

BUDGET: \$117,000

STATUS: 1%

CTPS will provide the MBTA with technical assistance in collecting data on and conducting assessments of the level of service (LOS) provided in minority communities compared to nonminority areas to support the MBTA's compliance with Title VI requirements. Data will be collected on service indicators such as

- > Service coverage
- > Vehicle load
- > Vehicle headway
- > On-time performance
- > Station conditions and amenities
- > Distribution and operability of automated fare collection (AFC) faregates and fare vending machines
- > Distribution of AFC retail sales terminals
- > Station elevator and escalator locations and operability
- > Vehicle age and condition

These activities will help fulfill the monitoring required as part of the MBTA's ongoing Title VI Program. The results of the analyses will be reported internally at the MBTA and will be folded into future triennial Federal Transit Administration (FTA) reporting.

FFY 2016 Activities and Expected Work Products: CTPS will provide documentation of selected LOS evaluations for SFY 2016 MBTA revenue service and amenities.

Note: For more information on Title VI efforts carried out by MPO staff, see Boston Region MPO Title VI Reporting, Transportation Equity/Environmental Justice Support, MassDOT Title VI Program.

MBTA 2016 TITLE VI PROGRAM MONITORING [CONT.]



STAFF: Central Transportation Planning Staff

CLIENT: MBTA

ID #: 11395

BUDGET: \$117,000

STATUS: 1%

FHWA/FTA Grant Application Task and Element: 44.21.04
FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$63,000	\$63,000								\$63,000	



STAFF: Central Transportation Planning Staff

CLIENT: MBTA

ID #: 11384

BUDGET: \$450,000

STATUS: 82%

In order to assess bus service changes that are included in the biennial MBTA service plans, the MBTA requires ongoing data collection on its bus system. The data collected by CTPS as part of this project also support future MBTA service plans, through which bus routes undergo comparative evaluations for cost-effectiveness, crowding, schedule adherence, and other indicators. Work may also include support for improving the ridecheck database so that it will be compatible with new software and data sources. CTPS also may provide analytical assistance to the MBTA, as requested.

FFY 2016 Activities and Expected Work Products:

- > Point checks on bus routes and other data collection, as requested by the MBTA for planning purposes. (Point checks are observations of the arrival times, departure times, and passenger loads of a transit service at a single location.)
- > Improvements to the ridecheck database.
- > Analytical assistance, as requested.

**FHWA/FTA Grant Application Task and Element: 44.24.01
FFY 2016 Budget**

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$113,000	\$113,000								\$113,000	



STAFF: Central Transportation Planning Staff

CLIENT: MBTA

ID #: 11378

BUDGET: \$160,000

STATUS: 25%

CTPS has provided technical assistance to the MBTA in forecasting potential ridership, revenue, air quality, and socioeconomic impacts of proposed changes in the MBTA’s fare structure and tariffs, for all fare increases since 1991. In federal fiscal year (FFY) 2016, CTPS will analyze the potential impacts of changes in fare structure and tariffs for a proposed MBTA state fiscal year (SFY) 2017 fare increase. CTPS will also conduct the FTA-required fare equity analysis.

FFY 2016 Activities and Expected Work Products: Conduct analyses as requested. Participate in meetings, provide technical support, and develop documentation and other communication materials, as requested. Prepare final report of findings from the fare change analyses and the fare equity analysis.

FHWA/FTA Grant Application Task and Element: 44.24.01
FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$110,000	\$110,000								\$110,000	



STAFF: Central Transportation Planning Staff

CLIENT: MBTA

ID #: 14339

BUDGET: \$24,500

STATUS: 50%

The MBTA established a Rider Oversight Committee (ROC) in 2004 to provide ongoing public input on a number of different issues, including strategies for increasing ridership, development of new fare structures, and prioritization of capital improvements. CTPS supports the MBTA by providing technical assistance to the ROC on an ongoing basis. Over the past several years, the assistance provided by CTPS has included analyzing the revenue and ridership impacts of potential fare and service changes, providing the MBTA with ridership statistics, offering insights into the MBTA’s planning processes, providing data analysis, and attending committee meetings at which staff may respond directly to ROC members’ questions.

FFY 2016 Activities and Expected Work Products: CTPS will continue to provide technical assistance to the MBTA Rider Oversight Committee and attend committee and subcommittee meetings.

FHWA/FTA Grant Application Task and Element: 44.21.02
FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$8,000	\$8,000								\$8,000	



STAFF: Central Transportation Planning Staff

CLIENT: MBTA

ID #: 14348

BUDGET: \$80,000

STATUS: 45%

The MBTA is conducting a pilot Youth Pass program, designed to offer an age-based discount to eligible youth who do not receive a student pass. The cost of the pass will be equivalent to the reduced fares currently offered through the student pass program. The purpose of the Youth Pass pilot is to determine the feasibility of implementing a permanent youth pass as part of the MBTA’s fare structure.

In this project, MPO staff will estimate the impact of a Youth Pass program on MBTA fare revenue and services. MPO staff will also conduct a Title VI fare-equity analysis of the proposed Youth Pass program to examine whether the Youth Pass creates a disparate impact on minority populations or a disproportionate burden on low-income populations.

FFY 2016 Activities and Expected Work Products: Memoranda documenting the MBTA Youth Pass program evaluation and Title VI fare equity analysis.

FHWA/FTA Grant Application Task and Element: 44.24.01
FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$80,000	\$80,000								\$80,000	



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 13273

BUDGET: \$45,000

STATUS: 0%

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

The anticipated result of this project would be a recommended pedestrian LOS index that the MPO could implement as part of its planning and monitoring processes in the future. In the long term, MPO staff may seek to create an interactive tool based on this index that could analyze pedestrian facilities in the region. This tool would be located in the applications section of the Boston Region MPO’s website.

PEDESTRIAN LEVEL-OF-SERVICE METRIC DEVELOPMENT [CONT.]



