

# APPENDIX A

## OTHER BOSTON REGION TRANSPORTATION PLANNING STUDIES

This appendix consists of brief descriptions of planning studies that will be conducted in the Boston Region Metropolitan Planning Organization (MPO) area by individual agencies, such as the Massachusetts Department of Transportation (MassDOT) and the Massachusetts Bay Transportation Authority (MBTA), during federal fiscal year (FFY) 2021. MPO discretionary funding will not be used for these studies, although in certain cases, an agency or one of its consultants may contract with MPO staff—the Central Transportation Planning Staff (CTPS)—to prepare an environmental impact report or large-scale study. For these projects, support work that will be conducted by CTPS is described in Chapters 3 through 6. Likewise, the project listings in this appendix indicate whether components of the projects will be conducted by CTPS. The projects in this appendix are not subject to the MPO’s public participation process. Rather, they follow their own public processes, parts of which may be required by the Massachusetts Environmental Policy Act. They are included here to provide a more complete picture of the surface-transportation-planning projects occurring in the region. The listings contained in this appendix were provided to CTPS prior to July 9, 2020.

## MULTIMODAL OR ROADWAY STUDIES

### REGIONAL OR SUBREGIONAL STUDIES

#### MassDOT

##### *Wellington Circle Study*

The Wellington Circle Study will evaluate the existing and future multimodal transportation conditions at Wellington Circle in the City of Medford, and develop and analyze alternatives that are intended to improve transportation conditions. The study will focus on the redesign of Wellington Circle intended to provide better connectivity and mitigate traffic throughout the area for the City of Medford and other communities in the surrounding region. The study will examine and evaluate the alternatives to the extent possible in the context of vehicular use, bicycle and pedestrian use, transit use, land use, and cost, as well as the resulting economic, social, and cultural impacts.

### MUNICIPAL STUDIES

#### City of Boston

##### *Rutherford Avenue—Sullivan Square Design Project*

The City of Boston is progressing with the redesign of the Rutherford Avenue corridor in Charlestown, which extends about 1.5 miles from the North Washington Street Bridge to Sullivan Square and provides a critical connection between Everett, Somerville, suburbs north and east of Boston, and Boston's downtown business area. Reconstruction of this corridor is currently programmed in the Transportation Improvement Program beginning in 2022. The corridor's highway-like design is inconsistent with present-day design preferences and local circumstances, and the function and design of the Sullivan Square rotary is problematic. Pedestrian mobility is limited and bicycle travel is not compatible with the high-speed road. The corridor is eight- to 10-lanes wide (120 to 140 feet), presenting a significant barrier between areas on either side of the roadway, such as the Bunker Hill Community College, Paul Revere Park, the Hood Business Park employment area, and MBTA rapid transit stations.

There are significant transit-oriented development opportunities along the corridor, and public investment in new infrastructure will support development of commercial and residential uses, whose tenants otherwise probably would not, or could not, locate to the area. A number of major structural elements in the corridor were constructed more than 60 years ago; they are approaching the end of their life cycle and will need to be replaced. With the Central Artery/Tunnel project now complete, more traffic remains on facilities such as Interstate-93 (I-93) and US Route 1; therefore, reduced traffic volumes along Rutherford Avenue present a unique opportunity to transform the corridor's character from a 1950s-era, automobile-oriented facility to a twenty-first century, multimodal, urban boulevard corridor that will accommodate private development.

## *Neighborhood Slow Streets*

Each year, Boston residents, neighborhood associations, and other community-based organizations can apply to have traffic-calming measures implemented in a specific neighborhood. Selected neighborhoods will work with the Boston Transportation Department and Public Works Department to plan and implement their Neighborhood Slow Streets project. Rather than planning and implementing changes one street at a time, the city will address an entire zone within a neighborhood. A typical zone will consist of 10 to 15 blocks. The Slow Streets program emphasizes quick-install, low-cost fixes, such as signage, pavement markings, speed humps, and daylighting (that is, repositioning obstacles at street corners so that drivers' sight lines are clearer). More than a dozen zones have been constructed, and the City continues to design and construct Slow Streets zones in 2020. <https://www.boston.gov/transportation/neighborhood-slow-streets>

## *Green Links*

The goal for Boston Green Links is to create a connected network of paths and low-stress corridors that people of all ages and abilities can use, whether on foot, bicycle, or assisted mobility device. The citywide plan will connect people in every Boston neighborhood to the city's greenway network by installing new paths and bike facilities, and creating safer road crossings. The plan includes projects in progress by the city, the Department of Conservation and Recreation, community groups, and others, as well as new projects developed with local input. The plan will be implemented over time, through grants, partnerships, and city-funded projects. For more information, visit <https://www.boston.gov/transportation/boston-green-links>

## *The Blue Hill Avenue Transportation Action Plan*

Blue Hill Avenue is a vital arterial. The avenue houses community organizations of education, worship, and recreation. It is also a commercial corridor home to many minority-owned businesses. The corridor provides access to and from the City's major employment centers for Roxbury, Dorchester, and Mattapan residents—largely by supporting the highest bus ridership in the entire MBTA system. The initiative and study will reimagine how the avenue functions, with an emphasis on transportation-related equity, and will examine transportation, public space, and safety. The scope of this project stretches from Mattapan Square to the intersection of Blue Hill Avenue and Warren Street in Grove Hall. For more information, visit <https://www.boston.gov/departments/transportation/blue-hill-avenue>

## TRANSIT STUDIES

### STATEWIDE STUDIES

#### MassDOT

##### *East-West Passenger Rail Study*

The East-West Passenger Rail Study is a conceptual planning study of alternatives for improved rail connections and mobility in the East-West corridor. The Study is assessing service options, which feature a range of travel times, speeds, frequencies, and potential station stops to provide passenger service to communities between Boston, Springfield, and Pittsfield. The Study is examining the benefits, costs, impacts, and investments necessary to implement each alternative. The Study is being conducted in the context of several previous statewide and interstate rail studies.

### REGIONAL OR SUBREGIONAL STUDIES

#### MassDOT/MBTA

##### *MBTA Rail Vision*

This study will identify cost-effective strategies to transform the existing Commuter Rail system into one that better supports improved mobility and economic competitiveness in the Greater Boston region. A thorough evaluation of costs, ridership potential, and operational feasibility of various alternatives, as well as broad public conversation, will inform the ultimate vision for the future of the Commuter Rail—one that the MBTA will then begin to turn into a reality.

##### *MBTA Bus Network Redesign*

This work builds off of the Focus40 effort and the Better Bus Project to evaluate the overall MBTA bus network and propose an alternate vision for how the bus network can better reflect the travel needs of the region and create a more competitive bus service for current and future bus riders. The consultant team will be responsible for conducting an in-depth analysis of the network using location based systems data and the MBTA's origin-destination-transfer model to better understand travel demand in the region. Given that more than 450,000 MBTA customers rely on the bus network every day, the Network Redesign will feature a major civic engagement effort to ensure that the feedback from current and potential bus customers is a major input into this process. Stakeholder engagement will also involve meeting with a range of municipal, business, and advocacy representatives. The consultant will develop concepts for a redesigned MBTA bus network and recommend one final proposed network. The final network will be based on a phased implementation approach. The Redesign will develop a detailed phasing plan for rolling out changes based on vehicle availability, the scale of changes, work to be completed, and political will.

## *Alewife Access Study*

The MBTA Alewife parking garage is beyond its useful life and will likely need a major overhaul in the future. This need to bring the facility into a state of good repair provides the opportunity to consider how to serve the station most effectively with parking and other multimodal access opportunities. This study will seek to answer the question of how much parking to build and how to serve other modes of access at Alewife Station.

## *Silver Line Extension Alternatives Analysis*

Building off of the work of the Everett Transit Action Plan and the Lower Mystic Regional Working Group, the purpose of the Silver Line Extension Alternatives Analysis is to assess the feasibility, utility, and cost of various alignment and service frequency options of an extension of the Silver Line from Chelsea through Everett to Glendale Square and on to Sullivan Square, North Station, Lechmere, or Kendall Square. The analysis will include the development of conceptual designs for alternatives, as well as modeling how the alternatives would interact with other existing services, parking, and transportation demand management policies. The intended outcome of this effort is a report containing the information necessary for MassDOT/MBTA to select a preferred alternative to move into design.

## *Lynn Transit Action Plan*

The Lynn Transit Action Plan is an initiative to develop solutions to improve transit for the residents and workers of Lynn. The Focus40 process identified Lynn as a Priority Place, where existing population/employment density suggests an ability to leverage transit investments in support of housing creation and economic growth. Work under this task will involve recommending a range of short- to long-term strategies to improve transit within Lynn and enhance its connectivity with Boston.

## *Green Line Corridor Capacity Study*

The goal of this task is to support the long-term planning of the Green Line Transformation Program in line with Focus40 recommendations. More information on the Green Line Transformation Program can be found at <https://www.mbta.com/projects/green-line-transformation>.

## **MUNICIPAL STUDIES**

### **City of Boston**

#### *Boston Transit Improvement Projects*

In partnership with the MBTA, the Boston Transportation Department is focused on increasing ridership on the MBTA's bus system by implementing bus lanes along key corridors. Timelines vary depending on the complexity of each project.

- A number of dedicated bus lanes were implemented in 2019, including Roslindale, Brighton, North End, and Downtown. The lanes were the result of a City-State collaboration and features change of regulations and bus- and bike-only lane marking. New, additional dedicated lanes

are being evaluated. For more information, visit <https://www.boston.gov/departments/transportation/summer-street-multimodal-corridor-improvements> and <https://www.boston.gov/departments/transportation/hyde-park-avenue-multimodal-corridor>

- More complicated construction projects require a larger amount of interagency and public outreach coordination for design, review, and approvals. For example, the Warren Street Bus Priority Corridor planning initiative and study is targeting serious bus delays that affect the corridor's 20,250 daily MBTA riders. For more information, visit <https://www.boston.gov/departments/transportation/warren-street-bus-priority-corridor>

### *Seaport Transit Strategic Plan*

The mission of the Seaport Transit Strategic Plan is to study key transit connections to and within the Seaport District and recommend improvements that can be implemented in the short-term, over the next 15 years, and beyond. The recommendations will build on a comprehensive transit vision for the district and an understanding of the demand from existing and future development. The recommendations will focus on improvements to the Seaport's bus and shuttle network and will include consideration of other potential transit services such as rail, ferry, ride-share, and private-sector sponsored initiatives. This initiative will build on work done for the South Boston Waterfront Sustainable Transportation Project, the ongoing Silver Line Capacity Study, subsequent transit analysis done for public and private projects, and integration of transportation improvements currently in implementation. The goal of the Plan will be an actionable universe of short-, medium-, and long-term mobility improvements that will form the basis for future development mitigation and transportation investments for the Seaport District. For more information, visit <http://www.bostonplans.org/planning/planning-initiatives/south-boston-seaport-strategic-transit-plan>

## **CORRIDOR, AREA, OR GENERAL STUDIES**

### **MUNICIPAL STUDIES**

#### **Town of Arlington**

### *Sustainable Transportation Plan*

The 2019 Annual Town Meeting approved \$80,000 to fund the creation of a Sustainable Transportation Plan (STP) for the Town of Arlington: \$60,000 from town funds in the Department of Public Works budget and \$20,000 from the Community Development Block Grant. The STP will provide a vision for the development of the transportation system in Arlington over the next 20 years, building upon the Traffic and Circulation section of the Master Plan and its recommendations. Goals and recommendations will be developed to prioritize next steps for projects, programs, and policies to achieve this vision. It will focus on all aspects of transportation and mobility in Arlington, including walking, bicycling, public transportation, driving, shared mobility, and micro-mobility.

In January 2020, the town contracted with Nelson\Nygaard Consulting Associates to complete the STP, and a kickoff meeting was held on January 13, 2020.

As part of the development of the STP, the Town will conduct robust public outreach in the form of public forums, surveys, focus groups, and other methods. To read the Public Engagement Strategy for the plan, visit <https://www.arlingtonma.gov/town-governance/all-boards-and-committees/sustainable-transportation-advisory-committee>.

## City of Boston

### *I-90 Allston Interchange Placemaking Study*

Major infrastructure changes around the I-90 Allston Interchange will unlock the potential for a large, new mixed-use district in North Allston. The sprawling railyards and existing I-90 Massachusetts Turnpike interchange in this area of Boston will be replaced by a streamlined interchange and multimodal network of streets, paths, rail, and transit facilities. The placemaking report provides guidance and recommendations for redesign of the transportation infrastructure in and around the I-90 Allston Interchange. The goal is to enable outstanding urban places and spaces to emerge as plans for the area are implemented. For more information, visit [www.bostonplans.org/planning/planning-initiatives/i-90-allston-interchange](http://www.bostonplans.org/planning/planning-initiatives/i-90-allston-interchange)

### *Allston-Brighton Mobility Study*

The Allston and Brighton neighborhoods are experiencing significant growth in new development. While this growth adds economic opportunity and vibrancy, it also raises questions and concerns about how the existing and future multimodal network will accommodate new development. To address these concerns, the Allston-Brighton Mobility Study is fully assessing existing conditions while analyzing the effects of pending and approved (but not yet built) development in Allston-Brighton to identify strategies to improve the transportation network, for example streets, bike infrastructure, sidewalks, transit, parking, and mitigate the effects of development. Building on previous studies, the primary goal of the Allston-Brighton Mobility Study will be to identify and develop an actionable list of options to improve mobility, safety for all modes, and quality of life for the Allston-Brighton neighborhood. These items will form the basis for future development mitigation and transportation investments for the Allston-Brighton neighborhood. For more information, visit <http://www.bostonplans.org/planning/planning-initiatives/allston-brighton-mobility-study>

### *Fairmount Planning Initiatives*

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

- **Fairmount Corridor Business Development and Transit Ridership Growth Strategy.** The Fairmount Indigo CDC Collaborative, along with the MBTA, has received a Transportation, Community, and System Preservation grant to improve the transit service connection to job development sites in the Fairmount Corridor.

- **Fairmount Indigo Corridor Planning Initiative.** The Boston Planning and Development Agency is spearheading this planning process, which involves participation of community and agency stakeholders. The agency is developing a vision for corridor land use and neighborhood change that is focused on enhanced transit, and an action plan for targeted redevelopment and public infrastructure upgrades at station areas.

### *PLAN: Glover's Corner, Dorchester*

The study area at Glover's Corner in Dorchester (between the Savin Hill and Fields Corner stations) is increasing in density and this growth is expected to affect the transportation system. This initiative will prepare for future economic development and transportation demands by creating a future vision and physical plan, focusing on locations where the multimodal transportation network is currently limited and constrained. The future network envisioned includes enhancements to existing Red Line station access and comprehensive bus services. Just as important, a safe and effective network for cyclists and pedestrians is proposed. Transportation network capacity constraints will influence and inform land uses and build-out scenarios. For more information, visit [www.bostonplans.org/planning/planning-initiatives/plan-dorchester-glovers-corner](http://www.bostonplans.org/planning/planning-initiatives/plan-dorchester-glovers-corner)

### *PLAN: Jamaica Plain/Roxbury (JP/ROX)*

The PLAN: JP/ROX initiative provided recommendations and strategies for affordable housing, jobs, and businesses; guidelines for urban design; and improvements to transportation connections, open space, sustainability, and the public realm. The study examined the compatibility of different land uses, including housing, commercial, and light industrial, while studying the impacts of traffic and other forms of mobility in the study area. Of particular focus was the recent wave of mixed-use residential projects in the area, and determining the implications of redevelopment and areas of opportunity. The two-and-a-half year planning process engaged the communities between Forest Hills, Egleston Square, and Jackson Square, generally bounded by Washington Street, Columbus Avenue, and Amory Street. Some aspects of PLAN: JP/ROX are ongoing, including transportation planning. For more information, visit [www.bostonplans.org/planning/planning-initiatives/plan-jp-rox](http://www.bostonplans.org/planning/planning-initiatives/plan-jp-rox)

### *JP/Rox Transportation Action Plan*

This plan, which looks at getting around by walking, biking, transit, and car, will cover the same geographical area as [PLAN: JP/Rox](#). The City will use that initiative's recommendations as a starting point for its work. The City will also use the development scenarios created in [PLAN: JP/Rox](#), which will guide the City as it improves the transportation system.

### *PLAN: South Boston Dorchester Avenue Transportation Plan*

The Boston Planning & Development Agency (BPDA) and the Boston Transportation Department are furthering a main recommendation from the 2016 approved PLAN: South Boston Dorchester Avenue Plan. The purpose of the Transportation Plan is to further analyze, refine, and advance the proposed multimodal network recommendations of the 2016 Plan. The area of focus is along the two main corridors of Dorchester and Old Colony avenues between Broadway and Andrew Square. For more information, visit <http://www.bostonplans.org/planning/planning-initiatives/plan-south-boston-dorchester-ave>



### *PLAN: East Boston*

PLAN: East Boston is a community-driven, neighborhood-wide planning initiative in East Boston. The plan is guided by Imagine Boston 2030 and several citywide strategic plans. PLAN: East Boston will produce a framework to predictably shape the future of East Boston and identify opportunities to preserve, enhance, and grow. The effort is organized by the BPDA in partnership with several City agencies and relies on the participation of the East Boston community to be both meaningful and sustainable.

PLAN: East Boston will

- update the East Boston Master Plan (2000);
- recommend updates to Article 53 (East Boston zoning article);
- produce urban design guidelines; and
- recommend immediate to long-term improvement projects for the neighborhood's transportation network.

