

Executive Summary

ES.1 WHAT IS THE UPWP?

The Unified Planning Work Program (UPWP) produced by the Boston Region Metropolitan Planning Organization (MPO) explains how the Boston region's federal transportation planning funds will be spent in a given federal fiscal year (FFY). Specifically, the UPWP is a financial plan that is produced in order to comply with the federally mandated metropolitan transportation planning process (also called the 3C Planning Process).

Of all the possible transportation planning studies and technical analyses that could be undertaken to benefit the region, the UPWP plays a critical role in prioritizing the studies that are conducted, defining their scopes and budgets, and ensuring that their outcomes help move us closer to achieving our transportation goals as a region.

Additionally, the UPWP serves as a source for the following information:

1. 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
2. Budget information to federal and state officials about how the Boston Region MPO plans to spend federal metropolitan planning funds on studies and programs performed on behalf of the MPO

How is the Boston Region defined?

The Boston region encompasses an area of approximately 1,405 square miles and is made up of 101 cities and towns stretching from Boston to Ipswich in the north, Duxbury in the south, and west to Interstate 495. It is home to more than three million people and approximately two million jobs. The diverse communities in the MPO area range from relatively rural communities, such as Dover, to the urban centers of Boston and Cambridge. Therefore, transportation planning must take into account demographic, cultural, environmental, and mobility diversity.

What is an MPO?

MPO stands for Metropolitan Planning Organization.

In order to receive federal transportation funds, each urbanized area (with a population of 50,000 or more) must conduct an ongoing transportation planning process (a.k.a the 3C process) that engages state and local governments as well as other stakeholders.

MPOs are the entities tasked with carrying out this planning process. The Boston Region MPO is made up of a decision-making board that is supported by the Central Transportation Planning Staff, staff to the MPO.

How does the UPWP relate to the goals of the Boston Region MPO?

The Boston Region MPO plans for the transportation future of the Boston region. The MPO is guided by a 25-year vision for a modern, safe, equitable, sustainable, and technologically advanced transportation system for the region, which is described in the MPO's Long-Range Transportation Plan (LRTP), *Charting Progress to 2040*. The transportation planning work funded through the UPWP is an integral part of achieving this regional vision.

The transportation goals of the Boston region (see Figure 1-2, in Chapter 1) include:

1. **Safety:** Transportation by all modes will be safe.
2. **System Preservation:** Maintain the transportation system.
3. **Clean air/Clean Communities:** Create an environmentally friendly transportation system.
4. **Capacity Management/Mobility:** Use existing facility capacity more efficiently and increase healthy transportation capacity.
5. **Transportation Equity:** Provide comparable transportation access and service quality among communities, regardless of income level or minority population.
6. **Economic Vitality:** Ensure our transportation network provides a strong foundation for economic vitality.

The "3C" Planning Process

The 3 Cs define an approach to meaningful transportation planning and are required by the federal government:

- **Continuing:**

Transportation planning should plan for the short- and long-range horizons, emphasizing the evolving progression from systems planning to project planning, programming, and implementation. It should be done with recognition of the necessity for continuously reevaluating data and plans.