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 13273

BUDGET: \$45,000

STATUS: 0%

FFY 2016 Activities and Expected Work Products: Conduct research and interviews pertaining to existing pedestrian level-of-service measures, available data, and potential criteria. Recommend a pedestrian LOS index for the Boston region and provide guidance for its implementation.

FHWA/FTA Grant Application Task and Element: 44.24.01
FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$45,000	\$45,000			\$45,000						



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 14342

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

The MPO’s policy is to support transit services and reduce single-occupant-vehicle (SOV) travel in the region. As such, MPO staff provides technical support to regional transit authorities (RTAs) to promote best practices and address issues of ridership, cost-effectiveness, route planning, and other service characteristics. The MPO also extends support to transportation-management associations (TMAs), MAPC subregions, and municipalities seeking to improve the transit services that they operate or fund.

FFY 2016 Activities and Expected Work Products: MPO staff will provide technical assistance to RTAs, TMAs, MAPC subregions, and municipalities as described above.

FHWA/FTA Grant Application Task and Element: 44.24.01
FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$29,920	\$29,920				\$29,920					

RESEARCH TOPICS GENERATED BY MPO STAFF



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 20900

BUDGET: \$30,000

STATUS: 0%

This program will support work by MPO staff on topics that 1) relate to the Boston Region MPO’s metropolitan transportation-planning process; 2) staff members have expressed interest in; and 3) are not covered by an ongoing UPWP program or discrete project. Throughout the federal fiscal year, interested MPO staff members will prepare their proposals for independent research studies, which will be reviewed by MPO staff managers and directors, then discussed with the MPO before final selection by the MPO executive director. MPO staff then will research the selected topics, and their findings and recommendations will be presented to the MPO. This research program could produce valuable information for the MPO’s consideration and could support staff members’ professional development. In addition, the research could yield highly creative solutions to transportation-planning challenges.

FFY 2016 Activities and Expected Work Products: Research and analysis of staff-identified topics pertaining to metropolitan transportation planning. Creation of presentations and memoranda.

FHWA/FTA Grant Application Task and Element: 44.24.01

FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$30,000	\$30,000			\$21,000	\$9,000					

ROADWAY SAFETY AUDITS



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 11150

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

A Roadway Safety Audit (RSA), as defined by the Federal Highway Administration (FHWA), is a formal safety performance examination of an existing or future road or intersection by an independent audit team. Additionally, MassDOT guidelines require an RSA to be conducted where Highway Safety Improvement Program (HSIP)-eligible crash clusters are present. The RSA examines the location to develop both short- and long-term recommendations to improve safety for vehicles, pedestrians, and bicyclists. These recommendations help communities identify safety improvements that can be implemented in the short term, and determine if more substantial improvements also are needed as part of a larger, long-term improvement process.

Audit teams include MassDOT headquarters and district office staff, MassDOT consultants, and CTPS personnel, as requested. This program supports CTPS participation in RSAs. In the RSA process, the audit team: 1) reviews available crash data; 2) meets and communicates with local officials, planners, engineers, and other stakeholders; 3) visits the site to observe traffic operations and identifies safety issues; and 4) develops and documents recommendations.

FFY 2016 Expected Activities and Work Products: Participation in audit teams as requested by MassDOT.

FHWA/FTA Grant Application Task and Element: 44.23.02

FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$13,800	\$13,800			\$13,800						



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 11356

BUDGET: \$75,000

STATUS: 0%

This project’s intent is to develop best practices for the Boston Region MPO’s systemwide analysis of the benefits and burdens of TIP investments for environmental justice (EJ)/Title VI populations. The MPO’s Title VI reporting currently describes recent TIP project locations and their costs and indicates which projects are located in EJ and Title VI communities. However, MPO staff believe that this method may not sufficiently capture the impact of TIP investments on protected populations.

MPO staff will document current, nationwide best practices for analyzing the benefits and burdens of TIP highway and transit investments. Based on the most feasible and successful methods identified, staff will develop and test a new analytical methodology. This process may involve the MPO’s regional travel demand model set and methods developed during the MPO’s LRTP scenario-planning process.

The study’s results will be documented in a memorandum for MPO consideration and, where applicable, incorporated into MPO Title VI reporting. In addition, the new methodology resulting from the study could be used to measure the benefits and burdens of TIP and LRTP investments. The methodology may also be used in equity analyses conducted in other studies for the MPO and client agencies.

FFY 2016 Activities and Expected Work Products: Documentation of existing, nationwide best practices for analyzing the equity implications of highway and transit investments. Development and testing of an alternative methodology for capturing these effects. Documentation and presentation of results.

FHWA/FTA Grant Application Task and Element: 44.24.01

FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$75,000	\$75,000			\$52,500	\$22,500					

TRAVEL DATA FORECASTS



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 90080

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

In the vast majority of requests for transportation planning and traffic engineering analysis, the amount of effort is significant, and a specific scope of work is developed for those projects. Occasionally, public and private institutions and their consultants ask CTPS to perform various quick-response analyses or to provide data. Accounting for these requests, which are expected to require less than two person-days per request, is done under this general project description.

FFY 2016 Activities and Expected Work Products: Work products will depend on the tasks requested by the MPO agencies, the general public, consultants, or other parties.

FHWA/FTA Grant Application Task and Element: 44.24.01

FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$7,900	\$7,900			\$5,530	\$2,370					

TRAVEL OPERATIONS ANALYSES



STAFF: Central Transportation Planning Staff

CLIENT: Boston Region MPO

ID #: 90040

BUDGET: Not applicable to ongoing projects

STATUS: Ongoing

Through performing various planning studies for the MBTA and other entities, CTPS has accumulated a large amount of transit ridership, revenue, and service data. This project involves providing data to interested parties and executing various small-scale analyses using available data, upon request.

FFY 2016 Activities and Expected Work Products: CTPS will respond to requests for data and small-scale studies from agencies, municipalities, members of the public, academic institutions, and other interested parties.