For more information, visit <http://www.bostonplans.org/planning/planning-initiatives/plan-east-boston>

### *PLAN: Mattapan*

PLAN: Mattapan is guided by Imagine Boston 2030. It is a planning initiative that seeks to ensure that Boston preserves wisely, enhances equitably, and grows inclusively. Through these three principles, the City's planning team will work with the community to create a comprehensive vision for the Mattapan planning area and guide future growth and investment.

PLAN: Mattapan will work closely with the community to review past planning efforts and identify needs and opportunities for improvements that will support the long-term equitable growth and sustainability of the neighborhood. Focuses will include, though are not limited to, economic development (jobs and business) and the creation of transit-oriented, market-rate, and affordable housing growth while preserving the neighborhood's character and unique attributes. For more information, visit <http://www.bostonplans.org/planning/planning-initiatives/plan-mattapan>

### *PLAN: Downtown*

Over the last decade, downtown Boston has transformed from primarily a business district into a vibrant mixed-use neighborhood. Associated with this transformation and the marked increase in development proposals is a clear need to plan for the future of downtown comprehensively.

Building on past studies, the primary goal of the study will be to develop a new framework for the preservation, enhancement, and growth of the downtown area of the City of Boston, while balancing the importance of livability, walkability, access to open space, affordability, and a dynamic mix of uses, among others. As one of the most diverse places in the City, due in part to its accessibility, it is necessary to encourage growth that is inclusive for all. Supporting a thriving Downtown environment that is responsive to the twenty-first century needs of residents, businesses, and visitors is critical to Boston's continued success as an important American city. For more information, visit <http://www.bostonplans.org/planning/planning-initiatives/plan-downtown>

## *PLAN Newmarket: The 21st Century Economy Initiative*

This plan will look at the needs of Boston's industrial Newmarket neighborhood. The Initiative will work closely with the community to develop a vision for the area that incorporates a strategy for job retention and growth. Identified by Imagine Boston 2030 as one of the expanded neighborhoods, focuses will include land use, jobs, climate resilience, transportation, and public realm. For more information, visit <http://www.bostonplans.org/planning/planning-initiatives/plan-newmarket-the-21st-century-economy-initiativ>

## *PLAN: Charlestown*

PLAN: Charlestown is a comprehensive planning initiative in partnership with the community, staffed by a planning team consisting of an interdepartmental working group from across city departments and state transportation agencies. Through this process, the entire neighborhood will be examined comprehensively to determine a shared vision for the future of Charlestown. Community discussions will focus on future land use, current development, and strategies to enhance the existing community and preserve its historic assets. The process seeks to establish a comprehensive and coordinated plan to ensure the equitable provision of infrastructure to support neighborhood needs in the areas of transportation, parks and open space, climate resilience, education, and affordable housing. For more information, visit <http://www.bostonplans.org/planning/planning-initiatives/plan-charlestown>

## *Southwest Corridor Crossing Project*

The project objective is to improve and upgrade street crossings *along* the Southwest Corridor in Roxbury, Mission Hill, and Jamaica Plain. The Southwest Corridor is one of the busiest walking and bicycling routes in Boston. The study will look at all street crossings on the Southwest Corridor between Ruggles Street in Roxbury and McBride Street in Jamaica Plain. Some of these crossings are also near busy MBTA stations, with heavy bus traffic. The work will be limited to streets and sidewalks owned by the City of Boston. For more information, visit <https://www.boston.gov/departments/transportation/southwest-corridor-crossings-project>

## *Connect Downtown: Southwest Corridor Extension Project*

The vision of the initiative and study is to improve the connection of the Southwest Corridor to Downtown centers for people—residents, commuters, and tourists—in a redesign of iconic streets in downtown neighborhoods. Objectives are to improve pedestrian crossings along the route, provide comfortable and reasonably direct routes for bicyclists, and enhance pedestrian access to the Public Garden and the Boston Common. One goal is to design the project in a way that allows for faster construction. For more information, visit <https://www.boston.gov/departments/transportation/connect-downtown>

## MISCELLANEOUS

### REGIONAL OR SUBREGIONAL STUDIES

#### Colleges and Universities

##### *New England University Transportation Center (Region One)*

The New England University Transportation Center (Region One) is a research consortium that includes the Massachusetts Institute of Technology (lead university), Harvard University, and the state universities of Massachusetts, Connecticut, and Maine. It is funded by the US Department of Transportation's University Transportation Centers (UTC) Program. The New England UTC conducts multiyear research programs that seek to assess and make improvements for transportation safety as well as develop a systems-level understanding of livable communities. For more information, visit the New England University Transportation Center's website at <http://utc.mit.edu/>.

### MUNICIPAL STUDIES

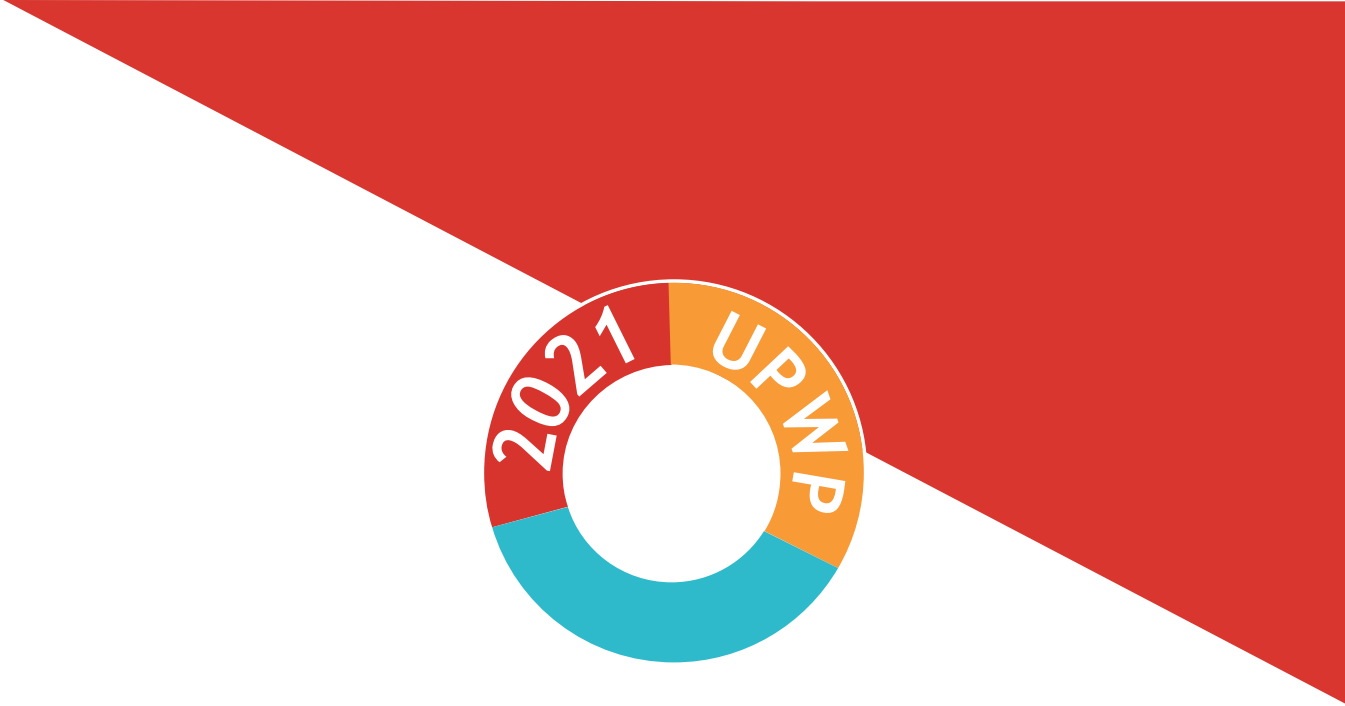
#### City of Boston

##### *Neighborhood Bike Projects*

A City of Boston goal is to build a complete bicycle network that will connect residents to jobs, open space, educational opportunities, and shops. In accordance with citywide planning efforts, Imagine Boston and Go Boston 2030, the city's departments continue to work together to plan, design, and fund transportation projects that improve streets for all users, including by identifying neighborhood connections that help complete the bike network. Boston typically adds or improves several miles of its bike routes each year. For more information, visit [www.boston.gov/departments/boston-bikes/neighborhood-bike-projects](http://www.boston.gov/departments/boston-bikes/neighborhood-bike-projects)

##### *Autonomous Vehicles*

Autonomous vehicles offer the promise of helping to achieve the goal of zero deaths and injuries from traffic crashes. On the other hand, these vehicles could displace an important workforce (that is, professional drivers of various service vehicles) and encourage both sprawl and traffic congestion. In cooperation with MassDOT, the City of Boston launched an autonomous-vehicle testing program to try to shape the development of this technology, and create policies to deliver on autonomous vehicles' potential promise while minimizing their drawbacks. Recently, testing has been expanded to include local streets. For more information, visit <https://www.boston.gov/departments/new-urban-mechanics/autonomous-vehicles-bostons-approach>



# APPENDIX B

## PUBLIC PARTICIPATION AND RESPONSE TO PUBLIC COMMENTS

The Boston Region Metropolitan Planning Organization (MPO) staff followed the procedures set forth in the MPO's adopted Public Participation Plan while developing the Unified Planning Work Program (UPWP). These procedures are designed to ensure early, active, and continuous public involvement in the transportation-planning process.

The Federal Fiscal Year (FFY) 2021 UPWP development process began in October 2019. Staff solicited topics for study through outreach at Metropolitan Area Planning Council (MAPC) subregional municipal group meetings. Staff also sought suggestions and public input from other sources:

- Regional Transportation Advisory Council (Advisory Council) meetings
- Outreach to transportation advocacy and community groups
- Comments received during the FFY 2020 UPWP's public review period
- Topics generated from recently completed planning studies and documents

The document development process, described in Chapter 2, culminated in the MPO UPWP Committee's recommendation for the FFY 2021 UPWP, including a set of new discrete studies. On May 28, 2020, the MPO approved a draft document for public circulation.

After receiving the MPO's approval to circulate the public-review draft FFY 2021 UPWP, staff posted the document on the MPO's website (<https://www.bostonmpo.org/upwp>) and used the MPO's contact list (MPOinfo) and Twitter account to notify the public of the document's availability and the opening of the 30-day period for public review and comment.

During the review period, reflecting the restrictions imposed by the COVID-19 emergency situation, staff presented the draft UPWP and this set of new studies to the Advisory Council; hosted a pair of digital open houses; and made themselves available to interested parties who wanted to discuss the draft FFY 2021 UPWP.

The following pages contain the comments received about the UPWP during the public comment period. All correspondents have received a response from the UPWP Manager.

**MPO Liaison UPWP Review Checklist**

**Completeness**

ID	Review Item	Comments	Reference
A1	X * Table of Contents is accurate and internally-linked.	Please ensure all pages of the Tables of Contents are accurately hyperlinked.	
A2	✓ * Document has no broken links.	Please consider more consistently using either ctps.org or bostonmpo.org in hyperlinks and link text.	
A3	✓ * Document has no text or image placeholders.	Please ensure that project IDs are entered into the final document when available.	
A4	✓ * Charts, tables, and maps are legible and properly annotated.		
A5	X * Document passes an accessible check.	Please ensure Appendix title hero images and decorate figures are properly annotated with alt text or noted as decorative.	
A6	✓ * Document is available in relevant languages per the MPO's Title VI Plan.		
A7	✓ * List of MPO members is current.		
A8	X * Signatory sheet is included and accurate.	Please ensure signature sheets are included in the final document once endorsed by the MPO Board.	
A9	✓ * Acronyms and partner agency lists are up to date.		

**Narrative**

ID	Review Item	Comments	Reference
B1	✓ * UPWP is comprehensible to the general public.		
B2	✓ * UPWP refers directly to vision, goals, and objectives from RTP.		
B3	✓ * UPWP Amendment/Adjustment procedures are explicit.		
B4	✓ Governing MOUs between MassDOT, MPO, RTAs, and neighboring MPOs have been reviewed for potential improvements or updates.	Please note under the 3C Planning tasks that staff will work to update governing MOUs between the Boston MPO and partner agencies when necessary.	
B5	✓ Planning efforts are coordinated with MassDOT modal plans.		<a href="https://www.mass.gov/statewide-plans">https://www.mass.gov/statewide-plans</a>

**UPWP Tasks**

ID	Review Item	Comments	Reference
C1	✓ * Individual tasks include detailed scopes, budgets, and schedules.		
C2	✓ * Individual tasks outline community beneficiaries.		
C3	✓ Transit-related tasks are specific.		
C4	✓ * Includes a task on performance-based planning.		
C5	✓ * Includes a task for an update to any congestion mitigation planning efforts.		Required for TMA MPOs if current CMP is out of date.
C6	✓ * UPWP includes a summary of available staff hours.		

C7	✓	Individual tasks anticipate needed staff-hours / consulting resources.		
C8	✓	Tasks from previous UPWPs have been analyzed for past utilization.		

**Impacts Analysis**

ID		Review Item	Comments	Reference
D1	✓ *	UPWP includes a geographic equity distribution table showing 2015–2019 and current UPWP-funded studies by municipality and number of tasks.	Please consider inclusion of percentages by subregion in table D-1.	
D2	✓ *	UPWP includes a social equity distribution table of past and current UPWP-funded studies considering language access and EJ populations.		
D3	✓ *	Public involvement and comment are explicitly documented and in line with MPO's Public Participation Plan.		

\* indicates required by state or federal regulation.



# REGIONAL TRANSPORTATION ADVISORY COUNCIL



June 11, 2020

David Mohler, Chair  
Boston Region Metropolitan Planning Organization  
10 Park Plaza, Suite 4150  
Boston, MA 02116

Re: Draft Federal Fiscal Year 2021 Unified Planning Work Program

Dear Mr. Mohler,

The Regional Transportation Advisory Council (RTAC) is an independent group of citizen and regional advocacy groups, municipal officials, and agencies charged to provide advice to the Boston Region Metropolitan Planning Organization (MPO) on transportation planning and programming.

The RTAC has reviewed and discussed the public review draft FFY 2021 Unified Planning Work Program (UPWP) and offers the following comments:

1. The RTAC appreciates the MPO staff's consideration of the feedback provided by the RTAC on the initial UPWP project list and notes that a number of the RTAC's priority projects are recommended for funding.
2. We are pleased that the MPO is already working to integrate equity considerations into all projects during the scoping process. Especially in light of recent events highlighting disparities in our society, we encourage the MPO to continue to include a strong focus on equity in the studies as they are scoped.
3. We understand the MPO is considering providing the opportunity for public input into UPWP study scopes as they are developed. We would welcome the opportunity to comment on draft versions of the study scopes, if this could be done without overly burdening staff or delaying the implementation of the studies.

Once again, we appreciate the opportunity to express our thoughts to the MPO.

Sincerely,

Lenard Diggins  
Chair, Regional Transportation Advisory Council

# MBTA Rider Oversight Committee

June 23, 2019

RE: FFY 2021 Draft Unified Planning Work Program (UPWP)

Dear Members of the Boston MPO,

Below are comments from the MBTA Rider Oversight Committee (ROC):

1. Though we didn't offer any suggestions to include in the universe of proposed studies this cycle, we nonetheless support the MPO's selected studies. Specifically, we are enthusiastic about the following studies:

- Improving Pedestrian Variables in the Travel Demand Model
- Trip Generation Rate Research
- Access to CBDs Phase 2
- The Future of the Curb Phase 2
- Informing the Big Ideas Behind the MPO's Scenario Planning Process Disparate Impact Metrics Analysis
- MPO Staff-Generated Research and Technical Assistance

2. We continue to be impressed with the various ways in which the MPO reaches out to the public – especially during the earliest stages the UPWP development cycle.

3. Finally, given our interest in and support of the MBTA, we appreciate the continuing commitment to the MBTA as evidenced in the following:

- MBTA National Transit Database: Data Collection and Analysis
- MBTA Title VI Program Monitoring
- MBTA Transit Service Data Collection
- MBTA Rider Oversight Committee Support
- Service Equity Analysis Support to the MBTA
- MBTA Mapping Support
- Diversity Posters
- Haymarket Station Redevelopment Analysis
- Prioritization of Dedicated Bus Lanes II
- Silver Line Extension Ridership Projection

As always, we look forward to seeing the results the studies!

Respectfully,  
MBTA Rider Oversight Committee  
mbtaroc@gmail.com



200 FRIBERG PARKWAY  
WESTBOROUGH, MA 01581  
774-760-0495  
495PARTNERSHIP.ORG

June 30, 2020

Mr. Sandy Johnston  
UPWP Manager, Boston Region MPO  
10 Park Plaza, Suite 2150  
Boston, MA 02116

Re: Boston Region Unified Planning Work Program (UPWP) FFY2021

Dear Mr. Johnson:

On behalf of the 495/MetroWest Partnership, please accept the following as our comments regarding the draft *Unified Planning Work Program* (UPWP) for FFY 2021 for the Boston Region Metropolitan Planning Organization (MPO).

The 495/MetroWest Partnership is a non-profit advocacy organization serving thirty-five communities, which is home to over 600,000 residents and approximately 1 in 10 jobs in the Commonwealth. Through a unique private-public collaboration with businesses, municipal governments and other stakeholders, the Partnership seeks to address regional needs by working to enhance economic vitality, improve quality of life and foster sustainable growth. The Partnership focuses on helping to alleviate regional constraints, and conducts numerous initiatives on transportation, economic development, workforce housing, and water resources.