- **Comprehensive:**

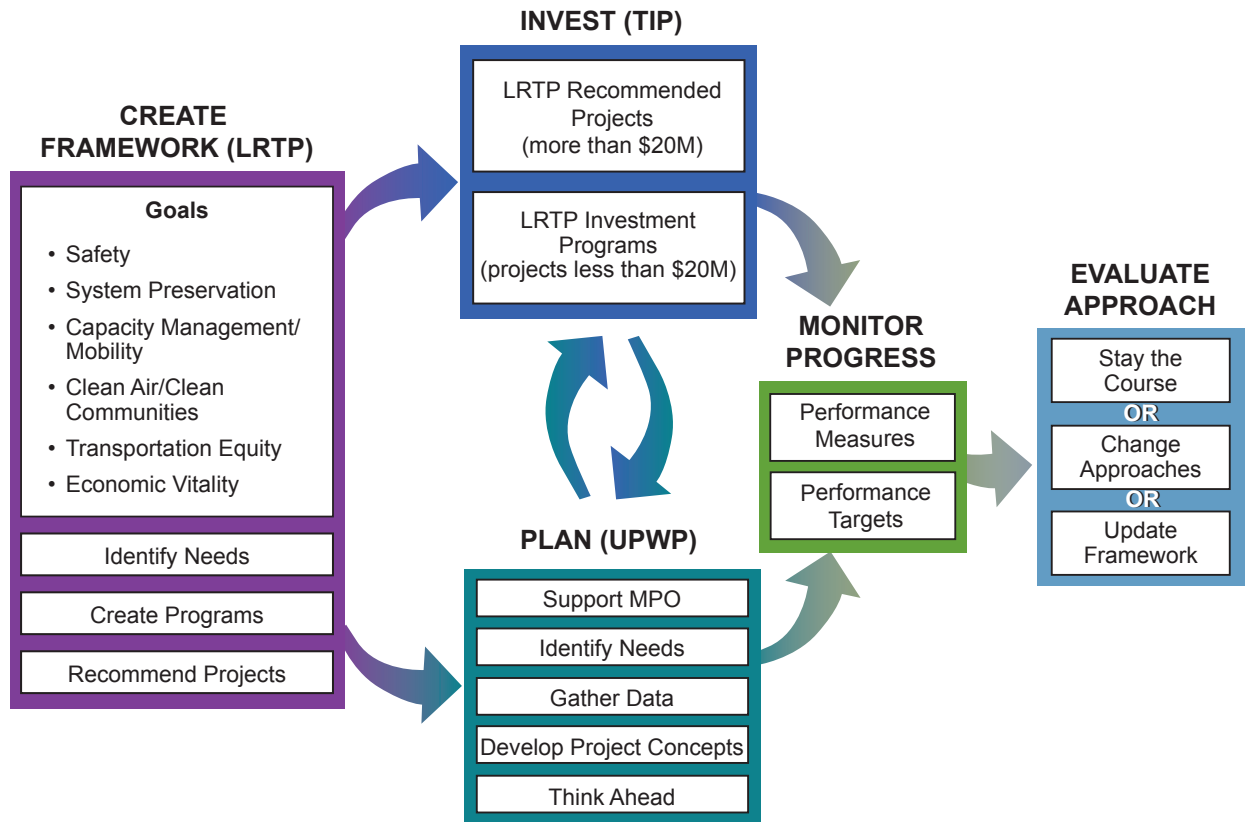
Transportation planning should integrate all of the stages and levels of the process and examine all modes to ensure a balanced planning and programming approach. The planning process should include analysis of related non-transportation elements such as land use, economics, environmental resources, and population.

- **Cooperative:**

Transportation planning should be a process designed to encourage involvement by all users of the system including businesses, community groups, environmental organizations, the traveling public, freight operators, and the general public.

In addition to the LRTP and the UPWP, the MPO also produces the Transportation Improvement Program (TIP) for the Boston region. As the near-term investment plan of the MPO, the TIP describes and prioritizes transportation construction projects that are expected to be implemented during a five-year period. Figure ES-1 illustrates the relationship between the LRTP goals and visions, the planning foundation of the MPO (the UPWP), the TIP, and the feedback loop for monitoring progress towards the region’s goals as well as continuously evaluating our approach to achieving them.

Figure ES-1: Links Between LRTP, TIP, and UPWP



What are “federal metropolitan planning funds”?

The federal government regulates the funding, planning, and operation of surface transportation through the federal transportation program (enacted into law through Titles 23 and 49 of the United States Code). The most recent reauthorization of the surface transportation law is called the Fixing America’s Surface Transportation (FAST) Act.

Federal funding that supports much of the work described in this UPWP comes from two main sources: the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA). Federal funding is broken down as follows:

- **FHWA 3C Planning (PL)/MassDOT Local Match:** These are FHWA planning funds distributed to the Massachusetts Department of Transportation’s (MassDOT) 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 that is primarily based on the region’s road mileage and population. The formula was developed by the Massachusetts Association of Regional Planning Agencies (MARPA) and is known as the “MARPA formula.” The FFY 2018 3C PL funding allocation for the Boston Region is \$3,694,506, which includes \$738,901 in state matching funds.
- **FTA 3C Planning (\$5303)/MassDOT 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 2018 FTA allocation for the Boston Region, including a total local match, is \$2,181,986. The total amount programmed in this UPWP for studies to be conducted by MPO staff, MassDOT, and MAPC on behalf of the MPO is \$1,868,216. Of the total FTA 3C funds allocated to the region, MassDOT, MAPC, and the MPO receive a portion, as described below:
 - **MPO FTA 3C Planning (\$5303)/MassDOT Local Match:** The total amount of FTA funds, including a local match, programmed in this UPWP for work conducted by MPO staff is \$1,274,278.
 - **MassDOT FTA 3C Planning (\$5303)/MassDOT Local Match:** The total amount of FTA funds, including a local match, allocated to MassDOT for FFY 2018 is \$266,639. MassDOT uses these funds to issue a contract to the MPO for transit planning assistance throughout the FFY (referred to as MassDOT Transit Planning Assistance).
 - **MAPC FTA 3C Planning (\$5303)/MassDOT Local Match:** A portion of the Boston Region FTA allocation also goes to MAPC. MAPC uses these funds to conduct their transit-planning studies programmed through the UPWP. The total amount of FTA funds, including a local match, allocated to MAPC for FFY 2018 is \$327,297.

Are there other funding sources in the UPWP?

Yes! In addition to MPO-funded work, the Central Transportation Planning Staff (CTPS) performs planning analyses and studies funded by state transportation agencies, including MassDOT, the Massachusetts Bay Transportation Authority (MBTA), and the Massachusetts Port Authority (Massport). More detail about these agency-funded studies can be found in Chapter 7. For FFY 2018, the agency funding in this UPWP includes the following:

- **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 studies 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 \$377,376 (including state matching funds) are programmed in this UPWP for studies to be conducted by MPO staff.
- **MassDOT:** Funds in the amount of \$297,100 for MassDOT studies are included in this UPWP.
- **MBTA:** The MBTA provides \$549,990 in funding for this UPWP for transit studies to be conducted by CTPS.
- **Massport:** This UPWP also includes \$50,000 in funding provided by Massport for work being conducted by CTPS on its behalf.

ES.2 WHAT STUDIES AND ACTIVITIES ARE IN THIS FFY 2018 UPWP?

Throughout the following chapters, you will see detailed information on work programs, studies, support activities, and technical analyses that fall into the following categories:

- **Certification requirements and administrative activities:** The UPWP includes activities that the MPO must conduct in order to remain certified as an MPO by the federal government, to be eligible to receive and distribute federal transportation dollars, and to maintain its data resources and computer equipment properly. See Chapters 5 and 8 for more detail about these areas of work.

Objectives of the MPO

In carrying out the 3C transportation planning process, the MPO aims to achieve the following objectives:

- Identify transportation problems and develop possible solutions.
- Balance short- and long-range considerations.
- Represent both regional and local considerations, as well as both transportation and non-transportation objectives and impacts.
- Assist implementing agencies in effecting timely policy and project decisions while considering a broad range of impacts and allowing for input from all stakeholders.
- Help implementing agencies to prioritize transportation activities in a manner consistent with the region's needs and resources.
- Comply with all federal transportation, environmental justice, and equal rights legislation.

- **Ongoing/continuing work programs:** These are areas of work that support technical analyses and planning studies for cities and towns in the region. See Chapter 6 for more detail on these studies and technical analyses.
- **New studies:** Every year, a certain amount of funding is available for new studies to be undertaken by MPO staff. These efforts are conducted to enhance the knowledge of the practice, to enhance analytical methods, and to evaluate strategies for implementation. See Chapter 6 for more detail on these new studies.
- **Agency studies and technical analyses:** CTPS conducts planning analyses and studies funded by state transportation agencies, including MassDOT, the MBTA, and Massport. These agency-funded studies are described in more detail in Chapter 7.

Table ES-1 contains the budget allocated to reflect the MPO's continuing, comprehensive, and cooperative (3C) transportation planning activities. Funding for 3C planning consists of Federal Highway Administration (FHWA) metropolitan planning (PL) funds and Federal Transit Administration (FTA) Section 5303 funds, which the Central Transportation Planning Staff (CTPS) and the Metropolitan Area Planning Council (MAPC) expect to spend in federal fiscal year (FFY) 2018. The table also reflects the CTPS work funded by other transportation agencies.