FHWA/FTA Grant Application Task and Element: 44.24.01

FFY 2016 Budget

FFY16 Total Budget	FUNDING RECIPIENT(S)			FUNDING SOURCE(S)						
	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
\$10,800	\$10,800				\$10,800					



Boston Region MPO Budget and Operating Summaries

This chapter contains overall budget information by recipient agency and funding source for the projects listed in Chapters 4 through 7. The information is presented according to the same UPWP categories used in those chapters.

Administration and Resource Management Projects	\$973,010
Certification Requirements	\$2,544,900
Planning Studies	\$1,194,660
Technical Support/Operations Analysis Projects	\$2,755,550
Total	<u>\$7,468,120</u>

The funding for the projects listed in Chapters 4 through 7 comes from the following sources, which are described in Chapter 1:

FHWA 3C Planning (PL)/MassDOT Local Match	\$3,839,160
FHWA Statewide Planning and Research (SPR)/MassDOT Local Match	\$495,000
FTA/MassDOT and MAPC Local Match	\$1,890,140
MassDOT	\$360,100
MBTA	\$1,328,720
Other	\$50,000
Total	<u>\$7,468,120</u>

On the following pages, the funding information presented in the preceding chapters is summarized in four tables, one for each UPWP category. These tables are followed by a one-page summary showing the entire budget by recipient agency and funding source, and a table showing the federally designated elements and tasks for projects

Boston Region MPO

utilizing Section 5303 funding. The purpose of these summaries is to assist federal and state contract administrators in reviewing the overall work program in detail. This chapter also includes charts presenting schedules and staff assignments for CTPS projects in this UPWP.

**TABLE 8-1: FFY 2016 Unified Planning Work Program Budget Summary—
Administration and Resource Management Projects**

UPWP Project	FFY 2016 UPWP Project ID	FFY 2016 UPWP Total Budget	Funding Recipient(s)			Funding Source(s)						
			CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
Computer Resource Management	60405- 60492	\$478,300	\$478,300	\$0	\$0	\$334,810	\$143,490	\$0	\$0	\$0	\$0	\$0
Data Resources Management	60130- 60600	\$323,240	\$323,240	\$0	\$0	\$213,730	\$109,510	\$0	\$0	\$0	\$0	\$0
Direct Support	90000	\$171,470	\$171,470	\$0	\$0	\$50,000	\$22,500	\$15,000	\$0	\$6,000	\$77,870	\$100
Administration and Resource Management Projects Subtotal		\$973,010	\$973,010	\$0	\$0	\$598,540	\$275,500	\$15,000	\$0	\$6,000	\$77,870	\$100

Note: The budgets for salary and overhead costs associated with the Computer Resources Management and Data Resource Management projects are shown in their respective rows. The budget for direct costs associated with these projects are included in the Direct Support row in this table.

PL = Metropolitan Planning. SPR = State Planning and Research.

**TABLE 8-2: FFY 2016 Unified Planning Work Program Budget Summary—
Certification Requirements**

UPWP Project	FFY 2016 UPWP Project ID	FFY 2016 UPWP Total Budget	Funding Recipient(s)			Funding Source(s)						
			CTPS	MAPC	MassDOT	PL	MPO §5303 Funding	SPR	MassDOT	MassDOT §5303	MBTA	Other
3C Planning and MPO Support	90011-90090	\$578,400	\$578,400	\$0	\$0	\$404,880	\$173,520	\$0	\$0	\$0	\$0	\$0
Access Advisory Committee Support	90024	\$85,900	\$85,900	\$0	\$0	\$60,130	\$25,770	\$0	\$0	\$0	\$0	\$0
Air Quality Conformity and Support Activities	90061	\$24,500	\$24,500	\$0	\$0	\$17,150	\$7,350	\$0	\$0	\$0	\$0	\$0
Boston Region MPO Title VI Reporting	11355	\$32,000	\$32,000	\$0	\$0	\$22,400	\$9,600	\$0	\$0	\$0	\$0	\$0
Long-Range Transportation Plan	10101	\$318,200	\$318,200	\$0	\$0	\$222,740	\$95,460	\$0	\$0	\$0	\$0	\$0
MPO/MAPC Liaison and Support Activities	MAPC1	\$157,000	\$0	\$157,000	\$0	\$109,000	\$48,000	\$0	\$0	\$0	\$0	\$0
Provision of Materials in Accessible Formats	90028	\$68,400	\$68,400	\$0	\$0	\$47,880	\$20,520	\$0	\$0	\$0	\$0	\$0
Regional Model Enhancement	11124	\$740,400	\$740,400	\$0	\$0	\$518,280	\$222,120	\$0	\$0	\$0	\$0	\$0
Subregional Support Activities	MAPC2	\$157,000	\$0	\$157,000	\$0	\$109,000	\$48,000	\$0	\$0	\$0	\$0	\$0
Transportation Equity/Environmental Justice Support	11132	\$100,900	\$100,900	\$0	\$0	\$70,630	\$30,270	\$0	\$0	\$0	\$0	\$0
Transportation Improvement Program	10103	\$174,200	\$174,200	\$0	\$0	\$121,940	\$52,260	\$0	\$0	\$0	\$0	\$0
Unified Planning Work Program (CTPS)	10104	\$98,000	\$98,000	\$0	\$0	\$68,600	\$29,400	\$0	\$0	\$0	\$0	\$0
Unified Planning Work Program (MAPC)	MAPC3	\$10,000	\$0	\$10,000	\$0	\$7,000	\$3,000	\$0	\$0	\$0	\$0	\$0
Certification Requirements Subtotal		\$2,544,900	\$2,220,900	\$324,000	\$0	\$1,779,630	\$765,270	\$0	\$0	\$0	\$0	\$0

Note: The budgets for salary and overhead costs associated with these projects are shown in this table. The budget for direct costs associated with these projects is included in the Direct Support row in Table 8-1: FFY 2016 Unified Planning Work Program Budget Summary—Administration and Resource Management Projects.