The Partnership appreciates the importance of the 3C planning process and understands that the long-term benefits achieved by transportation and transit projects always start with a transparent and interdisciplinary planning approach. We thank the MPO for its diligent work, including recently completed studies from FY19 and FY20 such as New and Emerging Metrics for Roadway Usage, Transit Mitigation for New Development Sites, and Operating a Successful Shuttle Program.

The Boston Region MPO includes twenty-six of the Partnership's thirty-five communities. We greatly appreciate the number of planning projects that have been completed in our region in recent years, including several planning projects in Acton and Foxborough this year. We find Appendix D a helpful resource in determining the distribution of regional UPWP planning tasks since 2010. It is worth noting that out of the four subregions in 495/MetroWest, SWAP has the lowest number of UPWP work products in the entire Boston MPO region. Of the 39 work products completed in the SWAP region since 2010, 37 occurred between 2010 and 2015. The SWAP and MWRC subregions, which comprise a combined 12% of the MPO's population, received zero work products this year. Furthermore, the Framingham NECTA Division, which employs 172,890 workers, only received one work product in Sudbury. We understand that resources are limited but regional equity is essential to ensure the entire Greater Boston region is benefiting from

the planning process. We hope that you will give regional equity consideration when advancing some of the studies we are supporting in FFY 2021.

The Partnership welcomes the addition of the **Access to Commercial Business Districts - Phase 2** project as a follow up to the study programmed in FY19. Commercial Business Districts are leading economic and social drivers for their municipalities. As a hub for dynamic localized clusters and large national employers, CBDs also serve as citizen-oriented locales built for social interactions and broad cultural exchanges. In addition to our advocacy on first/last mile connections, the Partnership has long supported intraregional mobility through the expansion of localized public transit services and network-wide multimodal road configurations. Expanding access to CBDs shares a synergistic relationship with the **Future of the Curb - Phase 2** study. Curbside and streetscape improvements to accommodate enhanced transit service, promote bike/pedestrian usage and demarcate commercial and drop-off zones will undoubtedly enhance pedestrian flow and walkability of CBDs. Improving access and curb management within mixed-use neighborhoods goes hand in hand with many of the downtown revitalization and visioning projects across our region.

The Partnership also welcomes programmed funds for the **MetroWest Regional Transit Authority - Sunday Service Study**. Having played a lead role in founding the MWRTA, we can attest to its effectiveness and innovativeness as a regional transit service provider. In FY19 the MWRTA was awarded discretionary funding by MassDOT to develop and launch the Catch App, which allows riders of the MWRTA's commuter shuttles to alert drivers when Commuter Rail trains are running late, thus improving last mile connections. A Sunday Service Study will allow the MWRTA to analyze travel demand to locations such as places of worship, retail centers, and entertainment complexes.

The Partnership is concerned that the **Project M-8, Downtown Framingham Mobility Study** has been removed entirely from UPWP study universe, after being proposed, but unfunded in FY20. Framingham is the most populous community in the 495/MetroWest region, and its downtown area is a multi-modal crossroads. We know that the Route 126/Route 135 intersection suffers from congestion, especially when a train passes across the roadway and halts vehicles in downtown Framingham. This study's evaluation of grade separation of the MBTA Commuter Rail would provide insight in to one potential solution. We appreciate the Framingham Downtown Parking Management plan conducted as part of the MAPC Corridor/Subarea Planning Studies.

The Partnership greatly appreciates the work of CTPS and values the planning projects proposed in this year's Unified Planning Work Program. We hope you will strongly consider our comments regarding regional and subregional equity in deciding areas to study within individual projects and analyses.

We thank you for your consideration of our comments. If there are any questions regarding our commentary on the UPWP, please contact us at 774-760-0495, or by email at [jeremy@495partnership.org](mailto:jeremy@495partnership.org). Thank you for your time and consideration.

Sincerely,



Jason Palitsch  
Executive Director



Jeremy Thompson  
Manager of Policy & Planning



June 30, 2020

To: Sandy Johnston  
Boston Region Metropolitan Planning Organization  
10 Park Plaza, Suite 2150  
Boston MA, 02116

From: The Institute for Transportation and Development Policy (ITDP)

Re: Draft Uniform Planning Work Program, 2021-2025

Dear Mr. Johnston,

Thank you for this opportunity to provide public comment on this draft of the Boston Region's Metropolitan Planning Organization (MPO) 2021 Uniform Planning Work Program (UPWP). ITDP is a non-profit that works in seven countries around the world to design and implement high quality transport systems and policy solutions that make cities more livable, equitable, and sustainable. Since 2013, we have been working in Boston to explore, demonstrate and promote the potential for bus rapid transit (BRT) as a solution to the region's transportation, economic, and environmental challenges while effectively achieving the goals of GoBoston 2030 and the Global Warming Solutions Act.

We are pleased to see that several of the projects in the UPWP will address congestion, transit and the use of our roadways. We would suggest that these steps be even bolder, incorporating not just mentions of transit, but looking at how major changes to our roadways, including upgrades to buses which result in Bus Rapid Transit (BRT) can help to create more efficient, safe and resilient transportation networks. This is a strategy used across the country and the world, and which should be part of the UPWP.

In particular, we would like to highlight three projects to make sure that full attention is given to improving facilities and rider experience for bus passengers:

- Addressing Safety, Mobility, and Access on Subregional Priority Roadways
- The Future of the Curb Phase 2
- Addressing Priority Corridors from the Long-Range Transportation Plan Needs Assessment

Regarding Safety, Mobility and Access, we would suggest that if corridors studied include frequent bus service, care is given to how bus improvements, including the potential to convert bus routes to full bus rapid transit can help to enhance the safety of all users in the corridor. Roads with BRT are often designed to be safer not just for buses, but for bicyclists, pedestrians accessing bus stops and motorists, who no longer have to contend with buses pulling in and out of stops.

Regarding the Future of the Curb, buses, which carry more curb-users than any other use on most corridors, should be given top priority. In addition to curb management strategies, we would suggest that the curb space manual output of this project include information about how BRT can improve the use of the curb. This should include both information about how BRT can make use of curb space, as well as how a center-running BRT can allow more access for other vehicles and uses at the curb by taking buses away from the curb entirely.

Regarding Priority Corridors in the LRTP, we suggest that special consideration be given to routes where buses carry a high proportion of the overall number of people using the roadway which for some roadways in the region can approach or surpass 50 percent. Often, these roadways can see throughput as high or higher than wider roads or highways. This will help to inform MassDOT and municipalities where they can make changes to roadways to prioritize bus traffic in order to provide a more efficient transit experience.

We commend the MPO on its efforts to plan for a modern, well-maintained transportation system that supports a sustainable, healthy, livable, and economically vibrant region. As a blueprint defining the goals, vision, and objectives for transportation planning in the region for the next two decades, the UPWP is also an excellent opportunity to study not just bus priority but full scale BRT into the fabric of our projects and investment programs.

Thank you for considering our comments and please do not hesitate to reach out to us with any questions.

Sincerely,

A handwritten signature in cursive script that reads "Julia Prange Wallerice". The signature is written in dark ink and is positioned above the typed name and email address.

Julia Wallerice, Boston Program Manager  
[Julia.wallerice@itdp.org](mailto:Julia.wallerice@itdp.org)

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## Old Colony corridor from South Bay to Braintree

4 messages

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**Clark Frazier**

Tue, Jun 30, 2020 at 10:48 AM

To: "sjohnston@ctps.org" <sjohnston@ctps.org>

Hello.

The Old Colony railroad corridor paralleling the Southeast Expressway between South Bay and Braintree is the only commuter rail corridor between Boston and Route 128 that is not double track. Adding trains to mitigate congestion on the Southeast Expressway will not be possible until some way is found to double track the line. Planned rail service to New Bedford and Fall River will also be constrained.

Is there any money available to study the corridor and identify right of way options and insure that other projects like MBTA station reconstruction or new street overpasses do not further complicate efforts to increase capacity in the corridor?

Also, the "Zipper" lane on the Southeast Expressway obstructs access for reverse commuters and individuals accessing public events in Boston, in part because commuter rail schedules are too sparse). Will it be necessary to widen the expressway right of way in the Savin Hill area to balance capacity and smooth traffic flow at poorly designed interchanges at South Bay, Columbia Road and Neponset? Would ramp metering and small-scale interchange modifications reduce congestion?

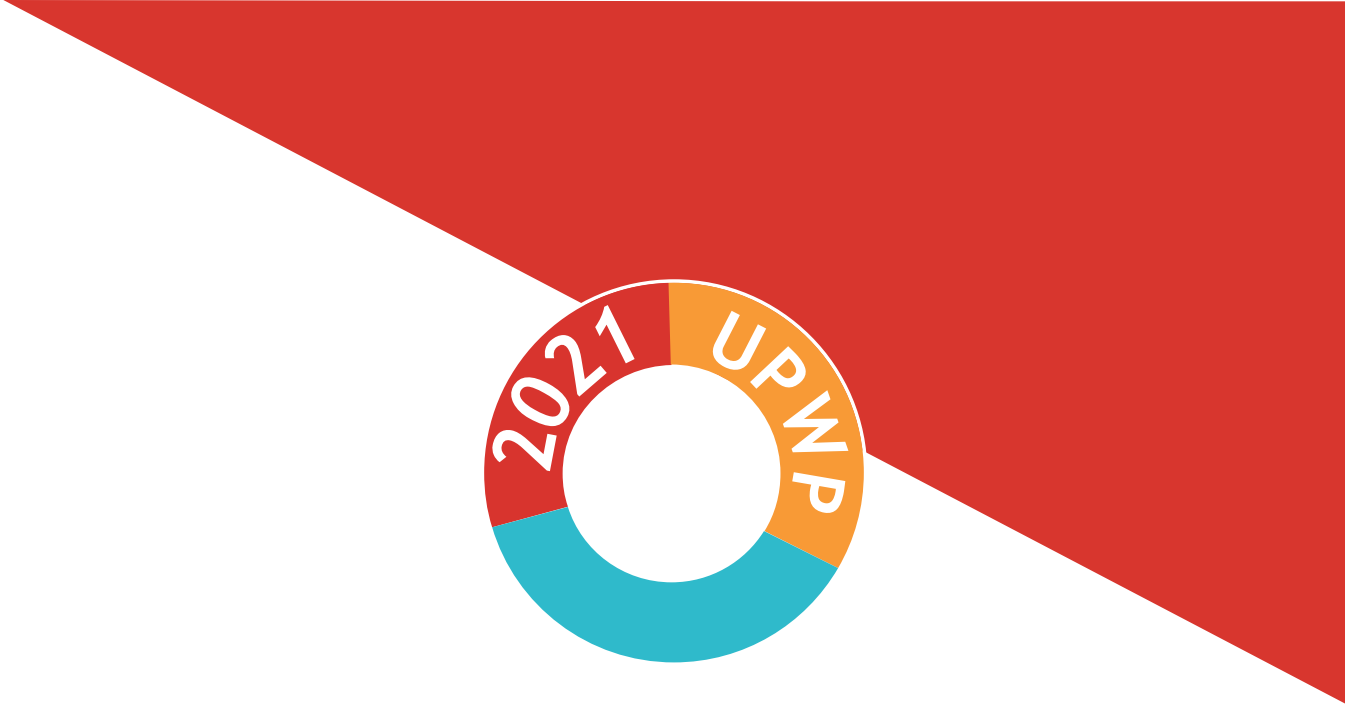
The amounts of money for projects listed seems inadequate. Is anyone paying attention to the future travel needs of older residents who may prefer transit, but who may be left out of the transportation planning process?

Thank you,

Clark Frazier

PO Box

Hingham, MA





# APPENDIX C

## UNIVERSE OF PROPOSED NEW STUDIES FOR FEDERAL FISCAL YEAR 2021 UPWP

This appendix describes the Universe of Proposed New Studies, a key step in the evolution of the federal fiscal year (FFY) Unified Planning Work Program (UPWP). The Universe documents the study concepts that the Boston Region Metropolitan Planning Organization (MPO) staff collected or suggested for the development of the FFY 2021 UPWP. Each entry includes a summary of the purpose of the proposed study.

Studies in the Universe are organized into the following categories:

- Active Transportation
- Land Use, Environment, and Economy
- Multimodal Mobility
- Transit
- Transportation Equity
- Resilience
- Other Technical Support

The FFY 2020 UPWP development process introduced the Transportation Equity and Resilience categories. Table C-2 tracks the breakdown of studies chosen for funding in the UPWP from FFY 2016 to the present by category.

Staff and the UPWP Committee evaluate each proposed study in the Universe based on the extent to which a study concept addresses each of the six Long-Range Transportation Plan goal areas:

- Safety
- System Preservation
- Clean Air/Clean Communities
- Transportation Equity
- Capacity Management/Mobility
- Economic Vitality

The process of developing a final list of studies to be funded also includes consideration of staff capacity in relevant areas and work that is occurring in other agencies to avoid redundancy.

In addition to evaluating the proposed new studies in the Universe, MPO staff defines general scopes and estimated costs for the proposed studies and considers potential feasibility issues. These various factors, along with the availability of funds for new studies, were considered as staff identified a recommended set of new proposed planning studies for review by the UPWP Committee. For more information about the process of developing and evaluating the Universe, please see Chapter 2.

**Table C-1  
Universe of Proposed Studies for FFY 2021**

Study Information				LRTP Goals					
ID	Project Name	Project Purpose and Outcome	Notes	S	SP/M	CM/M	TE	CA/SC	EV
ACTIVE TRANSPORTATION				Key: 5 = most relevant, 1 = least relevant					
A-1	Improving Pedestrian Variables in the Travel Demand Model	<p><b>Purpose:</b> Several important variables would be incorporated into the regional travel demand model for considering pedestrian activity. The Pedestrian Environmental Variable (PEV) is used in CTPS's travel demand forecasting model as a metric to gauge the quality of the pedestrian environment at transit stations and stops. The PEV, calculated at the model's transportation analysis zone (TAZ) geographic level, is presently composed of three weighted and indexed elements: pedestrian level of service (based on physical characteristics in the TAZ), geographic characteristics of the station/stop (such as presence of sidewalks), and pedestrian hindrances (such as designated truck routes).</p> <p><b>Anticipated Outcome:</b> This research would enrich the indices of the three aforementioned PEV elements by incorporating new variables, such as roadway density, level of mixed land use, density, number of intersections, safety measures represented by crash rates at the TAZ level, and other land use characteristics. Once new PEVs are developed for each TAZ, the travel model's mode choice component would be recalibrated.</p> <p><b>Estimated Budget:</b> \$25,000</p>	This effort is approximately six weeks of work, which includes research, implementation, and review of results.	5	2	5	3	3	2
A-2	Cost/Benefit Analysis for Pedestrian and Bicycle Safety Measures	<p><b>Purpose:</b> This study would collect data on the cost of pedestrian and bicycle safety measures constructed through MPO-funded projects, and possibly other capital projects in the Boston region, and analyze their safety benefits in a before-and-after fashion relative to their costs.</p> <p><b>Anticipated Outcome:</b> Cost/benefit analyses of capital projects intended to improve safety for pedestrians and bicyclists.</p> <p><b>Estimated Budget:</b> \$45,000</p>		5	3	3	4	4	2
LAND USE, ENVIRONMENT, AND ECONOMY									
L-1	Regional Travel Demand Management Strategies	<p><b>Purpose:</b> Travel demand management, or TDM, is a hot topic around the country, but TDM ordinances and practices are relatively rare in Massachusetts. Staff will review TDM best practices around the country and make recommendations about how to apply them in the Boston region.</p> <p><b>Anticipated Outcome:</b> Possible outputs from this study include a toolkit for municipalities, TMAs, and transit providers; recommendations for collaboration between planning entities; and an evaluation to determine the value of the MPO creating a TDM technical assistance program.</p> <p><b>Estimated Budget:</b> Scalable. Staff estimate \$30,000 for literature review and an additional \$30,000 to produce a guidebook.</p>		2	3	5	3	5	5

Study Information				LRTP Goals					
ID	Project Name	Project Purpose and Outcome	Notes	S	SP/M	CM/M	TE	CA/SC	EV
ROADWAY AND MULTIMODAL MOBILITY									
M-1	Addressing Safety, Mobility, and Access on Subregional Priority Roadways	<p><b>Purpose:</b> During MPO outreach, MAPC subregional groups identify transportation problems and issues that concern them, often those relating 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 roadway and its side streets. If problems are not addressed, mobility, access, safety, economic development, and air quality are compromised. Tasks in these studies include data collection, technical analysis, development of recommendations, and documentation for selected corridors.</p> <p><b>Anticipated Outcome:</b> Recommendations for addressing safety, mobility, and access for the selected subregional priority roadways.</p> <p><b>Estimated Budget:</b> \$125,000</p>	Recurring study (every year)	5	5	5	3	3	3
M-2	Addressing Priority Corridors from the Long-Range Transportation Plan Needs Assessment	<p><b>Purpose:</b> These studies develop conceptual design plans that address regional multimodal transportation needs along priority corridors identified in the LRTP, Destination 2040. MPO staff would recommend conceptual improvements for one or more corridors, or several small sections within a corridor, that are identified by the CMP or the LRTP's Needs Assessment process. These studies provide cities and towns with the opportunity to review the requirements of a specific arterial segment, starting at the conceptual level, before committing design and engineering funds to a project. If the project qualifies for federal funds for construction of the recommended upgrades, the study's documentation also might be useful to MassDOT and the municipalities.</p> <p><b>Anticipated Outcome:</b> Conceptual design plans for the selected priority corridors.</p> <p><b>Estimated Budget:</b> \$125,000</p>	Recurring study (every year)	5	5	5	3	3	3
M-3	Low-Cost Improvements to Express Highway Bottleneck Locations	<p><b>Purpose:</b> Recurring bottlenecks, the subject of this study, are influenced by the design or operation present at the point where the bottleneck begins (e.g. locations where traffic merges, diverges, or weaves, or where there are lane drops or abrupt changes in highway alignment). Low-cost infrastructure solutions, as opposed to major construction projects, could involve changes in the design of roadway locations where traffic merges, traffic operations, or highway alignment. The previous two studies of express-highway bottlenecks were very well received by MassDOT and the FHWA. Some of the recommendations from those studies already have been executed. The MPO has been conducting these studies to identify low-cost methods to reduce congestion, increase safety, and improve traffic operations in the Boston region.</p> <p><b>Anticipated Outcome:</b> This study would select additional express-highway bottleneck locations and produce reports documenting low-cost solutions to existing traffic congestion issues at the selected locations. A before-and-after analysis of previous work may be included, depending on the final scope of the study.</p> <p><b>Estimated Budget:</b> \$60,000</p>	Recurring study (every other year)	5	4	5	2	2	2