Table ES-1: FFY 2018 Unified Planning Work Program Budget

3C Studies & Programs by CTPS Budget Categories	3C PL Funds	Section 5303 Funds	Proposed FFY 2018 Budget
Administration, Resource Management, and Support Activities	\$ 1,103,628	\$ 535,332	\$ 1,638,960
MPO Certification Requirements	\$ 1,203,722	\$ 445,003	\$ 1,648,725
Continuing MPO-Funded Planning Studies and Technical Analyses	\$ 117,300	\$ 88,630	\$ 205,930
New MPO-Funded Discrete Studies	\$ 507,900	\$ 197,100	\$ 705,000
Direct Support	\$ 60,000	\$ 23,000	\$ 83,000
Total for CTPS 3C Studies and Programs	\$ 2,992,550	\$ 1,289,065	\$ 4,281,615
Total for Agency-Funded CTPS Project Work			\$ 1,575,070
Total CTPS Budget (3C + Agency Work)			\$ 5,856,685

3C Studies & Programs by MAPC Budget Categories	3C PL Funds	Section 5303 Funds	Proposed FFY 2018 Budget
MAPC Planning Studies and Technical Analyses	\$ 382,905	\$ 201,897	\$ 584,802
MAPC Administration, Resource Management, and Support Activities	\$ 319,051	\$ 125,400	\$ 444,451
Total MAPC 3C Budget	\$ 701,956	\$ 327,297	\$ 1,029,253

Total 3C Budget Subtotal by Funding Program	\$ 3,694,506	\$ 1,616,362	\$ 5,310,868
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(CTPS 3C Budget + MAPC 3C Budget)

TOTAL PROGRAMMED IN FFY 2018			\$ 6,885,938
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(CTPS 3C Budget + CTPS Agency-Funded Budget + MAPC 3C Budget)

ES.3 WHAT IS THE PROCESS FOR CREATING AND MONITORING THE UPWP EVERY FFY?

Developing the UPWP

The annual process of creating the UPWP includes both generating and evaluating ideas for new studies, as well as updating the scopes and anticipated deliverables for ongoing technical analysis activities, certification requirements, and administrative support activities.

Ideas for new studies come from a combination of:

- **Public input** gained through community meetings and meetings with the eight subregional groups.
- **Regional Transportation Advisory Council input** gained from meetings in which MPO staff discussed study ideas and transportation priorities of the Advisory Council member organizations.
- **UPWP Committee input** gained from meetings held throughout the year between this committee of the MPO and MPO staff. The UPWP Committee oversees the entire document development for the UPWP.
- **Existing planning documents** such as the MPO's Congestion Management Process (CMP) and LRTP Needs Assessment; the MBTA's long-range capital plan; MetroFuture, MAPC's long-range plan for smart growth in the Boston region; and other recent studies.
- **Past guidance** issued by FHWA and FTA on studies that address the federal transportation planning emphasis areas (for more information on the federal emphasis areas, see Chapter 3 and Table 3-1).
- **Public comment letters and study proposals** that MPO staff receive during outreach events and during the public comment period on the UPWP and other CTPS-produced reports.
- **Consultations with MassDOT, the MBTA, and MAPC** that occur during document development and throughout the year as new ideas for transportation planning needs arise.
- **MPO staff-identified needs** that emerge from continual interactions between MPO staff, state and local agencies, organizations, and community groups.

Ideas for new studies are compiled into the Universe of New Studies, and each proposed study is evaluated and selected for funding based on the following criteria: how it helps the region accomplish the LRTP goals, the mode(s) it addresses, the scale of the study, the time frame and type of impact it is anticipated to result in, whether it furthers some body of existing work, and whether it has been funded in the past or is a completely new idea.

The MPO continually seeks to improve its process through inclusive and collaborative decision-making. For this reason, the MPO seeks to involve a broad and diverse range of stakeholders throughout the UPWP development process.