PL = Metropolitan Planning. SPR = State Planning and Research.

TABLE 8-3: FFY 2016 Unified Planning Work Program Budget Summary—Planning Studies

UPWP Project	FFY 2016 UPWP Project ID	FFY 2016 UPWP Total Budget	Funding Recipient(s)			Funding Source(s)						
			CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
Addressing Safety, Mobility, and Access on Subregional Priority Roadways: FFY 2015	13266	\$1,100	\$1,100	\$0	\$0	\$770	\$330	\$0	\$0	\$0	\$0	\$0
Addressing Safety, Mobility, and Access on Subregional Priority Roadways: FFY 2016	13270	\$110,000	\$110,000	\$0	\$0	\$77,000	\$33,000	\$0	\$0	\$0	\$0	\$0
Bicycle/Pedestrian Support Activities	13208	\$47,400	\$47,400	\$0	\$0	\$33,180	\$14,220	\$0	\$0	\$0	\$0	\$0
Congestion Management Process	11123	\$92,200	\$92,200	\$0	\$0	\$64,540	\$27,660	\$0	\$0	\$0	\$0	\$0
Core Capacity Constraints	23326	\$12,700	\$12,700	\$0	\$0	\$8,890	\$3,810	\$0	\$0	\$0	\$0	\$0
Corridor/Subarea Planning Studies	MAPC4	\$167,480	\$0	\$167,480	\$0	\$112,180	\$55,300	\$0	\$0	\$0	\$0	\$0
Fairmount Line Station Access Analysis	11249	\$800	\$800	\$0	\$0	\$560	\$240	\$0	\$0	\$0	\$0	\$0
First-Mile-and-Last-Mile Transit Connections Studies	11399	\$55,000	\$55,000	\$0	\$0	\$0	\$55,000	\$0	\$0	\$0	\$0	\$0
Green Line Extension: Completion of New Starts Analysis	22336	\$18,600	\$18,600	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$18,600	\$0
I-93/I-95 Interchange Improvements North of Boston: Modeling Support	73216	\$45,000	\$45,000	\$0	\$0	\$0	\$0	\$0	\$45,000	\$0	\$0	\$0
Identifying Opportunities to Alleviate Bus Delay	11400	\$65,000	\$65,000	\$0	\$0	\$0	\$65,000	\$0	\$0	\$0	\$0	\$0
Land-Use Development Project Reviews	MAPC5	\$88,280	\$0	\$88,280	\$0	\$59,400	\$28,880	\$0	\$0	\$0	\$0	\$0
MassDOT On-Call Modeling Support	73220	\$138,000	\$138,000	\$0	\$0	\$0	\$0	\$0	\$138,000	\$0	\$0	\$0
Massport Technical Assistance: SFY 2015-17 ^a	22127	\$49,900	\$49,900	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$49,900
MetroFuture Implementation	MAPC6	\$90,000	\$0	\$90,000	\$0	\$59,400	\$30,600	\$0	\$0	\$0	\$0	\$0

Cont'd.

TABLE 8-3: FFY 2016 Unified Planning Work Program Budget Summary—Planning Studies (continued)

UPWP Project	FFY 2016 UPWP Project ID	FFY 2016 UPWP Total Budget	CTPS	MAPC	MassDOT	PL	MPO §5303	SPR	MassDOT	MassDOT §5303	MBTA	Other
Priority Corridors for LRTP Needs Assessment: FFY 2015	13267	\$1,100	\$1,100	\$0	\$0	\$770	\$330	\$0	\$0	\$0	\$0	\$0
Priority Corridors for LRTP Needs Assessment: FFY 2016	13271	\$110,000	\$110,000	\$0	\$0	\$77,000	\$33,000	\$0	\$0	\$0	\$0	\$0
Route 3 South Express Toll Lanes – Public-Private Partnership Study: Modeling Support	TBD	\$37,100	\$37,100	\$0	\$0	\$0	\$0	\$0	\$37,100	\$0	\$0	\$0
Safety and Operations at Selected Intersections: FFY 2016	13272	\$65,000	\$65,000	\$0	\$0	\$45,500	\$19,500	\$0	\$0	\$0	\$0	\$0
Planning Studies Subtotal		\$1,194,660	\$848,900	\$345,760	\$0	\$539,190	\$366,870	\$0	\$220,100	\$0	\$18,600	\$49,900

Note: The budgets for salary and overhead costs associated with these projects and contracts are shown in this table. The budget for any direct costs associated with these projects and contracts is included in the Direct Support row in Table 8-1: FFY 2016 Unified Planning Work Program Budget Summary—Administration and Resource Management Projects.

PL = Metropolitan Planning. SFY = State Fiscal Year. SPR = State Planning and Research.

**TABLE 8-4: FFY 2016 Unified Planning Work Program Budget Summaries –
Technical Analysis / Operations Support Projects**