Study Information				LRTP Goals					
ID	Project Name	Project Purpose and Outcome	Notes	S	SP/M	CM/M	TE	CA/SC	EV
M-4	Trip Generation Rate Research	<p><b>Purpose:</b> According to the Massachusetts Environmental Policy Act (MEPA) and National Environmental Policy Act (NEPA) any proposed land use development project (exceeding certain traffic and environmental thresholds) is required to prepare a traffic/transportation impact analysis. This analysis shows the transportation system impacts associated with the proposed action. Key to this analysis are the trip generation rates. Standard practice for this type of land use analysis is to use the Institute of Transportation Engineers' (ITE) trip generation rate manual to estimate the trip generation rates for the proposed development.</p> <p>However, ITE rates are based on national averages for different states in the US, suburban locations, and smaller sample sizes. So, ITE lacks the regional/local transportation characteristics to consider factors such as transit availability, transit usage, bicycle and pedestrian facilities, and economic growth centers. For these reasons, using ITE rates for all land use projects may lead to unrealistic trip generation estimation. In addition, ITE rates are known for giving wide ranges of rates and also very low sample sizes, thus resulting in a high degree of variability and interpretability in their application. As a result, the use of these rates varies considerably and this can affect the mitigation of transportation-related impacts of proposed land use projects and possibly change the scale of the development.</p> <p><b>Anticipated Outcome:</b> For this research, CTPS will examine recently completed development impact studies in the greater Boston area. For these projects, CTPS will review available travel monitoring data; trip generation rates used in MEPA/NEPA submissions; and the statewide travel model's trip generation results as a point of comparison. This research can greatly aid in the MPO's understanding of the appropriateness of the ITE rates, model trip generation rates to support corridor studies, environmental processes such as NEPA and MEPA filings, and the relationship between land use and trip activity.</p> <p><b>Estimated Budget:</b> \$60,000</p>	Related to FFY 2018 UPWP study, Transportation Mitigation of Major Developments, and FFY 2020 study, Transit Mitigation for New Development Sites	2	2	5	2	3	4
M-5	Intersection Improvement Program	<p><b>Purpose:</b> Staff will select 10 to 15 intersections in the region based on CMP performance metrics and then consult with planners/engineers from these respective communities to verify the congestion issues at the preselected locations. Staff will then survey the selected intersections and determine recommended low-cost improvements for the locations. These recommendations will be presented to each community. The communities can acknowledge the recommended improvements to each intersection and create their own project to improve traffic operations.</p> <p><b>Anticipated Outcomes:</b> Recommendations for low-cost improvements for the selected intersections that local planners and engineers can use to develop projects.</p> <p><b>Estimated Budget:</b> \$75,000</p>		3	4	5	2	2	3

(Table C-1 cont.)

Study Information				LRTP Goals					
ID	Project Name	Project Purpose and Outcome	Notes	S	SP/M	CM/M	TE	CA/SC	EV
TRANSIT									
T-1	Regional Safe Routes to Transit Principles	<p><b>Purpose:</b> Staff would produce a set of principles to help guide municipalities and transit providers when implementing infrastructure that can help transit riders access transit comfortably and safely. This study may examine first- and last-mile shuttles, drawing on the FFY 2020 UPWP study Operating a Successful Shuttle Program.</p> <p><b>Anticipated Outcomes:</b> Documentation of principles for implementing infrastructure improvements and operational projects to improve access to transit, including first- and last-mile connections.</p> <p><b>Estimated Budget:</b> \$40,000–60,000</p>		5	2	4	3	4	2
T-2	Access to Commercial Business Districts Phase 2	<p><b>Purpose:</b> This study would follow up on the Transportation Access Studies of Central Business Districts study conducted in FFY 2019. The methodology would follow that of the FFY 2019 study—surveying business owners and their customers, inventorying existing curb-lane designations, and identifying off-street parking—but with a larger sample size.</p> <p><b>Anticipated Outcomes:</b> A toolbox that CTPS will make available to municipalities and other partners for conducting CBD-access studies.</p> <p><b>Estimated Budget:</b> \$75,000</p>	Follow-up on FFY 2019 UPWP study	2	3	4	3	4	5

(Table C-1 cont.)

Study Information				LRTP Goals					
ID	Project Name	Project Purpose and Outcome	Notes	S	SP/M	CM/M	TE	CA/SC	EV
T-3	The Future of the Curb Phase 2	<p><b>Purpose:</b> This study would develop a guidebook for municipalities about ways to approach the process of planning and implementing curb management strategies. Building off the Future of the Curb study undertaken in FFY 2019, which compiled nationwide examples of municipalities that repurposed their curb lanes in response to changing demands and conflicts, this study would explore a wide range of issues related to implementing such changes.</p> <p>This study would provide guidance about several key topic areas:</p> <ul style="list-style-type: none"> <li>• Engaging the public, including equity populations, in developing curb management plans and strategies</li> <li>• Evaluating how the benefits and potential adverse effects of changes to curb management may affect equity populations</li> <li>• Developing a plan for monitoring and enforcing compliance with the curb management strategy</li> <li>• Establishing metrics to evaluate the success of curb management changes, which may have effects on congestion, emissions, accessibility, parking turnover, impacts to businesses, safety, bus reliability, travel times, and other factors</li> <li>• Developing high-level curb management plans to provide policy guidance that is consistent with the municipality's larger transportation goals</li> <li>• Considering the broader context of curb space changes, such as land use, density, and existing activities at the curb</li> </ul> <p>The study would include outreach to municipalities in the Boston region to learn about the process that they took to implement curb management strategies. The study would document these municipalities' considerations, successes, challenges, and best practices.</p> <p><b>Anticipated Outcomes:</b> A guidebook for planning and implementing curb management strategies.</p> <p><b>Estimated Budget:</b> \$60,000</p>	Follow-up on FFY 2019 UPWP study	5	4	4	4	3	4

(Table C-1 cont.)

Study Information				LRTP Goals					
ID	Project Name	Project Purpose and Outcome	Notes	S	SP/M	CM/M	TE	CA/SC	EV
T-4	TOD Resident Survey	<p><b>Purpose:</b> CTPS will conduct surveys of residents of a representative sample of new residential developments near transit stations across the Boston region, with an emphasis on making sure developments from a variety of built environments are included. Surveys will ask about resident behavior, including</p> <ul style="list-style-type: none"> <li>• whether they moved to the development explicitly for the ability to use transit;</li> <li>• the frequency and purpose of their transit usage (before moving to the TOD, currently, and anticipated in the future);</li> <li>• other travel behavior;</li> <li>• car ownership; and</li> <li>• demographic details.</li> </ul> <p>Staff will also compile available data on parking availability at stations and demand from previous CTPS counts, and analyze the changes over time relative to developments and possibly reported resident behavior.</p> <p><b>Anticipated Outcome:</b> A dataset documenting survey responses and a memorandum or web page presenting analysis. Data will be made available to agency partners and municipalities throughout the region.</p> <p><b>Estimated Budget:</b> \$60,000</p>	This study draws on work currently being conducted in MassDOT's MBTA Station Access Study (which is expected to be finished by summer 2020), MAPC's Perfect Fit Parking Program, and the MPO's Congestion Management Program.	2	3	5	2	4	4
RESILIENCE									
R-1	Multimodal Resilience and Emergency Planning	<p><b>Purpose:</b> CTPS would use existing data to create a "story" of climate change and to better visualize options in the event of an emergency situation for the entire transportation network. CTPS can build upon its existing All-Hazards Planning tool and incorporate open data sets, multiple transportation modes, vulnerable population information and high-quality design. The resulting tool would be designed to be user-friendly and geared towards municipal planners (especially those concerned with network resiliency) and residents.</p> <p><b>Anticipated Outcomes:</b> An interactive tool for visualizing risks to the transportation network from the impacts of climate change and current emergency plans.</p> <p><b>Estimated Budget:</b> \$30,000 to update the CTPS All-Hazards Planning Tool, plus an additional \$10,000–20,000 to produce a StoryMap or interactive GIS map.</p>	There is potential to scale up this work to model how the transportation network will react to various emergency or disaster scenarios, perhaps through the LRTP scenario planning process or a future UPWP study.	5	5	3	4	5	3



(Table C-1 cont.)

Study Information				LRTP Goals					
ID	Project Name	Project Purpose and Outcome	Notes	S	SP/M	CM/M	TE	CA/SC	EV
TECHNICAL SUPPORT and OTHER									
O-1	Staff-Generated Research and Technical Assistance	<p><b>Purpose:</b> This program supports work by MPO staff members on topics that relate to the Boston Region MPO's metropolitan transportation-planning process, that staff members have expressed interest in, and that are not covered by an ongoing UPWP study or discrete project. This program brings forth valuable information for the MPO's consideration and would support staff's professional development. The opportunities afforded to staff through this program could yield highly creative solutions to transportation-planning problems.</p> <p>Starting in FFY 2020, the range of projects that could be funded through this budget line was expanded to include small technical assistance projects in addition to research. Individual MPO staff are able to identify small-scale needs in the diverse communities within the MPO region and work with partner entities make recommendations to solve the problems. This budget line allows staff to then use some of their time to study the problem—involving their colleagues with specialty skills if staff resources and availability allow—and make recommendations to solve it.</p> <p><b>Anticipated Outcomes:</b> Reports on staff-proposed innovative research and small technical assistance projects.</p> <p><b>Estimated Budget:</b> Typically \$20,000-\$40,000.</p>	Recurring study (every year)	n/a*	n/a*	n/a*	n/a*	n/a*	n/a*
O-2	Mapping Major Transportation Infrastructure Projects in the Boston Region	<p><b>Purpose:</b> In 2005, MPO staff created a map of the historical development of transportation infrastructure in the region, covering highway and transit networks. While some work has been done to update it in the interim, staff believe that an up-to-date, comprehensive, and truly multimodal map would be a valuable, cost-effective resource to transportation planning in the region. Depending on resources, the map could be produced either in print or in interactive online format, or both.</p> <p><b>Anticipated Outcomes:</b> Comprehensive, multimodal map of the historical development of transportation infrastructure in the Boston region.</p> <p><b>Estimated Budget:</b> \$20,000 to produce an updated print map and simple online tool.</p>		1	3	2	3	2	2

(Table C-1 cont.)

Study Information				LRTP Goals					
ID	Project Name	Project Purpose and Outcome	Notes	S	SP/M	CM/M	TE	CA/SC	EV
O-3	Informing the Big Ideas Behind the MPO's Scenario Planning Process	<p><b>Purpose:</b> This task would supplement upcoming outreach efforts for the development of the MPO's new LRTP. To support development of "big picture" items to be tested through scenario planning, staff would conduct a thorough program of outreach to stakeholders—including MPO member municipalities, other agencies, community groups, and advocacy groups—to determine priorities for possible analyses. Possible scenario elements to discuss with stakeholders include congestion pricing; free transit fares on some or all services; implementation of the Transportation Climate Initiative or another funding mechanism; and large-scale regional zoning changes.</p> <p><b>Anticipated Outcomes:</b> Identification and prioritization of ideas for scenario analysis.</p> <p><b>Estimated Budget:</b> \$20,000</p>		3	5	5	5	5	3

Notes: \*this study proposed by MAPC

\* = Relationship to Goals and Objectives depends on the individual project(s) selected

16 Total study concepts

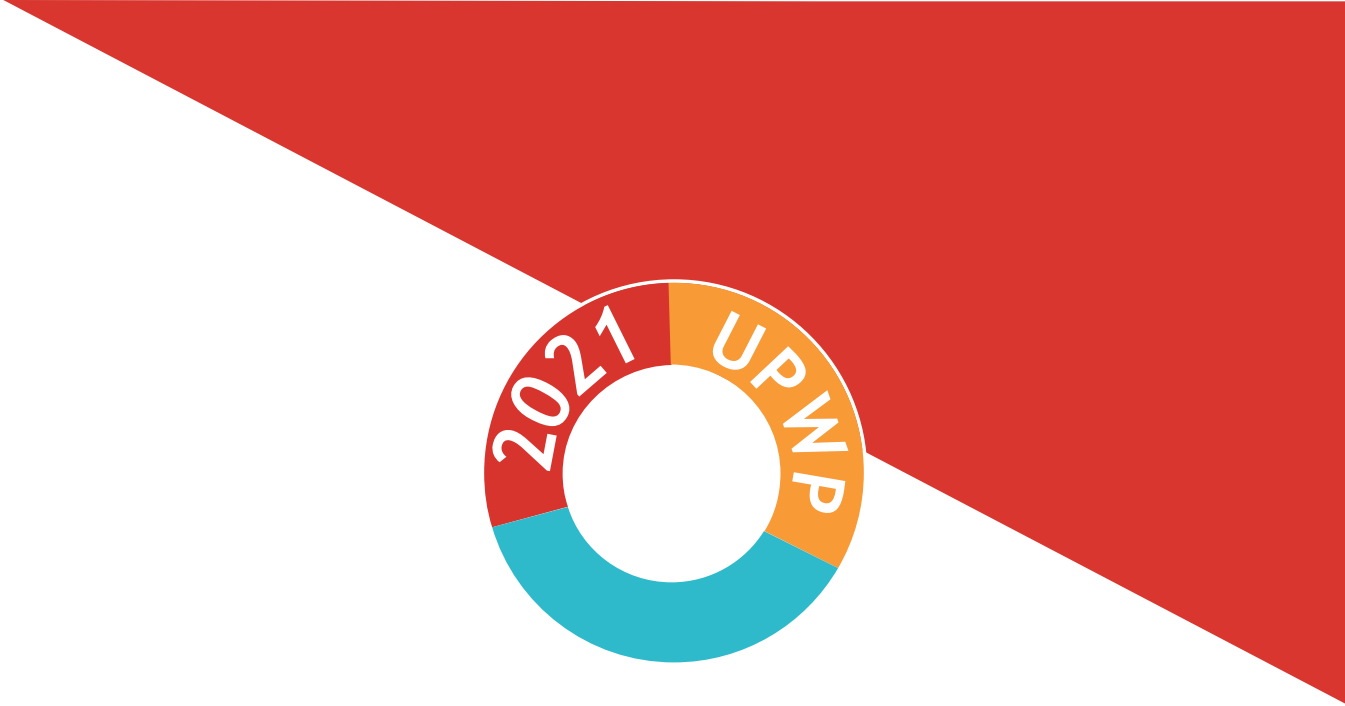
**LRTP Goal Area Acronyms:**

S = Safety. SP/M = System Preservation and Modernization. CM/M = Capacity Management and Mobility. TE = Transportation Equity. CA/SC = Clean Air/Sustainable Communities. EV = Economic Vitality.

**Table C-2**  
**Studies Funded in the UPWP, by Category, FFYs 2016–21**

	FFY 2016	FFY 2017	FFY 2018	FFY 2019	FFY 2020	FFY 2021
Active Transportation	1	1	1	1	1	1
Land Use, Environment, and Economy	0	1	1	1	0	1
Roadway and Multimodal Mobility	3	4	5	6	4	5
Transit	2	1	2	1	3	2
Transportation Equity*	1	0	0	0	1	0
Resilience*	0	0	0	0	1	1
Other	1	1	1	1	1	3
<b>Total</b>	<b>8</b>	<b>8</b>	<b>10</b>	<b>10</b>	<b>11</b>	<b>13</b>

\*Category introduced in FFY 2020 UPWP



# APPENDIX D

## GEOGRAPHIC DISTRIBUTION OF UPWP STUDIES AND TECHNICAL ANALYSES

### INTRODUCTION

This appendix summarizes the Metropolitan Planning Organization (MPO)-funded work products produced by MPO staff (the Central Transportation Planning Staff) and the staff of the Metropolitan Area Planning Council (MAPC) during federal fiscal years (FFY) 2010 through 2019, as well as work products expected to be completed by the end of FFY 2020. The narrative below describes the methodology used to compile this information, as well as some of the additional factors that could be used to further analyze and use these data to inform and guide public involvement and regional equity considerations.

### PURPOSE AND METHODOLOGY

#### PURPOSE

The purpose of this data collection is to better understand the geographic spread of Unified Planning Work Program (UPWP) work products (that is, reports and technical memoranda) throughout the Boston region. This analysis provides an initial glimpse at which communities and areas of our metropolitan region have benefited from transportation studies and analyses (or have been recipients of technical support) conducted by the MPO staff with continuing, comprehensive, and cooperative (3C) planning funds.