In the coming years, staff will seek to increase public input into the Universe of New Studies and then engage participants in discussing, evaluating, and eventually prioritizing studies for inclusion in the UPWP. We are working to expand our communication channels to include:

- An engaging **website**, which serves as a resource for those seeking to influence transportation planning in the Boston region
- A lively **Twitter** account (@BostonRegionMPO), covering transportation planning news and events
- A **TRANSREPORT** blog publishing MPO research and data in an accessible, approachable format
- Targeted **external outreach** to advocacy and community groups, especially those representing populations that historically have been less involved in our processes
- **Tabling** at the public events of our transportation partners
- **CTPS “Office Hours”** for those seeking feedback and advice on TIP projects, UPWP proposals, or Community Transportation Technical Assistance applications
- **Launch parties** for document releases that are inclusive, informational, and fun

As described above, Chapters 5 through 8 provide detailed information about all of the transportation-planning activities that will be undertaken by CTPS during FFY 2018. The new studies chosen for funding in FFY 2018 are summarized below in Table ES-2 and described in more detail in Chapter 6.

Table ES-2
FFY 2018 New Discrete Funded Studies

Project ID	Category	Project Name	Estimated Cost	Page Number
13281	Active transportation	Bicycle Level-of-Service Metric	\$55,000	6-5
13282	Land use, environment, and economy	Transportation Mitigation of Major Developments: Review of Strategies	\$50,000	6-7
13283	Multimodal mobility	Safety and Operations Analysis at Selected Intersections	\$70,000	6-8
13284	Multimodal Mobility	Potential Impacts of Connected and Autonomous Vehicles	\$50,000	6-9
13285	Multimodal mobility	Travel Alternatives to Regional Traffic Bottlenecks	\$70,000	6-10
13286	Multimodal mobility	Addressing Safety, Mobility, and Access on Subregional Priority Roadways 2018	\$120,000	6-12
13287	Multimodal mobility	Addressing Priority Corridors from the Long-Range Transportation Plan Needs Assessment 2018	\$120,000	6-14
13288	Transit	Community Transportation Program Development	\$85,000	6-16
13289	Transit	Review of and Guide to Regional Transit Signal Priority	\$65,000	6-18
20902	Other technical support	MPO Staff-Generated Research Topics 2018	\$20,000	6-20
	Total		\$705,000	

What is the public review process?

As noted above, public outreach forms a major part of the input into the UPWP every FFY. Towards the end of the UPWP development process, the MPO votes to release a draft document for public review that describes ongoing and new UPWP studies and includes financial information. The Draft UPWP also summarizes the document's

development to date and relevant transportation-planning studies in the Boston region that are being conducted by other organizations.

The MPO invites the public to comment on the Draft UPWP following its release. MPO staff posts the document for downloading, and publicizes its release via the MPO's website (www.bostonmpo.org), Twitter account, and MPOinfo email list. MPOinfo is the MPO email distribution list; the list includes MPO Board members, municipal TIP contacts, and all other interested public and stakeholders in the region. The email is used to keep all of these contacts informed about upcoming opportunities for public comment and involvement, and other current events of the MPO. Additionally, MPO staff solicits public input during CTPS Office Hours and at public events hosted by CTPS or our transportation partners, (e.g., MassDOT and the MBTA). MPO staff compiles all of the comments made during this period and presents them to the MPO.

Information about the public review process for the Draft FFY 2018 UPWP is provided in Appendix B.

How are progress and outcomes monitored?

The MPO monitors the progress of studies funded through the UPWP by approving detailed work programs and scopes, reviewing monthly progress reports, keeping track of UPWP study budgets and updates on actual spending, and approving the release of deliverables based on whether the objectives stated in the work program were met and whether the state deliverables were produced.

ES.4 WHAT ELSE DOES THE MPO DO AND WHO ARE THE MEMBERS?

The transportation planning process

Title 23, Section 134 of the Federal-Aid Highway Act and Section 5303 of the Federal Transit Act, as amended, require that urbanized areas, in order to be eligible for federal funds, conduct a 3C transportation-planning process, resulting in plans and programs consistent with the planning objectives of the metropolitan area. In complying with this requirement, the Boston Region MPO established specific objectives that guide our 3C planning process.