UPWP Project	FFY 2016 UPWP Project ID	FFY 2016 UPWP Total Budget	Funding Recipient (s)			Funding Source(s)							
			CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other	
Alternative-Mode Planning and Coordination	MAPC7	\$170,760	\$0	\$170,760	\$0	\$103,360	\$67,400	\$0	\$0	\$0	\$0	\$0	\$0
Community Transportation Technical Assistance Program	13150, MAPC9	\$70,600	\$40,600	\$30,000	\$0	\$48,420	\$22,180	\$0	\$0	\$0	\$0	\$0	\$0
Freight Planning Support: FFY 2016	11145	\$46,000	\$46,000	\$0	\$0	\$46,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Household-Survey-Based Travel Profiles and Trends: Selected Policy Topics	11152	\$25,000	\$25,000	\$0	\$0	\$17,500	\$7,500	\$0	\$0	\$0	\$0	\$0	\$0
Intercity Bus and Rail Maps	14344	\$40,000	\$40,000	\$0	\$0	\$0	\$0	\$0	\$40,000	\$0	\$0	\$0	\$0
Land-Use Data for Transportation Modeling	MAPC10	\$77,450	\$0	\$77,450	\$0	\$51,050	\$26,400	\$0	\$0	\$0	\$0	\$0	\$0
Livable Community Workshop Program	13801, MAPC8	\$40,200	\$25,200	\$15,000	\$0	\$22,640	\$17,560	\$0	\$0	\$0	\$0	\$0	\$0
MassDOT State Planning and Research Program Support ^a	Varies by Project	\$480,000	\$480,000	\$0	\$0	\$0	\$0	\$480,000	\$0	\$0	\$0	\$0	\$0
MassDOT Title VI Program	Various	\$100,000	\$100,000	\$0	\$0	\$0	\$0	\$0	\$100,000	\$0	\$0	\$0	\$0
MassDOT Transit Planning Assistance ^a	Varies by Project	\$260,870	\$260,870	\$0	\$0	\$0	\$0	\$0	\$0	\$260,870	\$0	\$0	\$0
MBTA 2015 National Transit Database: Data Collection and Analysis	14341	\$2,000	\$2,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,000	\$0	\$0
MBTA 2016 National Transit Database: Data Collection and Analysis	14345	\$88,000	\$88,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$88,000	\$0	\$0
MBTA 2017 National Transit Database: Data Collection and Analysis	14351	\$31,250	\$31,250	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$31,250	\$0	\$0
MBTA 2015-16 Systemwide Passenger Survey	14346	\$700,000	\$700,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$700,000	\$0	\$0
MBTA 2016 Title VI Program Monitoring	11395	\$100,000	\$100,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$100,000	\$0	\$0

Cont'd.

**TABLE 8-4: FFY 2016 Unified Planning Work Program Budget Summaries –
Technical Analysis / Operations Support Projects (continued)**

UPWP Project	FFY 2016 UPWP Project ID	FFY 2016 UPWP Total Budget	CTPS	MAPC	MassDOT	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
MBTA Bus Service Data Collection	11384	\$113,000	\$113,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$113,000	\$0
MBTA Review of Fare Structure, Tariffs and Policy for SFY 2017	TBD	\$110,000	\$110,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$110,000	\$0
MBTA Rider Oversight Committee Support	14339	\$8,000	\$8,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$8,000	\$0
MBTA Youth Pass Program Evaluation	14348	\$80,000	\$80,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$80,000	\$0
Pedestrian Level-of-Service Metric Development	13273	\$45,000	\$45,000	\$0	\$0	\$45,000	\$0	\$0	\$0	\$0	\$0	\$0
Regional Transit Service Planning Technical Support	14342	\$29,920	\$29,920	\$0	\$0	\$0	\$29,920	\$0	\$0	\$0	\$0	\$0
Research Topics Generated by MPO Staff	20900	\$30,000	\$30,000	\$0	\$0	\$21,000	\$9,000	\$0	\$0	\$0	\$0	\$0
Roadway Safety Audits	11150	\$13,800	\$13,800	\$0	\$0	\$13,800	\$0	\$0	\$0	\$0	\$0	\$0
Systemwide Title VI/Environmental Justice Assessment of TIP Projects	11356	\$75,000	\$75,000	\$0	\$0	\$52,500	\$22,500	\$0	\$0	\$0	\$0	\$0
Travel Data Forecasts	90080	\$7,900	\$7,900	\$0	\$0	\$5,530	\$2,370	\$0	\$0	\$0	\$0	\$0
Travel Operations Analyses	90040	\$10,800	\$10,800	\$0	\$0	\$0	\$10,800	\$0	\$0	\$0	\$0	\$0
Technical Support/Operations Analysis Projects Subtotal		\$2,755,550	\$2,462,340	\$293,210	\$0	\$426,800	\$215,630	\$480,000	\$140,000	\$260,870	\$1,232,250	\$0

^a The budgets for salary and overhead costs associated with these projects and contracts are shown in this table. The budget for direct costs associated with these projects and contracts is included in the Direct Support row in Table 8-1: FFY 2016 Unified Planning Work Program Budget Summary—Administration and Resource Management Projects.

PL = Metropolitan Planning. SFY = State Fiscal Year. SPR = State Planning and Research.

TABLE 8-5: FFY 2016 UPWP Budget By Recipient Agency

UPWP Category	UPWP Total	CTPS								MAPC		
		Total CTPS Funds	PL Funds ^a	MPO §5303 Funds ^a	SPR Funds ^a	MassDOT Funds	MassDOT §5303 Funds ^a	MBTA Funds	Other Funds	Total MAPC Funding	PL Funds ^a	MPO §5303 Funds ^a
Administration and Resource Management Projects	\$973,010	\$973,010	\$598,540	\$275,500	\$15,000	\$0	\$6,000	\$77,870	\$100	\$0	\$0	\$0
Certification Requirements	\$2,544,900	\$2,220,900	\$1,554,630	\$666,270	\$0	\$0	\$0	\$0	\$0	\$324,000	\$225,000	\$99,000
Planning Studies	\$1,194,660	\$848,900	\$308,210	\$252,090	\$0	\$220,100	\$0	\$18,600	\$49,000	\$345,760	\$230,980	\$114,780
Technical Support/Operations Analysis Projects	\$2,755,550	\$2,462,340	\$247,390	\$101,830	\$480,000	\$140,000	\$260,870	\$1,232,250	\$0	\$293,210	\$179,410	\$113,800
Total	\$7,468,120	\$6,505,150	\$2,708,770	\$1,295,690	\$495,000	\$360,100	\$266,870	\$1,328,720	\$49,100	\$962,970	\$635,390	\$327,580

Note: Direct costs associated with all projects and contracts are reflected in the Direct Support project in the Administration and Resource Management Projects category.

^a Funds include local match.

PL = Metropolitan Planning. SPR = State Planning and Research.