In addition, this Appendix includes a preliminary analysis of the distribution of MPO work products to minority populations, low-income households, and people with limited English proficiency in each municipality. This is an initial approach to assessing the extent to which MPO studies may benefit

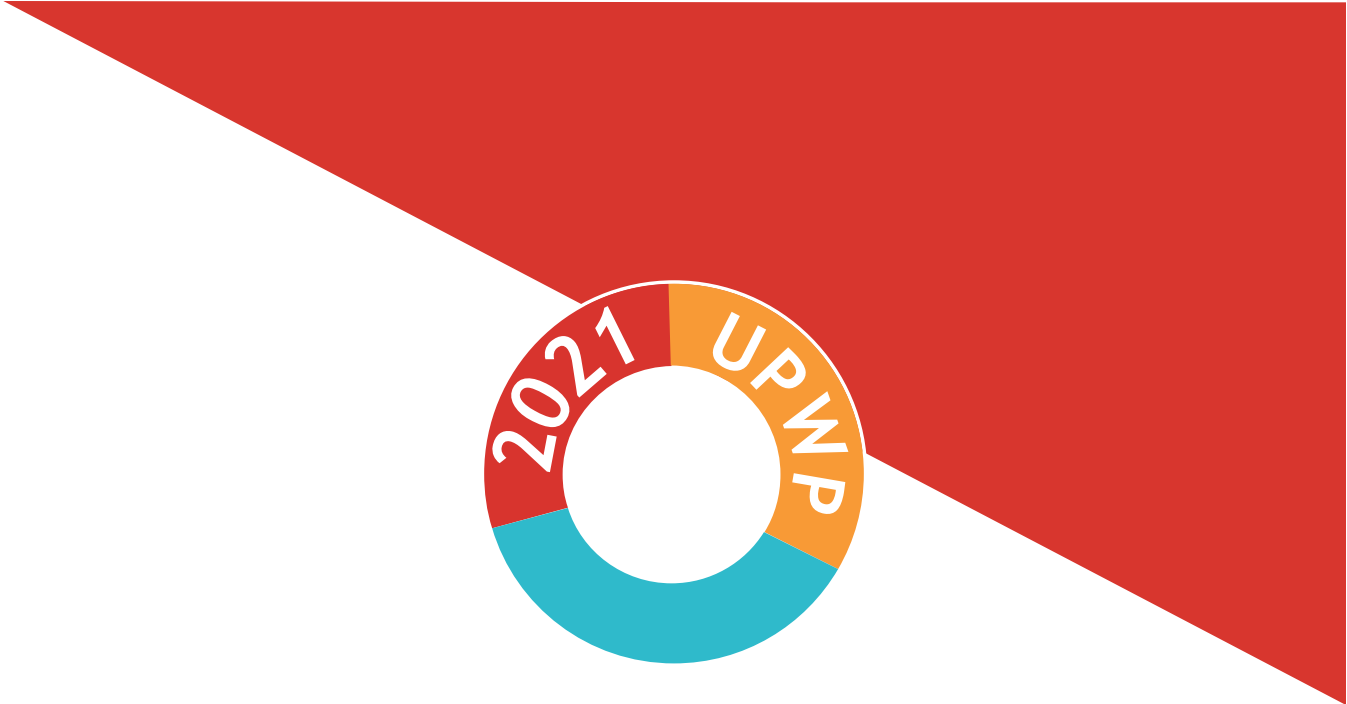
these populations; further development of the UPWP Study Recommendations Tracking Database, including geocoding of studies and creation of an interactive online interface, will eventually allow a more precise analysis of where and how study and analysis funds are spent.

Table D-1 presents a summary of UPWP tasks completed from FFY 2010 through FFY 2020 that resulted in benefits to specific municipalities, aggregated to the subregional level. Table D-2 presents this information disaggregated by municipality. Studies that had a regional focus are presented in Table D-3.

Tracking the geographic distribution of UPWP studies (those benefiting specific communities as well as those benefiting a wider portion of the region) can serve as one important input into the UPWP funding decisions made each FFY. When considered in combination with other information, these data on geographic distribution of MPO-funded UPWP studies can help guide the MPO's public outreach to ensure that, over time, we are meeting the needs of the region with the funds allocated through the UPWP.

**Table D-1**  
**Summary of Distribution of Work Products by FFY and Subregion**

Subregional Totals	Number of Work Products							Demographics					
	2010–15 Total	2016	2017	2018	2019	2020	2010–20 Total	Total Population	Percent of Regional Population	Percent Minority	Percentage of Residents in Poverty	Percentage of Residents Age 5+ with Low English Proficiency	Household Median Income
ICC	155	19	21	32	26	17	270	1,741,332	52.56%	37.06%	26.82%	15.11%	\$76,970
MAGIC	78	2	5	16	16	9	126	179,873	5.43%	19.81%	8.93%	5.21%	\$134,667
MWRC	72	5	12	2	2	0	93	244,780	7.39%	20.95%	14.02%	8.62%	\$104,153
NSPC	50	10	10	2	3	1	76	216,385	6.53%	13.48%	10.74%	4.91%	\$107,094
NSTF	35	2	23	10	7	4	81	294,070	8.88%	8.78%	18.67%	4.60%	\$80,291
SSC	35	1	0	5	3	3	47	220,039	6.64%	9.97%	14.05%	3.19%	\$93,735
SWAP	37	0	0	2	0	0	39	151,221	4.56%	10.84%	10.17%	3.53%	\$113,415
TRIC	44	2	2	6	15	14	83	265,547	8.01%	22.04%	11.22%	5.90%	\$111,398
<b>Grand Total</b>	<b>509</b>	<b>41</b>	<b>74</b>	<b>76</b>	<b>72</b>	<b>48</b>	<b>820</b>	<b>3,313,247</b>		<b>26.68%</b>	<b>20.27%</b>	<b>10.43%</b>	<b>\$88,830</b>





## METHODOLOGY

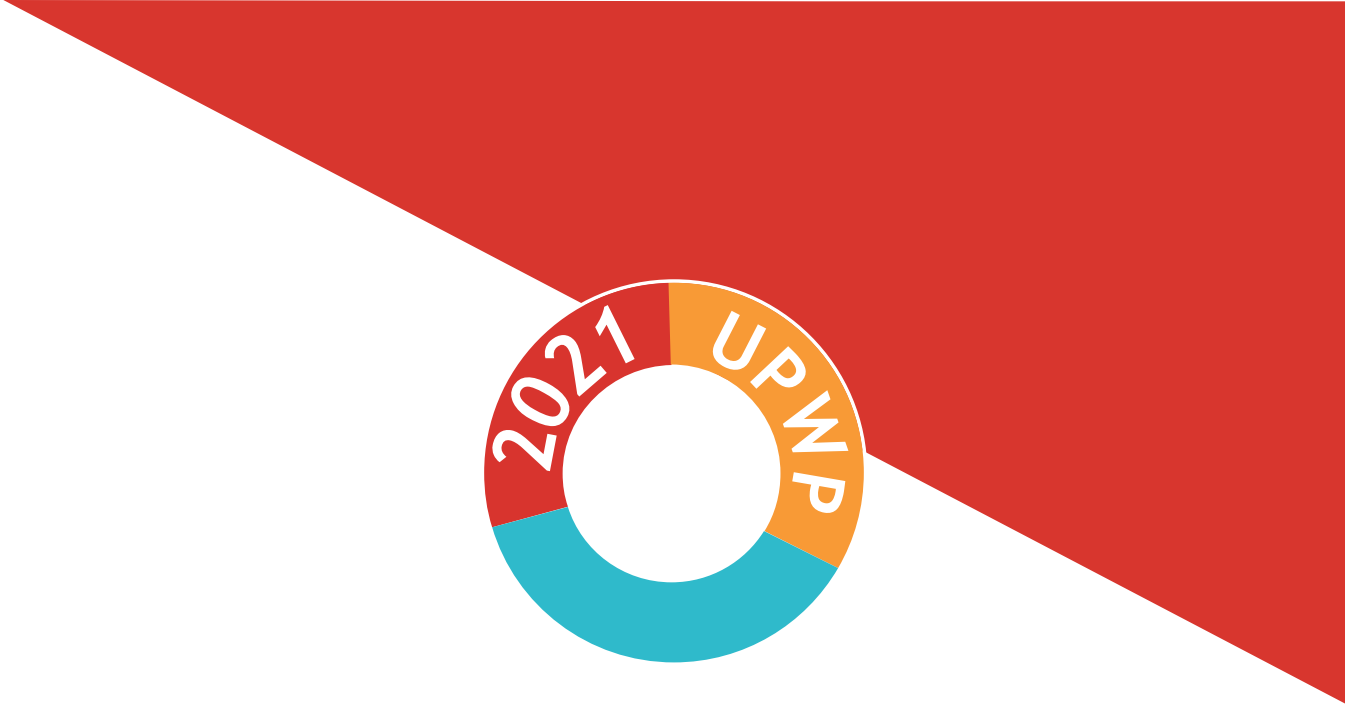
As noted above, this analysis examined FFYs 2010 through 2020. To generate information on the number of UPWP studies produced during these FFYs that benefited specific cities and towns in the Boston region, MPO staff performed the following tasks:

- reviewed all work products listed as complete in UPWPs from FFYs 2010 through 2020
- excluded all agency and other client-funded studies and technical analyses to focus the analysis on MPO-funded work only
- excluded all work products that had a focus that was regional or not limited to a specific geography
- excluded all work related to certification requirements (Chapter 3), resource management, and support activities (Chapter 6), which consist of programs and activities that support the MPO, its staff operations, and its planning and programming activities
- compiled a count of all reports and technical memoranda completed specifically for one municipality, or reports and technical memoranda directly benefiting multiple municipalities. In the case where multiple municipalities directly benefit from a report or technical memoranda, the work product was counted once for each municipality that benefited.
- reviewed and discussed the status and focus of studies, technical memoranda, and reports with project managers and technical staff
- refreshed demographic data using American Community Survey 2014–18 five-year estimates. In response to Federal Highway Administration guidance, this year’s analysis includes a breakdown of median income by municipality.

## PLANNING STUDIES AND TECHNICAL ANALYSES BY COMMUNITY

Table D-2 shows the number of completed MPO-funded UPWP work products from FFY 2010 through FFY 2020 that are determined to provide benefits to specific municipalities. Studies and technical analyses are grouped by the year in which they were completed, rather than the year in which they were first programmed in the UPWP. Examples of the types of studies and work in the table include the following:

- evaluating parking in several municipalities
- technical assistance on Massachusetts Environmental Policy Act Environmental Impact Reports
- Complete Streets analyses for specific municipalities
- operations analyses and alternative conceptual design recommendations for specific intersections



**Table D-2  
Number of UPWP Tasks by FFY and Municipality, Grouped by Subregion**

Municipality	Number of Work Products							Demographics				
	2010–15 Total	2016	2017	2018	2019	2020	2010–20 Total	Total Population	Percent Minority	Percentage of Residents in Poverty	Percentage of Residents Age 5+ with Low English Proficiency	Household Median Income
Arlington	3	1	3	3	2	1	12	45,147	19.44%	11.30%	5.98%	\$107,085
Belmont	3	2	1	2	0	0	8	26,043	21.42%	10.96%	7.86%	\$120,208
Boston	22	3	2	5	9	3	41	679,413	47.42%	33.48%	17.57%	\$65,883
Brookline	5	1	2	0	1	3	9	59,234	25.90%	18.50%	9.67%	\$113,515
Cambridge	9	4	5	2	1	1	21	115,665	33.01%	19.63%	7.92%	\$95,404
Chelsea	10	0	2	1	1	2	14	39,852	49.24%	42.60%	39.21%	\$53,280
Everett	13	2	1	3	1	2	20	45,856	40.78%	34.29%	28.74%	\$60,482
Lynn	7	1	0	1	1	0	10	93,617	51.87%	36.17%	25.32%	\$54,598
Malden	10	0	2	2	1	0	15	61,094	46.05%	31.37%	26.38%	\$64,178
Medford	6	1	0	3	0	1	10	57,771	25.01%	19.48%	9.70%	\$92,363
Melrose	6	0	1	1	0	0	8	28,116	11.15%	11.88%	4.61%	\$103,743
Nahant	0	0	0	0	0	0	0	3,495	4.26%	16.02%	3.71%	\$90,741
Newton	12	0	0	1	0	1	13	88,660	22.99%	9.54%	6.83%	\$139,696
Quincy	11	0	0	0	2	1	13	94,121	39.63%	25.08%	21.08%	\$74,180
Revere	7	0	0	2	2	1	11	53,966	20.97%	34.67%	27.32%	\$55,020
Saugus	3	0	0	1	0	0	4	28,158	10.32%	18.75%	6.25%	\$80,341
Somerville	13	1	1	1	3	0	19	80,434	24.00%	23.08%	11.10%	\$91,168
Waltham	12	3	1	2	1	0	19	62,979	27.67%	18.73%	12.31%	\$85,677
Watertown	1	0	0	1	0	1	2	35,103	16.37%	13.86%	7.78%	\$97,929
Winthrop	2	0	0	1	1	0	4	18,535	6.65%	21.12%	7.00%	\$68,322
<b>ICC Subtotals</b>	<b>155</b>	<b>19</b>	<b>21</b>	<b>32</b>	<b>26</b>	<b>17</b>	<b>270</b>	<b>1,741,332</b>	<b>37.06%</b>	<b>26.82%</b>	<b>15.11%</b>	<b>\$76,970</b>
Acton	6	1	0	1	3	3	11	23,561	30.42%	8.14%	7.44%	\$137,910

(Table D-2 cont.)

Municipality	Number of Work Products							Demographics				
	2010–15 Total	2016	2017	2018	2019	2020	2010–20 Total	Total Population	Percent Minority	Percentage of Residents in Poverty	Percentage of Residents Age 5+ with Low English Proficiency	Household Median Income
Bedford	7	0	0	2	2	0	11	14,126	21.17%	10.70%	5.82%	\$129,726
Bolton	4	0	1	2	1	0	8	5,236	6.46%	4.39%	0.77%	\$155,093
Boxborough	4	0	0	1	1	0	6	5,794	27.46%	12.15%	4.51%	\$108,207
Carlisle	2	0	0	1	1	0	4	5,186	13.52%	5.82%	2.84%	\$171,625
Concord	6	1	3	1	1	1	12	19,323	16.78%	7.02%	4.30%	\$141,293
Hudson	7	0	0	1	1	0	9	19,868	7.13%	12.81%	10.60%	\$87,806
Lexington	10	0	0	1	1	1	12	33,480	34.62%	7.99%	6.97%	\$172,750
Lincoln	9	0	0	1	1	1	11	6,726	16.04%	12.33%	2.06%	\$122,778
Littleton	5	0	0	1	1	1	7	9,935	10.62%	10.70%	3.22%	\$120,638
Maynard	7	0	1	2	1	1	11	10,600	8.95%	11.04%	4.62%	\$101,324
Stow	4	0	0	1	1	0	6	7,098	8.23%	7.93%	0.83%	\$145,967
Sudbury	7	0	0	1	1	1	9	18,940	15.48%	6.34%	2.96%	\$176,570
<b>MAGIC Subtotals</b>	<b>78</b>	<b>2</b>	<b>5</b>	<b>16</b>	<b>16</b>	<b>9</b>	<b>126</b>	<b>179,873</b>	<b>19.81%</b>	<b>8.93%</b>	<b>5.21%</b>	<b>\$134,667</b>
Ashland	3	0	1	0	0	0	4	17,576	17.10%	10.02%	7.39%	\$121,406
Framingham	14	1	2	1	2	0	20	71,649	28.57%	22.62%	15.95%	\$79,136
Holliston	4	0	1	0	0	0	5	14,634	8.22%	6.61%	1.92%	\$125,625
Marlborough	6	0	2	0	0	0	8	39,776	21.09%	18.71%	12.56%	\$79,228
Natick	9	1	1	0	0	0	11	36,083	18.22%	9.55%	5.56%	\$109,490
Southborough	8	0	1	0	0	0	9	10,074	16.96%	7.89%	3.41%	\$145,079
Wayland	3	0	1	0	0	0	4	13,720	15.35%	5.65%	3.84%	\$174,330
Wellesley	11	1	1	0	0	0	13	29,201	18.90%	5.90%	3.88%	\$188,908
Weston	14	2	2	1	0	0	19	12,067	19.05%	9.85%	3.15%	\$181,667
<b>MWRC Subtotals</b>	<b>72</b>	<b>5</b>	<b>12</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>93</b>	<b>244,780</b>	<b>20.95%</b>	<b>14.02%</b>	<b>8.62%</b>	<b>\$104,153</b>

(Table D-2 cont.)