As part of our 3C process, the Boston Region MPO annually produces the TIP and the UPWP. These documents, along with the quadrennial LRTP, are referred to as Certification Documents (described in Chapter 2, Section 2.1.2) and are required for the MPO's process of being certified to meet federal requirements; this certification is a prerequisite for receiving federal transportation funds. In addition to the requirement to produce the LRTP, the TIP, and the UPWP, the MPO must establish and conduct an inclusive public participation process, as well as maintain transportation models and data resources to support air quality conformity determinations, transportation equity analyses, and long- and short-range planning work and initiatives.

The Boston Region MPO

The Boston Region MPO consists of a 22 voting member board that includes state agencies, regional organizations, and municipalities; its jurisdiction extends from Boston north to Ipswich, south to Duxbury, and west to Interstate 495. There are 101 cities and towns that make up this area (see Chapter 1, Figure 1-1).

Metropolitan Area Planning Council Subregional Groups

The Metropolitan Area Planning Council (MAPC) is the regional planning agency for the 101-municipality Boston region and is also a member agency of the MPO.

To enhance the regional planning process, the Boston region is divided into eight subregional groups that include municipal representatives. These groups are better able to focus on planning topics that are of particular importance to their subregion:

- South Shore Coalition
- Three Rivers Interlocal Council
- South West Advisory Planning Committee
- MetroWest Regional Collaborative
- Inner Core Committee
- Minuteman Advisory Group on Interlocal Coordination
- North Suburban Planning Council

The permanent MPO voting members are:

- MassDOT (3 seats)
- MAPC
- MBTA
- MBTA Advisory Board
- Massport
- City of Boston (2 seats)
- Regional Transportation Advisory Council (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, split between cities and towns. The current elected members are:

- City of Beverly – North Shore Task Force
- City of Braintree – South Shore Coalition
- 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 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 FHWA and the FTA participate in the MPO as advisory (nonvoting) members. Details about MPO voting members are provided in Chapter 2. Figure 2-1 shows MPO membership and organization of the CTPS, staff to the MPO.

ES.5 OVERVIEW OF THIS DOCUMENT

This UPWP document is structured as follows:

- **Chapter 1** provides more detailed background and information on the purpose of this document, how it helps the MPO achieve its regional transportation goals, and the funding for FFY 2018.
- **Chapter 2** provides background on the metropolitan transportation planning process and the Boston Region MPO member agencies.
- **Chapter 3** gives detailed information on the regulatory framework that guides the development of the UPWP and the studies and activities programmed for funding, as well as the overall regulations and guidance that the MPO considers in all of its work.
- **Chapter 4** presents summary tables of FFYs 2015–2017 UPWP studies that have been completed or are projected to be completed by the end of September 2017 in addition to work products, including reports and their resultant technical memoranda.
- **Chapter 5** includes descriptions of the certification requirement activities to be completed in FFY 2018 and the current budgets assigned to each.
- **Chapter 6** summarizes the Boston Region MPO planning studies and technical analyses that will be carried over from FFY 2017 to FFY 2018, provides descriptions of the eight new planning studies chosen for funding in FFY 2018, and includes updated descriptions of the ongoing technical analysis work that MPO staff conducts for municipalities and the region.
- **Chapter 7** includes descriptions of the agency-funded transportation planning studies and technical analyses that will be undertaken by CTPS in FFY 2018. These include recurring contracts such as MassDOT’s Statewide Planning and Research grant; ongoing contracts such as the MassDOT Title VI Program and the MBTA’s National Transit Database: Data Collection and Analysis; and new contracts.
- **Chapter 8** provides detailed information and FFY 2018 budgets for the administration, resource management, and support activities conducted by MPO staff.
- **Chapter 9** includes budget summaries for the studies, technical analyses, and ongoing programs included in Chapters 5 through 8, and describes how federal metropolitan planning funds will be spent on studies and programs in this UPWP. This chapter provides federal and state officials with necessary information for approving the use of funds and for administering contracts.

- **Appendix A** presents project summaries for other non-MPO transportation-planning projects that 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 also includes a summary of written comments on the Draft UPWP that were received during the review period, as well as the MPO's responses to these comments.
- **Appendix C** includes the FFY 2018 Universe of Proposed New Studies and describes the evaluation process that was used by the UPWP Committee and the MPO as a guide for selecting new studies.
- **Appendix D** contains an updated analysis of the geographic distribution of UPWP studies programmed through the UPWP.
- **Appendix E** contains the glossary of acronyms.