TABLE 8-6: FFY 2016 UPWP Budget By Funding Source

UPWP Category	UPWP Total	Federal Highway Administration (FHWA) Funding							Federal Transit Administration (FTA) Funding							Non-Federal Funding			
		Total FFY 2016 FHWA PL and SPR Funds with Match	CTPS		MAPC		SPR		Total FTA with Match	CTPS		MAPC		MassDOT		Total Non-Federal	MassDOT	MBTA	Other
			PL Federal Funds	MassDOT PL Match	PL Federal Funds	MassDOT PL Match	SPR Federal Funds	MassDOT SPR Match		MPO \$5303 Federal Funds	MassDOT MPO \$5303 Match	MPO FFY 2015 \$5303 Federal Funds	MassDOT MPO \$5303 Match	MassDOT \$5303 Federal Funds	MassDOT \$5303 Match				
Administration and Resource Management Projects	\$973,010	\$613,540	\$478,832	\$119,708	\$0	\$0	\$12,000	\$3,000	\$281,500	\$220,400	\$55,100	\$0	\$0	\$4,800	\$1,200	\$77,970	\$0	\$77,870	\$100
Certification Requirements	\$2,544,900	\$1,779,630	\$1,243,704	\$310,926	\$180,000	\$45,000	\$0	\$0	\$765,270	\$533,016	\$133,254	\$79,200	\$19,800	\$0	\$0	\$0	\$0	\$0	\$0
Planning Studies	\$1,194,660	\$539,190	\$246,568	\$61,642	\$184,784	\$46,196	\$0	\$0	\$366,870	\$201,672	\$50,418	\$91,824	\$22,956	\$0	\$0	\$288,600	\$220,100	\$18,600	\$49,900
Technical Support/Operations Analysis Projects	\$2,755,550	\$906,800	\$197,912	\$49,478	\$143,528	\$35,882	\$384,000	\$96,000	\$476,500	\$81,464	\$20,366	\$91,040	\$22,760	\$208,696	\$52,174	\$1,372,250	\$140,000	\$1,232,250	\$0
Total Funds Programmed	\$7,468,120	\$3,839,160	\$2,167,016	\$541,754	\$508,312	\$127,078	\$396,000	\$99,000	\$1,890,140	\$1,036,552	\$259,138	\$262,064	\$65,516	\$213,496	\$53,374	\$1,738,820	\$360,100	\$1,328,720	\$50,000

Note: Direct costs associated with all projects and contracts are reflected in the Direct Support project in the Administration and Resource Management Projects category.

PL = Metropolitan Planning, SPR = State Planning and Research.

TABLE 8-7: Programmed FFY 2016 Federal Transit Administration \$5303 Funding by Element and Task

Projects by Element and Task	FFY 2016 UPWP Project ID	Federal Transit Administration (FTA) Funds by Agency with Local Match						
		FTA \$5303 Total Funds	CTPS		MAPC		MassDOT	
			Federal Funds	Local Funds	Federal Funds	Local Funds	Federal Funds	Local Funds
44.21.00 Program Support and Administration		\$412,990	\$243,192	\$60,798	\$87,200	\$21,800	\$0	\$0
44.21.01 Unified Planning Work Program	10104, MAPC3	\$32,400	\$23,520	\$5,880	\$2,400	\$600	\$0	\$0
44.21.02 3C Planning Process and Public Outreach Activities								
3C Planning and MPO Support	90011-90090	\$173,520	\$138,816	\$34,704	\$0	\$0	\$0	\$0
MPO/MAPC Liaison Support Activities	MAPC1	\$48,000	\$0	\$0	\$38,400	\$9,600	\$0	\$0
Subregional Support Activities	MAPC2	\$48,000	\$0	\$0	\$38,400	\$9,600	\$0	\$0
44.21.03 Environment/Climate Change Support								
Air Quality Conformity and Support Activities	90061	\$7,350	\$5,880	\$1,470	\$0	\$0	\$0	\$0
44.21.04 Support to Targeted Populations								
Access Advisory Committee Support	90024	\$25,770	\$20,616	\$5,154	\$0	\$0	\$0	\$0
Boston Region MPO Title VI Reporting	11355	\$9,600	\$7,680	\$1,920	\$0	\$0	\$0	\$0
Provision of Materials in Accessible Formats	90028	\$20,520	\$16,416	\$4,104	\$0	\$0	\$0	\$0
Transportation Equity/Environmental Justice Support	11147	\$30,270	\$24,216	\$6,054	\$0	\$0	\$0	\$0
44.21.05 Livable Community Workshop Program	13801, MAPC8	\$17,560	\$6,048	\$1,512	\$8,000	\$2,000	\$0	\$0
44.22.00 General Development and Comprehensive Planning		\$610,800	\$413,600	\$103,400	\$75,040	\$18,760	\$0	\$0
44.22.01 Data Resources Management	60120-60600	\$109,510	\$87,608	\$21,902	\$0	\$0	\$0	\$0
44.22.02 Alternative-Mode Program Support								
Alternative-Mode Planning and Coordination	MAPC7	\$67,400	\$0	\$0	\$53,920	\$13,480	\$0	\$0
Bicycle/Pedestrian Support Activities	13208	\$14,220	\$11,376	\$2,844	\$0	\$0	\$0	\$0
Congestion Management Process	11123	\$27,660	\$22,128	\$5,532	\$0	\$0	\$0	\$0
44.22.03 Technical Capacity Management								
Computer Resources Management	60405-60492	\$143,490	\$114,792	\$28,698	\$0	\$0	\$0	\$0
Land-Use Data for Transportation Modeling	MAPC10	\$26,400	\$0	\$0	\$21,120	\$5,280	\$0	\$0
Regional Model Enhancement	11124	\$222,120	\$177,696	\$44,424	\$0	\$0	\$0	\$0
44.23.00 Long-Range Transportation Planning		\$243,570	\$103,032	\$25,758	\$91,824	\$22,956	\$0	\$0
44.23.01 Systems-Level Planning								
Corridor/Subarea Planning Studies	MAPC4	\$55,300	\$0	\$0	\$44,240	\$11,060	\$0	\$0
Long-Range Transportation Planning	10101	\$95,460	\$76,368	\$19,092	\$0	\$0	\$0	\$0
MetroFuture Implementation	MAPC6	\$30,600	\$0	\$0	\$24,480	\$6,120	\$0	\$0
Priority Corridors for LRTP Needs Assessment: FFY 2015	13267	\$330	\$264	\$66	\$0	\$0	\$0	\$0
Priority Corridors for LRTP Needs Assessment: FFY 2016	13271	\$33,000	\$26,400	\$6,600	\$0	\$0	\$0	\$0
44.23.02 Project-Level Planning								
Land-Use Development Project Reviews	MAPC5	\$28,880	\$0	\$0	\$23,104	\$5,776	\$0	\$0