Municipality	Number of Work Products							Demographics				
	2010–15 Total	2016	2017	2018	2019	2020	2010–20 Total	Total Population	Percent Minority	Percentage of Residents in Poverty	Percentage of Residents Age 5+ with Low English Proficiency	Household Median Income
Burlington	11	1	1	0	1	0	14	27,059	24.55%	10.75%	7.88%	\$105,443
Lynnfield	4	1	1	0	0	0	6	12,847	8.73%	6.30%	2.84%	\$132,632
North Reading	2	1	1	0	0	0	4	15,642	9.12%	7.01%	2.50%	\$126,818
Reading	10	1	1	0	0	0	12	25,100	7.49%	10.23%	2.02%	\$112,634
Stoneham	4	1	1	0	0	0	6	22,144	7.87%	11.45%	4.49%	\$94,835
Wakefield	3	1	1	0	0	0	5	26,960	7.02%	11.89%	4.28%	\$95,302
Wilmington	5	1	1	0	1	1	8	23,658	10.63%	10.30%	3.35%	\$122,813
Winchester	4	2	1	1	0	0	8	22,677	16.79%	6.83%	5.77%	\$159,536
Woburn	7	1	2	1	1	0	12	40,298	20.18%	15.19%	8.89%	\$88,745
<b>NSPC Subtotals</b>	<b>50</b>	<b>10</b>	<b>10</b>	<b>2</b>	<b>3</b>	<b>1</b>	<b>76</b>	<b>216,385</b>	<b>13.48%</b>	<b>10.74%</b>	<b>4.91%</b>	<b>\$107,094</b>
Beverly	5	0	1	1	1	1	8	41,731	6.64%	17.39%	2.96%	\$79,483
Danvers	6	0	1	0	1	0	8	27,631	6.17%	15.00%	2.39%	\$84,842
Essex	0	0	1	0	1	0	2	3,713	1.02%	13.60%	0.86%	\$113,469
Gloucester	2	0	1	0	0	0	3	30,049	5.46%	23.82%	3.62%	\$65,377
Hamilton	1	0	1	0	1	0	3	8,020	6.70%	16.03%	2.62%	\$133,333
Ipswich	1	0	1	0	0	0	2	13,901	4.20%	16.67%	2.45%	\$90,557
Manchester	0	0	2	1	1	0	4	5,370	0.97%	10.19%	2.74%	\$124,025
Marblehead	2	0	2	0	0	0	4	20,488	4.40%	12.13%	3.87%	\$115,511
Middleton	0	1	2	0	0	0	3	9,779	8.02%	6.27%	2.27%	\$102,604
Peabody	4	0	2	2	1	1	9	52,865	9.96%	22.87%	8.49%	\$68,387
Rockport	3	0	1	2	0	0	6	7,212	2.47%	15.35%	0.76%	\$81,681
Salem	7	1	3	2	1	1	14	43,302	22.83%	29.15%	9.28%	\$65,565
Swampscott	3	0	2	1	0	1	6	14,755	4.84%	8.64%	3.98%	\$113,422

(Table D-2 cont.)

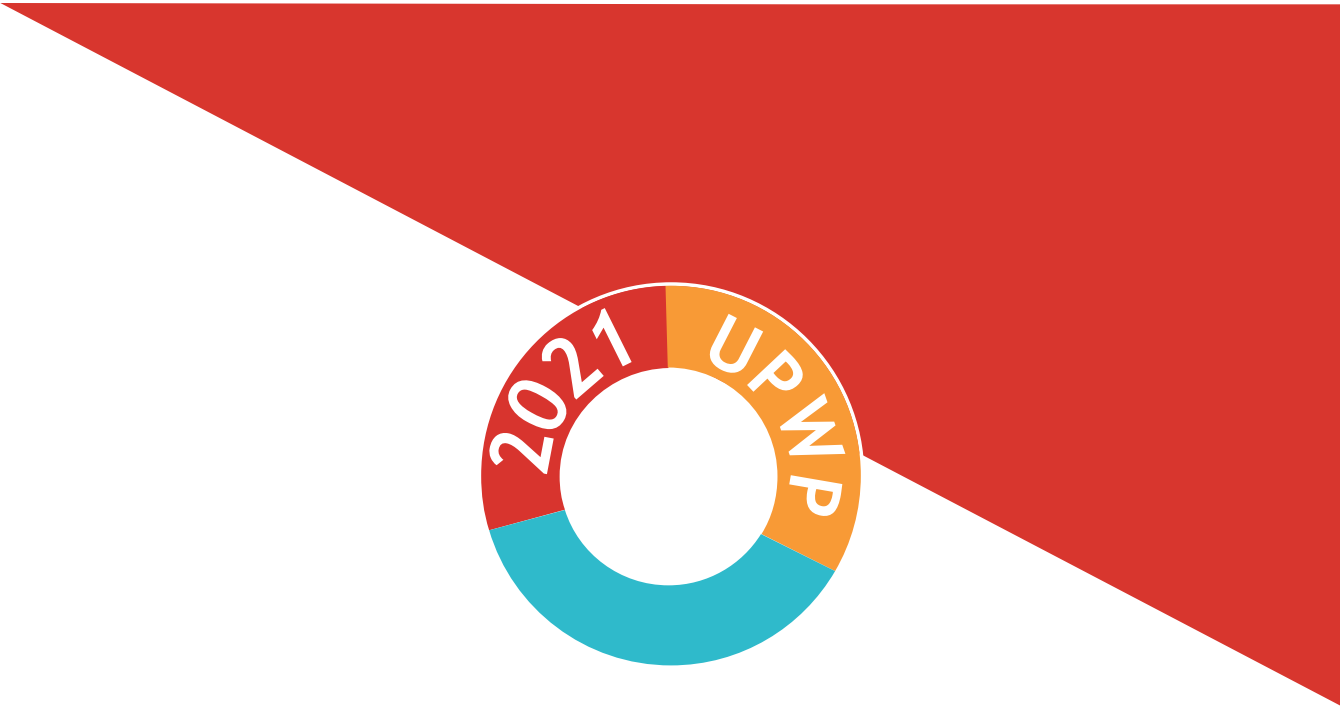
Municipality	Number of Work Products							Demographics				
	2010–15 Total	2016	2017	2018	2019	2020	2010–20 Total	Total Population	Percent Minority	Percentage of Residents in Poverty	Percentage of Residents Age 5+ with Low English Proficiency	Household Median Income
Topsfield	0	0	2	0	0	0	2	6,551	3.18%	9.92%	1.75%	\$136,812
Wenham	1	0	1	1	0	0	3	5,208	7.78%	5.49%	2.37%	\$109,712
<b>NSTF Subtotals</b>	<b>35</b>	<b>2</b>	<b>23</b>	<b>10</b>	<b>7</b>	<b>4</b>	<b>81</b>	<b>294,070</b>	<b>8.78%</b>	<b>18.67%</b>	<b>4.60%</b>	<b>\$80,291</b>
Braintree	9	1	0	0	0	1	10	37,207	18.12%	13.41%	7.02%	\$94,945
Cohasset	3	0	0	0	0	0	3	8,449	2.53%	9.37%	0.24%	\$132,204
Hingham	2	0	0	1	2	1	7	23,298	3.59%	9.53%	1.19%	\$133,596
Holbrook	3	0	0	0	0	0	3	11,036	20.42%	14.79%	5.31%	\$70,364
Hull	1	0	0	0	0	0	1	10,424	3.84%	15.37%	1.67%	\$85,573
Marshfield	2	0	0	0	0	0	2	25,754	4.59%	15.35%	1.88%	\$96,514
Norwell	2	0	0	1	1	1	5	10,987	3.73%	6.29%	0.61%	\$151,306
Rockland	1	0	0	1	0	0	2	17,909	6.42%	15.50%	2.82%	\$79,807
Scituate	3	0	0	1	0	0	4	18,591	4.69%	9.43%	1.14%	\$116,750
Weymouth	6	0	0	1	0	0	7	56,384	13.98%	18.63%	4.37%	\$79,034
<b>SSC Subtotals</b>	<b>35</b>	<b>1</b>	<b>0</b>	<b>5</b>	<b>3</b>	<b>3</b>	<b>47</b>	<b>220,039</b>	<b>9.97%</b>	<b>14.05%</b>	<b>3.19%</b>	<b>\$93,735</b>
Bellingham	3	0	0	1	0	0	4	17,016	6.52%	9.84%	2.82%	\$99,569
Franklin	3	0	0	0	0	0	3	33,022	9.59%	8.64%	1.61%	\$115,355
Hopkinton	7	0	0	0	0	0	7	17,178	13.96%	6.47%	2.34%	\$166,156
Medway	4	0	0	0	0	0	4	13,244	7.69%	9.46%	1.37%	\$119,450
Milford	8	0	0	1	0	0	9	28,789	17.03%	19.33%	10.81%	\$82,129
Millis	3	0	0	0	0	0	3	8,202	5.93%	10.11%	3.29%	\$106,336
Norfolk	2	0	0	0	0	0	2	11,748	14.14%	4.22%	2.22%	\$146,607
Sherborn	4	0	0	0	0	0	4	4,301	8.65%	6.18%	2.49%	\$180,769
Wrentham	3	0	0	0	0	0	3	11,734	3.49%	10.24%	1.17%	\$113,017

(Table D-2 cont.)

Municipality	Number of Work Products							Demographics				
	2010–15 Total	2016	2017	2018	2019	2020	2010–20 Total	Total Population	Percent Minority	Percentage of Residents in Poverty	Percentage of Residents Age 5+ with Low English Proficiency	Household Median Income
<b>SWAP Subtotals</b>	<b>37</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>39</b>	<b>151,221</b>	<b>10.84%</b>	<b>10.17%</b>	<b>3.53%</b>	<b>\$113,415</b>
Canton	2	0	2	2	1	3	7	23,134	18.36%	9.28%	6.27%	\$105,371
Dedham	5	1	0	0	1	2	7	25,377	16.38%	13.91%	5.52%	\$96,992
Dover	4	0	0	0	1	0	5	5,987	14.48%	2.09%	3.78%	\$224,784
Foxborough	4	0	0	0	1	2	5	17,535	10.04%	13.19%	2.08%	\$98,374
Medfield	1	0	0	0	1	0	2	12,748	6.61%	9.93%	1.59%	\$155,039
Milton	5	0	0	2	2	1	9	27,568	25.93%	9.12%	4.38%	\$127,448
Needham	7	1	0	1	2	0	11	30,735	14.55%	5.69%	5.08%	\$153,032
Norwood	2	0	0	0	2	2	4	29,201	16.82%	14.55%	6.72%	\$90,511
Randolph	4	0	0	0	1	0	5	33,924	61.91%	21.90%	16.59%	\$73,697
Sharon	0	0	0	0	1	0	1	18,400	22.99%	5.30%	6.39%	\$138,396
Walpole	4	0	0	0	1	2	5	25,075	11.63%	10.09%	2.74%	\$112,897
Westwood	6	0	0	1	1	2	8	15,863	12.34%	6.01%	4.67%	\$155,706
<b>TRIC Subtotals</b>	<b>44</b>	<b>2</b>	<b>2</b>	<b>6</b>	<b>15</b>	<b>14</b>	<b>83</b>	<b>265,547</b>	<b>22.04%</b>	<b>11.22%</b>	<b>5.90%</b>	<b>\$111,398</b>
<b>Grand Total</b>	<b>509</b>	<b>41</b>	<b>74</b>	<b>76</b>	<b>72</b>	<b>48</b>	<b>820</b>	<b>3,313,247</b>	<b>26.68%</b>	<b>20.27%</b>	<b>10.43%</b>	<b>\$88,830</b>

## Notes:

- Demographic data is from American Community Survey (ACS) five-year estimates, 2014–18. Margins of error are at the 90 percent confidence level.
- MPO staff tabulates limited English proficiency (LEP) for the population age five and older, and minority and poverty status for the entire population. People in the MPO region are considered low income if their annual family income is 200 percent or less of the national poverty level based on family size.
- People with LEP are those that speak English less than very well, according to the ACS.
- People who identify as minority are those who identify as Hispanic or Latino/a/x and/or Black or African American, Asian, American Indian or Alaska Native, or Native Hawaiian or other Pacific Islander.
- Duxbury, Hanover, Pembroke, and Stoughton transitioned out of the Boston Region MPO in Federal Fiscal Year 2018, so work product totals for some subregions may have changed from previous UPWPs.





## REGIONWIDE PLANNING STUDIES AND TECHNICAL ANALYSES

In addition to work that benefits specific municipalities, many of the projects funded by the MPO through the UPWP have a regional focus. Table D-3 lists MPO-funded UPWP studies completed from 2010 through 2020 that were regional in focus. Some regionally focused studies may have work products that overlap with those analyzed in the tables above.

More information on these studies and other work can be found on the MPO’s website ([https://www.bostonmpo.org/recent\\_studies](https://www.bostonmpo.org/recent_studies)) or by contacting Sandy Johnston, UPWP Manager, at [sjohnston@ctps.org](mailto:sjohnston@ctps.org).

**Table D-3  
Regionally Focused MPO Funded UPWP Studies**

FFY 2020	
CTPS	MAPC
<ul style="list-style-type: none"> <li>• Transit Mitigation for New Development Sites</li> <li>• Operating a Successful Shuttle Program</li> <li>• Further Development of the MPO’s Community Transportation Program</li> <li>• Disparate Impact Metrics Analysis</li> <li>• Pedestrian Report Card Assessment Dashboard</li> </ul>	<ul style="list-style-type: none"> <li>• Participation in Rail Vision Study</li> <li>• Participation in East-West Rail Study</li> <li>• MetroCommon Regional Plan Development</li> <li>• Review of Institute of Traffic Engineers Trip Generation Estimates</li> <li>• Inventory of National TNC Fee Structures</li> <li>• Analysis of How Local and State Governments in North America Use TNC Data for Regulation</li> <li>• Literature Review of Initiatives to Incentivize Zero Emission TNC Vehicles</li> </ul>

<b>FFY 2019</b>	
<b>CTPS</b>	<b>MAPC</b>
<ul style="list-style-type: none"><li>• Pedestrian Report Card Assessment Dashboard</li><li>• New and Emerging Metrics for Roadway Usage</li><li>• The Future of the Curb</li><li>• Updates to Express-Highway Volumes Charts</li></ul>	<ul style="list-style-type: none"><li>• Coordination and convening of municipalities to implement recommendations of water transportation study</li><li>• MetroCommon Regional Plan for smart growth and regional prosperity, including extensive stakeholder outreach and public engagement</li><li>• Support for Blue Bike bikeshare system, Lime dockless bikeshare system, and support for coordinated regulation of electric scooters</li><li>• Analysis of Transportation Network Company trips from varying data sources</li></ul>
<b>FFY 2018</b>	
<b>CTPS</b>	<b>MAPC</b>
<ul style="list-style-type: none"><li>• Community Transportation Program Development</li><li>• Review of and Guide to Regional Transit Signal Priority</li><li>• Crash Rates in Environmental Justice Communities (Staff-Generated Research)</li><li>• Long-Distance Commuting in the Boston MPO Region (Staff-Generated Research)</li><li>• Exploring New Software for Transit Planning (Staff-Generated Research)</li><li>• Safety Effectiveness of Safe Routes to School Programs</li><li>• Planning for Connected and Autonomous Vehicles</li><li>• Study of Promising GHG Reduction Strategies</li></ul>	<ul style="list-style-type: none"><li>• Participation in Water Transportation Advisory Council</li><li>• Regional Plan Update process</li><li>• Evaluation of Transit-Oriented Development Planning Studies</li><li>• Ride hailing research, literature review, and survey of 900 Uber and Lyft riders in Boston region to indicate how TNCs are affecting travel behavior.</li><li>• Participation in suburban mobility working group with MassDOT, MBTA, and CTPS staff to discuss opportunities to pilot dynamic ride dispatching.</li></ul>

<b>FFY 2017</b>	
<b>CTPS</b>	<b>MAPC</b>
<ul style="list-style-type: none"><li>• Using GTFS Data to Find Shared Bus Route Segments with Excessively Irregular Headways</li><li>• Pedestrian Level-of-Service Metric Development</li><li>• Exploring the 2011 Massachusetts Travel Survey: MPO Travel Profiles</li><li>• Exploring the 2011 Massachusetts Travel Survey: Barriers and Opportunities Influencing Mode Shift</li><li>• Core Capacity Constraints</li><li>• Barriers and Opportunities Influencing Mode Shift</li><li>• Bicycle Network Gaps: Feasibility Evaluations</li><li>• 2016–17 Bicycle and Pedestrian Counts</li><li>• Bicycle and Pedestrian Count Memo (summarizing counts 2014–17)</li><li>• Memorandum documenting plans for future Boston Region MPO bicycle and pedestrian counting methodologies</li></ul>	<ul style="list-style-type: none"><li>• North Suburban Mobility Study</li><li>• North Shore Mobility Study</li><li>• Perfect Fit Parking Report and Website</li><li>• Hubway Bikeshare Coordination</li><li>• MetroWest LandLine Gaps Analyses</li></ul>
<b>FFY 2016</b>	
<b>CTPS</b>	<b>MAPC</b>
<ul style="list-style-type: none"><li>• Modeling Capacity Constraints</li><li>• Identifying Opportunities to Alleviate Bus Delay</li><li>• Research Topics Generated by MPO Staff (FFY 2016): Transit dependence scoring system using driver license data</li><li>• Title VI Service Equity Analyses: Methodology Development</li><li>• EJ and Title VI Analysis Methodology Review</li><li>• Transportation Investments for Economic Development</li></ul>	<ul style="list-style-type: none"><li>• Right-Size Parking Report</li><li>• Transportation Demand Management—Case Studies and Regulations</li><li>• Hybrid Electric Vehicle Retrofit Procurement</li><li>• Autonomous Vehicles and Connected Cars research</li><li>• MetroFuture Implementation technical memorandums</li></ul>

<b>FFY 2015</b>	
<b>CTPS</b>	<b>MAPC</b>
<ul style="list-style-type: none"><li>• Greenhouse Gas Reduction Strategy Alternatives: Cost-Effectiveness Analysis</li><li>• Roadway Network for Emergency Needs</li><li>• 2012 Inventory of Bicycle Parking Spaces and Number of Parked Bicycles at MBTA stations</li><li>• 2012–13 Inventory of Park-and-Ride Lots at MBTA Facilities</li><li>• Title VI Service Equity Analyses: Methodology Development</li></ul>	<ul style="list-style-type: none"><li>• Population and Housing Projections for Metro Boston</li><li>• Regional Employment Projections for Metro Boston</li><li>• Right-size parking calculator</li></ul>
<b>FFY 2014</b>	
<b>CTPS</b>	<b>MAPC</b>
<ul style="list-style-type: none"><li>• Bicycle Network Evaluation</li><li>• Household Survey-Based Travel Profiles and Trends</li><li>• Exploring the 2011 Massachusetts Travel Survey: Focus on Journeys to Work</li><li>• Methodology for Evaluating the Potential for Limited-Stop Service on Transit Routes</li></ul>	<ul style="list-style-type: none"><li>• Transportation Demand Management Best Practices and Model Municipal Bylaw</li><li>• Land Use Baseline for Bus Rapid Transit</li><li>• MetroFuture community engagement</li></ul>
<b>FFY 2013</b>	
<b>CTPS</b>	<b>MAPC</b>
<ul style="list-style-type: none"><li>• Regional HOV-Lane Systems Planning Study, Phase II</li><li>• Roadway Network Inventory for Emergency Needs: A Pilot Study</li><li>• Carbon Dioxide, Climate Change, and the Boston Region MPO: 2012 Update</li><li>• Massachusetts Regional Bus Study</li><li>• Boston Region MPO Freight Program</li></ul>	<ul style="list-style-type: none"><li>• Regional Trail Network Map and Greenway Planning</li><li>• MetroFuture engagement at the local level, updates to the Regional Indicators Reports, and Smart Growth Profiles</li></ul>

(Table D-3 cont.)