(Cont.)

TABLE 8-7: Programmed FFY 2016 Federal Transit Administration \$5303 Funding by Element and Task (continued)

Projects by Element and Task	FFY 2016 UPWP Project ID	FTA \$5303 Total Funds	Federal Funds	Local Funds	Federal Funds	Local Funds	Federal Funds	Local Funds
44.24.00 Short-Range Transportation Planning		\$542,020	\$216,920	\$54,230	\$8,000	\$2,000	\$208,696	\$52,174
44.24.01 Special Activities								
Addressing Safety, Mobility, and Access on Subregional Priority Roadways: FFY 2015	13266	\$330	\$264	\$66	\$0	\$0	\$0	\$0
Addressing Safety, Mobility, and Access on Subregional Priority Roadways: FFY 2016	13270	\$33,000	\$26,400	\$6,600	\$0	\$0	\$0	\$0
Community Transportation Technical Assistance Program	13150, MAPC9	\$22,180	\$9,744	\$2,436	\$8,000	\$2,000	\$0	\$0
Core Capacity Constraints	23326	\$3,810	\$3,048	\$762	\$0	\$0	\$0	\$0
Fairmount Line Station Access Analysis	11249	\$240	\$192	\$48	\$0	\$0	\$0	\$0
First-Mile-and-Last-Mile Transit Connections Studies	11399	\$55,000	\$44,000	\$11,000	\$0	\$0	\$0	\$0
Household-Survey-Based Travel Profiles and Trends: Selected Policy Topics	11152	\$7,500	\$6,000	\$1,500	\$0	\$0	\$0	\$0
Identifying Opportunities to Alleviate Bus Delay	11400	\$65,000	\$52,000	\$13,000	\$0	\$0	\$0	\$0
MassDOT Transit Planning Assistance	Varies by Project	\$260,870	\$0	\$0	\$0	\$0	\$208,696	\$52,174
Regional Transit Service Planning Technical Support	14342	\$29,920	\$23,936	\$5,984	\$0	\$0	\$0	\$0
Research Topics Generated by MPO Staff	20900	\$9,000	\$7,200	\$1,800	\$0	\$0	\$0	\$0
Safety and Operations at Selected Intersections: FFY 2016	13272	\$19,500	\$15,600	\$3,900	\$0	\$0	\$0	\$0
Systemwide Title VI/Environmental Justice Assessment of TIP Projects	11356	\$22,500	\$18,000	\$4,500	\$0	\$0	\$0	\$0
Travel Data Forecasts	90080	\$2,370	\$1,896	\$474	\$0	\$0	\$0	\$0
Travel Operations Analyses	90040	\$10,800	\$8,640	\$2,160	\$0	\$0	\$0	\$0
44.25.00 Transportation Improvement Program		\$52,260	\$41,808	\$10,452	\$0	\$0	\$0	\$0
44.25.01 Transportation Improvement Program	10103	\$52,260	\$41,808	\$10,452	\$0	\$0	\$0	\$0
44.27.00 Other Activities		\$28,500	\$18,000	\$4,500	\$0	\$0	\$4,800	\$1,200
44.27.01 Direct Support	90000	\$28,500	\$18,000	\$4,500	\$0	\$0	\$4,800	\$1,200
Total Boston Region MPO 5303 Funds Programmed		\$1,890,140	\$1,036,552	\$259,138	\$262,064	\$65,516	\$213,496	\$53,374

3C = continuing, cooperative, and comprehensive transportation-planning process.

TABLE 8-8: FFY 2016 UPWP CTPS Schedule and Staff Assignments—Ongoing Planning Activities

Ongoing Planning Activities	Project ID	Certification Activities Group	Information Technology and Services Group	Transit Service Planning Group	Traffic Analysis and Design Group	Transportation Systems Analysis Group	Travel Model Development Group	Anticipated Completion Date
3C Planning and MPO Support	90011-90090	✓	✓	✓	✓	✓	✓	Ongoing
Access Advisory Committee Support	90024	✓						Ongoing
Air Quality Conformity and Support Activities	90061	✓	✓		✓	✓	✓	Ongoing
Bicycle/Pedestrian Support Activities	13208	✓	✓		✓			Ongoing
Boston Region MPO Title VI Reporting	11355	✓	✓	✓				Ongoing
Community Transportation Technical Assistance Program	13150				✓			Ongoing
Computer Resource Management	60405-60492		✓					Ongoing
Congestion Management Process	11123		✓		✓			Ongoing
Data Resources Management	60130-60600		✓					Ongoing
Direct Support	90000	✓	✓	✓	✓	✓	✓	Ongoing
Freight Planning Support: FFY 2016	11145				✓	✓		Ongoing
Livable Community Workshop Program	13801	✓	✓		✓			Ongoing
Long-Range Transportation Plan	10101	✓	✓	✓	✓	✓	✓	Ongoing
Provision of Materials in Accessible Formats	90028	✓	✓					Ongoing

(Cont'd.)