<b>FFY 2012</b>	
<b>CTPS</b>	<b>MAPC</b>
<ul style="list-style-type: none"><li>• Analysis of JARC and New Freedom Projects</li><li>• Safety and Security Planning</li><li>• Emergency Mitigation and Hazard Mapping, Phase II</li><li>• Impacts of Walking Radius, Transit Frequency, and Reliability</li><li>• MBTA Systemwide Passenger Survey: Comparison of Results</li><li>• Pavement Management System Development</li><li>• Roundabout Installation Screening Tool</li><li>• TIP Project Impacts Before/After Evaluation</li><li>• Regional HOV System Planning Study</li><li>• Freight Survey</li></ul>	<ul style="list-style-type: none"><li>• Snow Removal Policy Toolkit</li><li>• MetroFuture implementation strategies—updated implementation strategies including focus on equity indicators</li></ul>
<b>FFY 2011</b>	
<b>CTPS</b>	<b>MAPC</b>
<ul style="list-style-type: none"><li>• Charlie Card Trip Paths Pilot Study</li><li>• Early Morning Transit Service</li><li>• Maintenance Cost of Municipally Controlled Roadways</li><li>• Analysis of Responses to the MBTA Systemwide Onboard Passenger Survey by Respondents in Environmental-Justice Areas</li><li>• MBTA Core Services Evaluation</li><li>• MPO Freight Study, Phase I and Phase II</li><li>• MPO Freight/Rail Study</li></ul>	<ul style="list-style-type: none"><li>• MPO Pedestrian Plan</li><li>• MPO Regional Bike Parking Program</li><li>• Toolkit for Sustainable Mobility—focusing on local parking issues</li></ul>

FFY 2010	
CTPS	MAPC
<ul style="list-style-type: none"><li>• An Assessment of Regional Equity Outreach 2008–09</li><li>• Coordinated Human Services Transportation Plan Update</li><li>• Greenbush Commuter Rail Before and After Study</li><li>• Mobility Assistance Program and Section 5310 Review</li><li>• Safety Evaluation of TIP Projects</li><li>• Red Line-Blue Line Connector Study Support</li></ul>	<ul style="list-style-type: none"><li>• Creation of a GIS coverage and related database of MAPC-reviewed projects and their mitigation commitments</li><li>• Implementation of the regional and statewide bicycle and pedestrian plans, and work on bicycle/pedestrian-related issues, including coordination with relevant national, state, and regional organizations</li></ul>

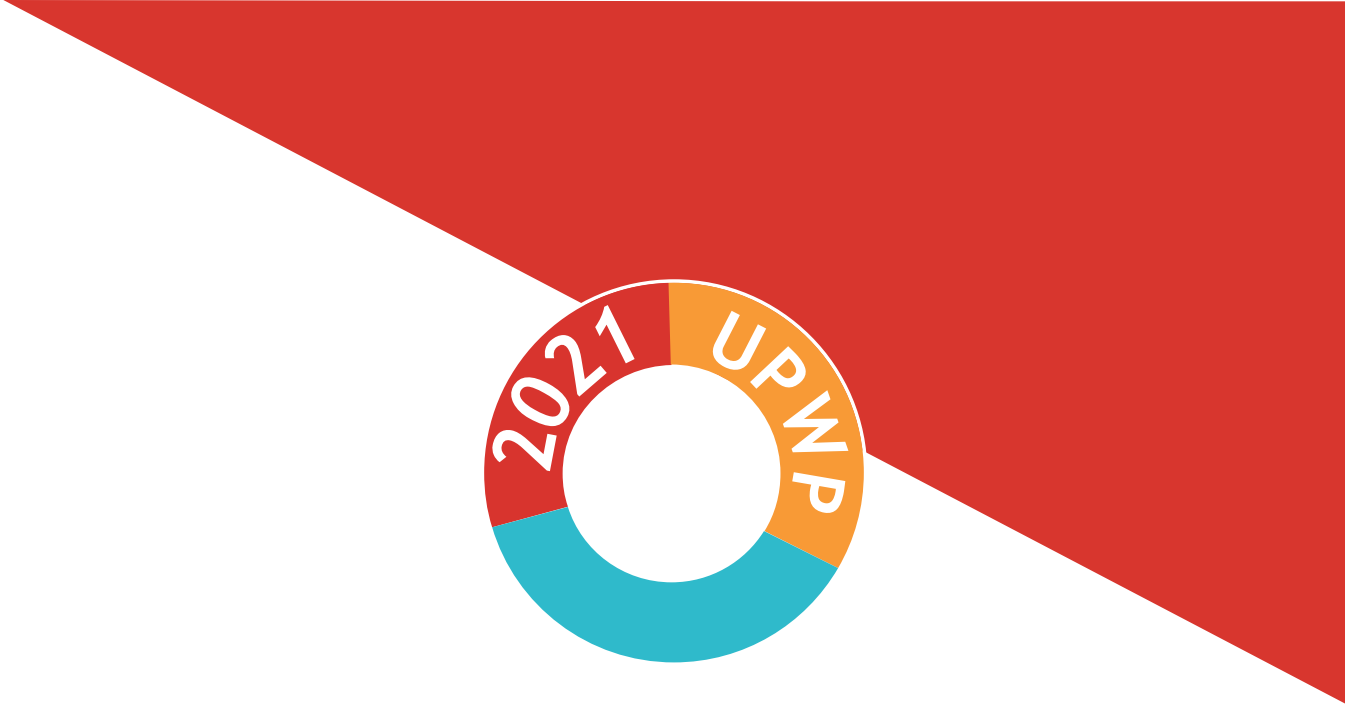
## USES FOR THE DATA

MPO staff intends to continue to collect these data annually to allow use in future analyses and, potentially, UPWP funding decisions. The MPO could potentially use this collected data in concert with other data the MPO holds or collects to inform a number of the following future analyses.

- Compare the number of tasks per community to the presence and size of a municipal planning department in each city and town.
- Examine the use of different measures to understand the geographic distribution of benefits derived from funding programmed through the UPWP. For example, in addition to analyzing the number of tasks per community, the MPO could consider the magnitude of benefits that could be derived from UPWP studies (for example, congestion reduction or air quality improvement).
- Examine in greater detail the geographic distribution of UPWP studies and technical analyses per subregion or per MAPC community type to understand the type of tasks being completed and how these compare to municipally identified needs.
- Examine the number of tasks per community and compare the data to the number of road miles or amount of transit service provided in the municipality.
- Develop graphics illustrating the geographic distribution of UPWP studies and spending and mapping that distribution relative to Environmental Justice and Transportation Equity concern areas.
- Compare the number of tasks directly benefiting each municipality with the geographic distribution of transportation needs identified in the current Long-Range Transportation Plan (LRTP), *Destination 2040*. The transportation needs of the region for the next 25 years are identified and organized in the LRTP according to the MPO's goal areas, which are

- safety;
  - system preservation;
  - capacity management and mobility;
  - clean air and clean communities;
  - transportation equity; and
  - economic vitality.
- Compare the data analyzed in this appendix to the data collected through the MPO's UPWP Study Recommendations Tracking Database, which classifies tasks differently and provides a higher level of detail, but is reliant on provision of data by municipalities.

Analyses such as these would provide the MPO with a clearer understanding of the influence of the work programmed through the UPWP.





# APPENDIX E

## REGULATORY AND POLICY FRAMEWORK

This appendix contains detailed background on the regulatory documents, legislation, and guidance that shape the Boston Region Metropolitan Planning Organization's (MPO) transportation planning process.

### REGULATORY FRAMEWORK

The Boston Region MPO plays a critical role in helping the region move closer to achieving federal, state, and regional transportation goals. Therefore, an important part of the MPO's core work is to ensure that the MPO's planning activities align with federal and state regulatory guidance. This appendix describes all of the regulations, policies, and guidance taken into consideration by the MPO during development of the certification documents and other core work the MPO will undertake during federal fiscal year (FFY) 2021.

### FEDERAL REGULATIONS AND GUIDANCE

#### Fixing America's Surface Transportation (FAST) Act: National Goals

The purpose of the national transportation goals, outlined in Title 23, section 150, of the United States Code (23 USC § 150), is to increase the accountability and transparency of the Federal-Aid Highway Program and to improve decision-making through performance-based planning and programming. The national transportation goals include the following:

1. **Safety:** Achieve significant reduction in traffic fatalities and serious injuries on all public roads
2. **Infrastructure condition:** Maintain the highway infrastructure asset system in a state of good repair
3. **Congestion reduction:** Achieve significant reduction in congestion on the National Highway System
4. **System reliability:** Improve efficiency of the surface transportation system
5. **Freight movement and economic vitality:** 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:** Enhance performance of the transportation system while protecting and enhancing the natural environment
7. **Reduced project delivery delays:** Reduce project costs, promote jobs and the economy, and expedite movement of people and goods by accelerating project completion by eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices

The Boston Region MPO has incorporated these national goals, where practicable, into its vision, goals, and objectives, which provide a framework for the MPO's planning processes. More information about the MPO's vision, goals, and objectives is included in Chapter 1.

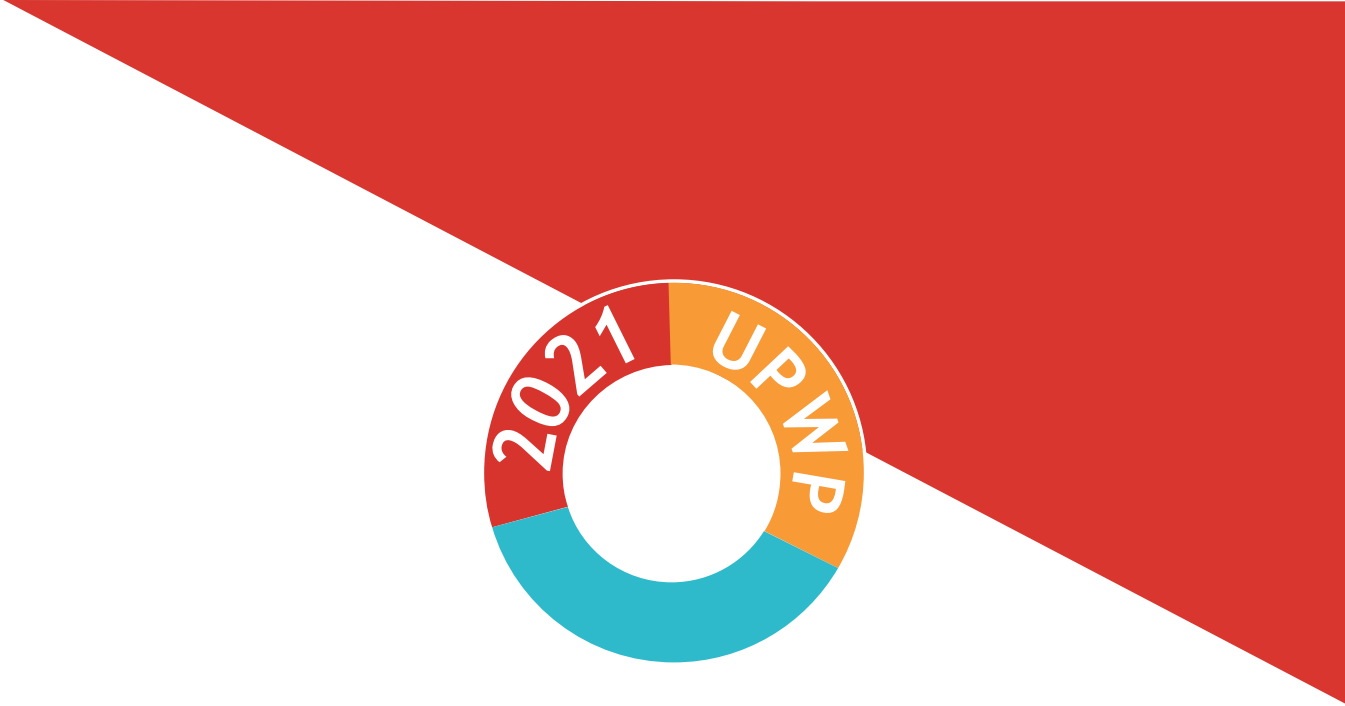
### *FAST Act: Planning Factors*

The MPO gives specific consideration to the federal planning factors, described in Title 23, section 134, of the US Code (23 USC § 134), when developing all documents that program federal transportation funds. The FAST Act added two new planning factors to the eight factors established in the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) transportation legislation. In accordance with the legislation, studies and strategies undertaken by the MPO shall

1. Support the economic vitality of the metropolitan area, especially by enabling global competition, 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 quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns
6. Enhance integration and connectivity of the transportation system, across and between modes, for people and freight
7. Promote efficient system management and operation
8. Emphasize preservation of the existing transportation system

9. Improve the resiliency and reliability of the transportation system and reduce or mitigate storm water impacts of surface transportation
10. Enhance travel and tourism

The Boston Region MPO has also incorporated these federal planning factors into its vision, goals, and objectives. Table E-1 shows the relationships between FFY 2021 MPO studies and activities and these federal planning factors.







## *FAST Act: Performance-based Planning and Programming*

The United States Department of Transportation (USDOT), in consultation with states, MPOs, and other stakeholders, has established performance measures relevant to these national goals. These performance topic areas include roadway safety, transit system safety, National Highway System (NHS) bridge and pavement condition, transit asset condition, NHS reliability for both passenger and freight travel, traffic congestion, and on-road mobile source emissions. The FAST Act and related federal rulemakings require states, MPOs, and public transportation operators to follow performance-based planning and programming practices—such as setting targets—to ensure that transportation investments support progress towards these goals. See Chapter 3 for more information about how the MPO has and will continue to conduct performance-based planning and programming.

### 1990 Clean Air Act Amendments

The Clean Air Act, most recently amended in 1990, forms the basis of the US air pollution control policy. This act identifies air quality standards, and the US Environmental Protection Agency (EPA) designates geographic areas as *attainment* (in compliance) or *nonattainment* (not in compliance) areas with respect to these standards. If air quality in a nonattainment area improves such that it meets EPA standards, the EPA may redesignate that area as being a *maintenance* area for a 20-year period to ensure that the standard is maintained in that area.

The conformity provisions of the Clean Air Act “require that those areas that have poor air quality, or had it in the past, should examine the long-term air quality impacts of their transportation system and ensure its compatibility with the area’s clean air goals.” Agencies responsible for Clean Air Act requirements for nonattainment and maintenance areas must conduct air quality conformity determinations, which are demonstrations that transportation plans, programs, and projects addressing that area are consistent with a State Implementation Plan (SIP) for attaining air quality standards.

Air quality 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 projects in the MPO’s Long-Range Transportation Plan (LRTP) and Transportation Improvement Program (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 air quality standards in any area. The policy, criteria, and procedures for demonstrating air quality conformity in MPO regions were established in Title 40, parts 51 and 53, of the Code of Federal Regulations.

On April 1, 1996, the EPA classified the cities of Boston, Cambridge, Chelsea, Everett, Malden, Medford, Quincy, Revere, and Somerville as in attainment for carbon monoxide (CO) emissions. Subsequently, a CO maintenance plan was set up through the Massachusetts SIP to ensure that emission levels did not increase. While the maintenance plan was in effect, past TIPs and LRTPs included an air quality conformity analysis for these communities. As of April 1, 2016, however, the 20-year maintenance period for this CO maintenance area expired and transportation conformity is no longer required for this pollutant in these communities. This ruling is documented in a letter from the EPA dated May 12, 2016.

On April 22, 2002, the City of Waltham was redesignated as being in attainment for CO emissions with an EPA-approved limited-maintenance plan. In areas that have approved limited-maintenance plans, federal actions requiring conformity determinations under the EPA's transportation conformity rule are considered to satisfy the conformity test.