TABLE 8-8: FFY 2016 UPWP CTPS Schedule and Staff Assignments—Ongoing Planning Activities (continued)

Ongoing Planning Activities	Project ID	Certification Activities Group	Information Technology and Services Group	Transit Service Planning Group	Traffic Analysis and Design Group	Transportation Systems Analysis Group	Travel Model Development Group	Anticipated Completion Date
Regional Model Enhancement	11124		✓			✓	✓	Ongoing
Regional Transit Service Planning Technical Support	14342		✓	✓				Ongoing
Roadway Safety Audits	11150				✓			Ongoing
Transportation Equity/Environmental Justice Support	11147	✓	✓	✓		✓		Ongoing
Transportation Improvement Program	10103	✓	✓		✓	✓		Ongoing
Travel Data Forecasts	90080				✓			Ongoing
Travel Operations Analyses	90040			✓				Ongoing
Unified Planning Work Program (CTPS)	10104	✓	✓	✓	✓	✓	✓	Ongoing

Note: This table presents estimated schedules and staff assignments for the ongoing CTPS planning activities in the UPWP. This information is subject to revision as the projects move through implementation. All activities are supported by CTPS's Administrative Services Group, Editorial Group, and Graphics Group, and are overseen by the CTPS Directors.

3C = continuing, cooperative, and comprehensive transportation planning

TABLE 8-9: FFY 2016 UPWP CTPS Schedule and Staff Assignments—Studies and Activities Currently Underway

Studies and Activities Currently Underway	Project ID	Certification Activities Group	Information Technology and Services Group	Transit Service Planning Group	Traffic Analysis and Design Group	Transportation Systems Analysis Group	Travel Model Development Group	Anticipated Completion Date
Addressing Safety, Mobility, and Access on Subregional Priority Roadways: FFY 2015	13266				✓			November 2015
Core Capacity Constraints	23326					✓		November 2015
Fairmount Line Station Access Analysis	11249			✓	✓			December 2015
Green Line Extension: Completion of New Starts Analysis	22336					✓		December 2015
Household Survey-Based Travel Profiles and Trends: Selected Policy Topics	11152				✓			November 2015
I-93/I-95 Interchange Improvements North of Boston: Modeling Support	73216					✓		December 2015
Intercity Bus and Rail Maps	14344			✓				June 2016
MassDOT Highway Division On-Call Modeling Support	73220					✓		May 2018
MassDOT State Planning and Research Program Support	Varies by Project	✓	✓	✓	✓	✓	✓	March 2017
MassDOT Title VI Program (for contracts active during FFY 2016)	Various		✓	✓				June 2017
MassDOT Transit Planning Assistance	Varies by Project		✓	✓		✓	✓	June 2017
Massport Technical Assistance: SFY 2015-17	22125		✓	✓		✓		June 2017
MBTA 2015 National Transit Database: Data Collection and Analysis	14341			✓				December 2015
MBTA 2016 National Transit Database: Data Collection and Analysis	14345			✓				November 2016

(Cont'd.)

TABLE 8-9: FFY 2016 UPWP CTPS Schedule and Staff Assignments—Studies and Activities Currently Underway (continued)

Studies and Activities Currently Underway	Project ID	Certification Activities Group	Information Technology and Services Group	Transit Service Planning Group	Traffic Analysis and Design Group	Transportation Systems Analysis Group	Travel Model Development Group	Anticipated Completion Date
MBTA 2015-16 Systemwide Passenger Survey	14346		✓	✓				January 2017
MBTA 2016 Title VI Program Monitoring	11395		✓	✓				September 2016
MBTA Bus Service Data Collection VIII	11384		✓	✓				March 2016
MBTA Review of Fare Structure, Tariffs, and Policy for SFY 2017	11378				✓	✓		September 2016
MBTA Rider Oversight Committee Support	14339			✓				March 2017
MBTA Youth Pass Program Evaluation and Title VI Equity Analysis	14348			✓				August 2016
Priority Corridors for LRTP Needs Assessment: FFY 2015	13267				✓			November 2015
Route 3 South Express Toll Lanes—Public-Private Partnership Study: Modeling Support	23325					✓		December 2015

Note: This table presents estimated schedules and staff assignments for the CTPS studies and activities currently underway in the UPWP. This information is subject to revision as the studies and activities move through implementation. All studies and activities are supported by CTPS's Administrative Services Group, Editorial Group, and Graphics Group, and are overseen by the CTPS Directors.

SFY = state fiscal year

TABLE 8-10: FFY 2016 UPWP CTPS Schedule and Staff Assignments—Activities with Work Scopes to be Developed

New Discrete Activities	Project ID	Certification Activities Group	Information Technology and Services Group	Transit Service Planning Group	Traffic Analysis and Design Group	Transportation Systems Analysis Group	Travel Model Development Group	Anticipated Completion Date
Addressing Safety, Mobility, and Access on Subregional Priority Roadways: FFY 2016	13270			✓	✓			September 2016
First-Mile-and-Last-Mile Transit Connections Studies	11399		✓	✓	✓			September 2016
Identifying Opportunities to Alleviate Bus Delay	11400		✓	✓	✓			September 2016
MBTA 2017 National Transit Database: Data Collection and Analysis	14666			✓				November 2017
Pedestrian Level-of-Service Metric Development	13273				✓			September 2016
Priority Corridors for LRTP Needs Assessment: FFY 2016	13271			✓	✓			September 2016
Research Topics Generated by MPO Staff	20900	✓	✓	✓	✓	✓	✓	September 2016
Safety and Operations Analyses at Selected Intersections: FFY 2016	13272				✓			September 2016
Systemwide Title VI/Environmental Justice Assessment for TIP Projects	11356	✓	✓	✓		✓		September 2016

Note: This table presents estimated schedules and staff assignments for the CTPS activities in the UPWP with work scopes to be developed. This information is subject to revision as the activities move through implementation. All activities are supported by CTPS's Administrative Services Group, Editorial Group, and Graphics Group, and are overseen by the CTPS Directors.