On February 16, 2018, the US Court of Appeals for the DC Circuit issued a decision in *South Coast Air Quality Management District v. EPA*, which struck down portions of the 2008 Ozone National Ambient Air Quality Standards (NAAQS) SIP Requirements Rule concerning the ozone NAAQS. Those portions of the SIP Requirements Rule included transportation conformity requirements associated with EPA's revocation of the 1997 ozone NAAQS. Massachusetts was designated as an attainment area for 2008 ozone NAAQS, but as a nonattainment or maintenance area for 1997 ozone NAAQS. As a result of this court ruling, MPOs in Massachusetts must once again demonstrate conformity for ozone when developing LRTPs and TIPs.

MPOs must also perform conformity determinations if transportation control measures (TCMs) are in effect in the region. TCMs are strategies that reduce transportation-related air pollution and fuel use by reducing vehicle-miles traveled and improving roadway operations. The Massachusetts SIP identifies TCMs in the Boston region. TCMs in the SIP are federally enforceable and projects that address the identified air quality issues must be given first priority when federal transportation dollars are spent. Examples of TCMs that were programmed in previous TIPs include rapid-transit and commuter-rail extension projects (such as the Green Line Extension in Cambridge, Medford, and Somerville, and the Fairmount Line improvements in Boston), parking-freeze programs in Boston and Cambridge, statewide rideshare programs, park-and-ride facilities, residential parking-sticker programs, and the operation of high-occupancy-vehicle lanes.

In addition to reporting on the pollutants identified in the 1990 Clean Air Act Amendments, the MPOs in Massachusetts are also required to perform air quality analyses for carbon dioxide as part of the state's Global Warming Solutions Act (see below).

## Nondiscrimination Mandates

The Boston Region MPO complies with Title VI of the Civil Rights Act of 1964, the American with Disabilities Act of 1990 (ADA), the Executive Order 12898—*Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations* (EJ EO), and other federal and state nondiscrimination statutes and regulations in all programs and activities it conducts. Per federal and state law, the MPO does not discriminate on the basis of race, color, national origin (including limited English proficiency), religion, creed, gender, ancestry, ethnicity, disability, age, sex, sexual orientation, gender identity or expression, veteran's status, or background. The MPO strives to provide meaningful opportunities for participation of all persons in the region, including those protected by Title VI, the ADA, the EJ EO, and other nondiscrimination mandates.

The MPO also considers distribution of the potential beneficial and adverse effects to populations covered by these mandates when making project programming decisions. The MPO conducts activities as part of its Transportation Equity Program to ensure that the MPO meets these requirements. The MPO's TIP development process accounts for transportation equity when developing project selection criteria, evaluating and selecting projects, and analyzing their impacts.



The MPO staff also supports the Massachusetts Department of Transportation (MassDOT) as it conducts its Title VI Program. The major federal requirements pertaining to nondiscrimination are discussed below.

### *Title VI of the Civil Rights Act of 1964*

Title VI of the Civil Rights Act of 1964 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—*Improving Access to Services for Persons with Limited English Proficiency*, 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 assisted programs and activities, and requires MPOs to develop and implement a system through which people with LEP can meaningfully participate in the transportation planning process. This requirement includes the development of a Language Assistance Plan that documents the organization’s process for providing meaningful ways for people with LEP to access services and programs.

### *Environmental Justice Executive Order*

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

On April 15, 1997, USDOT 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 race, color, national origin, and income level of populations affected by transportation decisions; and
- minimize or mitigate any adverse impact on minority or low-income populations.

The 1997 Final Order was updated in 2012 with USDOT Order 5610.2(a), which provided clarification while maintaining the original framework and procedures.

### *Americans with Disabilities Act*

Title III of the Americans with Disabilities Act (ADA) “prohibits states, MPOs, and other public entities from discriminating on the basis of disability in the entities’ services, programs, or activities,” and requires all transportation projects, plans, and programs to be accessible to people with disabilities. Therefore, MPOs must consider the mobility needs of people with disabilities when programming

federal funding for studies and capital projects. MPO-sponsored meetings must also be held in accessible buildings and be conducted in a manner that provides for accessibility. Also, MPO materials must be made available in accessible formats.

### *Other Nondiscrimination Mandates*

The Age Discrimination Act of 1975 prohibits discrimination on the basis of age in programs or activities that receive federal financial assistance. Additionally, the Rehabilitation Act of 1975, and Title 23, section 324, of the US Code (23 USC § 324) prohibit discrimination based on sex.

## **STATE GUIDANCE AND PRIORITIES**

Much of the Boston Region MPO's work focuses on encouraging mode shift and diminishing greenhouse gas (GHG) emissions through improving transit service, enhancing bicycle and pedestrian networks, and studying emerging transportation technologies. All of this work helps the Boston region contribute to statewide progress towards the priorities discussed in this section.

### *Choices for Stewardship: Recommendations to Meet the Transportation Future*

The Commission on the Future of Transportation in the Commonwealth—established by Massachusetts Governor Charlie Baker by Executive Order 579—published *Choices for Stewardship* in 2019. This report makes 18 recommendations across the following five thematic categories to adapt the transportation system in the Commonwealth to emerging needs:

1. Modernize existing transportation assets to move more people
2. Create a mobility infrastructure to capitalize on emerging transportation technology and behavior trends
3. Reduce transportation-related greenhouse gas emissions and improve the climate resiliency of the transportation network
4. Coordinate land use, housing, economic development, and transportation policy
5. Alter current governance structures to better manage emerging and anticipated transportation trends

The Boston Region MPO supports these statewide goals by conducting planning work and making investment decisions that complement MassDOT's efforts and reflect the evolving needs of the transportation system in the Boston region.

### *Massachusetts Strategic Highway Safety Plan (SHSP)*

The *Massachusetts 2018 SHSP* identifies the Commonwealth's key safety needs and guides investment decisions to achieve significant reductions in highway fatalities and serious injuries on all public roads. The SHSP establishes statewide safety goals and objectives and key safety emphasis areas, and it draws on the strengths of all highway safety partners in the Commonwealth to align and leverage resources to address the Commonwealth's safety challenges collectively. The Boston Region MPO considers SHSP goals, emphasis areas, and strategies when developing its plans, programs, and activities.

## MassDOT's Modal Plans

In 2017, MassDOT finalized the *Massachusetts Freight Plan*, which defines the short- and long-term vision for the Commonwealth's freight transportation system. In 2018, MassDOT released the related *Commonwealth of Massachusetts State Rail Plan*, which outlines short- and long-term investment strategies for Massachusetts' freight and passenger rail systems (excluding the commuter rail system). In 2019, MassDOT also released the *Massachusetts Bicycle Transportation Plan* and the *Massachusetts Pedestrian Transportation Plan*, both of which define roadmaps, initiatives, and action plans to improve bicycle and pedestrian transportation in the Commonwealth. The MPO considers the findings and strategies of MassDOT's modal plans when conducting its planning, including through its Freight Planning Support and Bicycle/Pedestrian Support Activities Programs.

## Global Warming Solutions Act

The Global Warming Solutions Act (GWSA) makes Massachusetts a leader in setting aggressive and enforceable GHG reduction targets and implementing policies and initiatives to achieve these targets. In keeping with this law, the Massachusetts Executive Office of Energy and Environmental Affairs, in consultation with other state agencies and the public, developed the *Massachusetts Clean Energy and Climate Plan for 2020*. This implementation plan, released on December 29, 2010 (and updated in 2015), establishes the following targets for overall statewide GHG emission reductions:

- 25 percent reduction below statewide 1990 GHG emission levels by 2020
- 80 percent reduction below statewide 1990 GHG emission levels by 2050

MassDOT fulfills its responsibilities, defined in the *Massachusetts Clean Energy and Climate Plan for 2020*, through a policy directive that sets three principal objectives:

1. To reduce GHG emissions by reducing emissions from construction and operations, using more efficient fleets, implementing travel demand management programs, encouraging eco-driving, and providing mitigation for development projects
2. To promote healthy transportation modes by improving pedestrian, bicycle, and public transit infrastructure and operations
3. To support smart growth development by making transportation investments that enable denser, smart growth development patterns that can support reduced GHG emissions

In January 2015, the Massachusetts Department of Environmental Protection amended Title 310, section 7.00, of the Code of Massachusetts Regulations (310 CMR 60.05), *Global Warming Solutions Act Requirements for the Transportation Sector and the Massachusetts Department of Transportation*, which was subsequently amended in August 2017. This regulation places a range of obligations on MassDOT and MPOs to support achievement of the Commonwealth's climate change goals through the programming of transportation funds. For example, MPOs must use GHG impact as a selection criterion when they review projects to be programmed in their TIPs, and they must evaluate and report the GHG emissions impacts of transportation projects in LRTPs and TIPs.

The Commonwealth's 10 MPOs (and three non-metropolitan planning regions) are integrally involved in supporting the GHG reductions mandated under the GWSA. The MPOs seek to realize these objectives by prioritizing projects in the LRTP and TIP that will help reduce emissions from the

transportation sector. The Boston Region MPO uses its TIP project evaluation criteria to score projects based on their GHG emissions impacts, multimodal Complete Streets accommodations, and ability to support smart growth development. Tracking and evaluating GHG emissions by project will enable the MPOs to anticipate GHG impacts of planned and programmed projects. See Chapter 3 for more details related to how the MPO conducts GHG monitoring and evaluation.

## Healthy Transportation Policy Initiatives

On September 9, 2013, MassDOT passed the Healthy Transportation Policy Directive to formalize its commitment to implementing and maintaining transportation networks that allow for various mode choices. This directive will ensure that all MassDOT projects are designed and implemented in ways that provide all customers with access to safe and comfortable walking, bicycling, and transit options.

In November 2015, MassDOT released the *Separated Bike Lane Planning & Design Guide*. This guide represents the next—but not the last—step in MassDOT’s continuing commitment to Complete Streets, sustainable transportation, and the creation of more safe and convenient transportation options for Massachusetts’ residents. This guide may be used by project planners and designers as a resource for considering, evaluating, and designing separated bike lanes as part of a Complete Streets approach.

In the LRTP, *Destination 2040*, the Boston Region MPO has continued to utilize investment programs—particularly its Complete Streets and Bicycle and Pedestrian programs—that support the implementation of Complete Streets projects. In the Unified Planning Work Program (UPWP), the MPO programs support for these projects, such as the MPO’s Bicycle and Pedestrian Support Activities Program, corridor studies undertaken by MPO staff to make conceptual recommendations for Complete Streets treatments, and various discrete studies aimed at improving pedestrian and bicycle accommodations.

## Congestion in the Commonwealth 2019

MassDOT developed the *Congestion in the Commonwealth 2019* report to identify specific causes of and impacts from traffic congestion on the National Highway System (NHS). The report also made recommendations for reducing congestion, including addressing local and regional bottlenecks, redesigning bus networks within the systems operated by the Massachusetts Bay Transportation Authority (MBTA) and the other regional transit authorities, increasing MBTA capacity, and investigating congestion pricing mechanisms such as managed lanes. These recommendations guide multiple new efforts within MassDOT and the MBTA and are actively considered by the Boston Region MPO when making planning and investment decisions.

## REGIONAL GUIDANCE AND PRIORITIES

### *Focus40, The MBTA’s Program for Mass Transportation*

On March 18, 2019, MassDOT and the MBTA released *Focus40*, the MBTA’s Program for Mass Transportation (PMT), which is the 25-year investment plan that aims to position the MBTA to meet the transit needs of the Greater Boston region through 2040. Complemented by the MBTA’s Strategic Plan and other internal and external policy and planning initiatives, *Focus40* serves as a comprehensive plan guiding all capital planning initiatives at the MBTA. These initiatives include the

*RailVision* plan, which will inform the vision for the future of the MBTA's commuter rail system; the Better Bus Project, the plan to improve the MBTA's bus network; and other plans. The Boston Region MPO continues to monitor the status of Focus40 and related MBTA modal plans to inform its decision making about transit capital investments, which are incorporated to the TIP and LRTP.

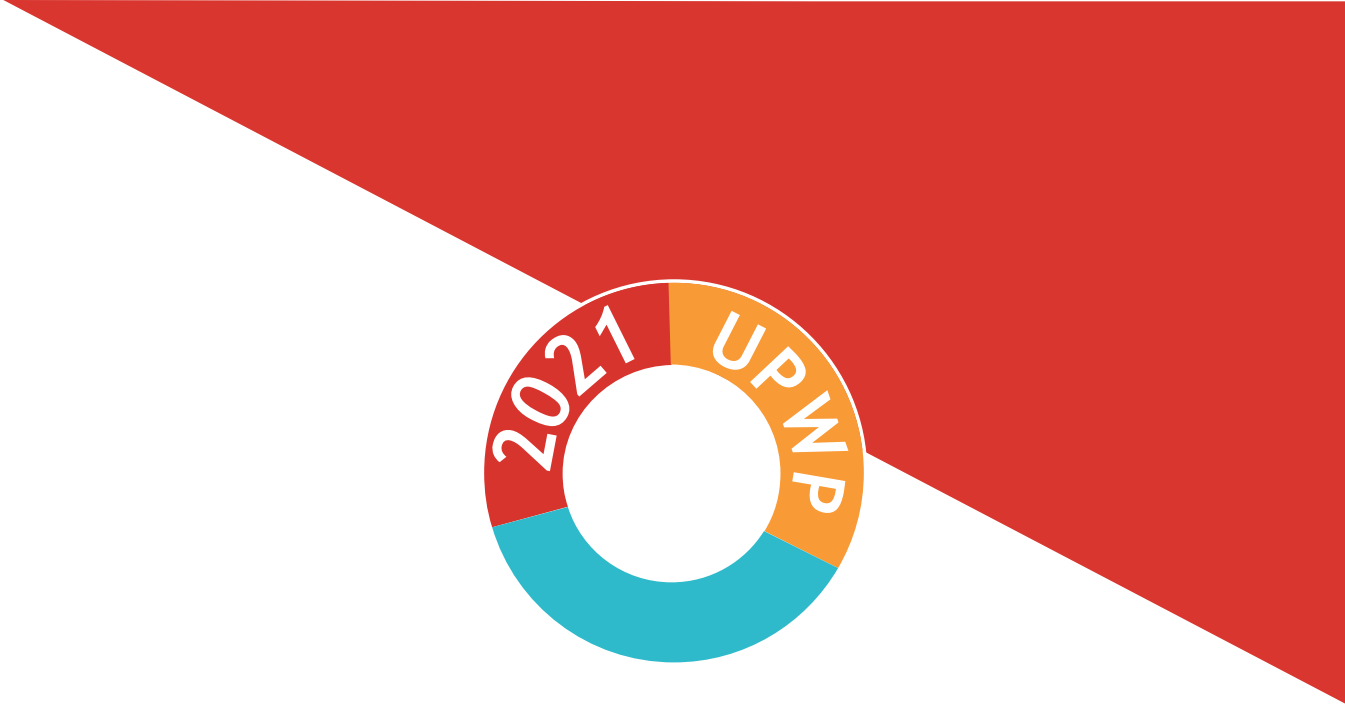
## MetroFuture

*MetroFuture*, which was developed by the Metropolitan Area Planning Council (MAPC) and adopted in 2008, is the long-range plan for land use, housing, economic development, and environmental preservation for the Boston region. It includes a vision for the region's future and a set of strategies for achieving that vision, and is the foundation for land use projections used in the Boston Region MPO's LRTP, *Destination 2040*.

MAPC is now developing *MetroCommon*, the next regional plan, which will build off of *MetroFuture* and include an updated set of strategies for achieving sustainable growth and equitable prosperity. The MPO will continue to consider *MetroFuture's* goals, objectives, and strategies in its planning and activities, and monitor *MetroCommon* as it develops. See Chapter 7 for more information about *MetroCommon* development activities.

## The Boston Region MPO's Congestion Management Process

The purpose of the Congestion Management Process (CMP) is to monitor and analyze performance of highway facilities and services, develop strategies for managing congestion based on the results of traffic monitoring, and move those strategies into the implementation stage by providing decision makers in the region with information and recommendations for improving the transportation system's performance. The CMP monitors roadways and park-and-ride facilities in the Boston region for safety, congestion, and mobility, and identifies problem locations. See Chapter 3 for more information about the MPO's CMP.



# APPENDIX F

## BOSTON REGION METROPOLITAN PLANNING ORGANIZATION MEMBERSHIP

### VOTING MEMBERS

The Boston Region Metropolitan Planning Organization (MPO) includes both permanent members and municipal members who are elected for three-year terms. Details about the MPO's members are listed 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. MassDOT has four divisions: Highway, Rail and Transit, Aeronautics, and the Registry of Motor Vehicles. The MassDOT Board of Directors, comprised of 11 members appointed by the Governor, oversees all four divisions and MassDOT operations, including the MBTA. The board was expanded to 11 members by the legislature in 2015 based on a recommendation by Governor Baker's Special Panel, a group of transportation leaders assembled to review structural problems with the MBTA and deliver recommendations for improvements. MassDOT has three seats on the MPO board, including seats for the Highway Division and the Rail and Transit Division.

- The **MassDOT Highway Division** has jurisdiction over the roadways, bridges, and tunnels that were overseen by the former Massachusetts Highway Department and Massachusetts Turnpike Authority. The Highway Division also has jurisdiction over many bridges and parkways that previously were 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. It 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.

- The **Rail and Transit Division** oversees MassDOT's freight and passenger rail program, and provides oversight of the 15 regional transit authorities (RTAs) in Massachusetts, as well as intercity bus service, the MBTA's paratransit service (The RIDE), and a statewide mobility-management effort.

The **MBTA**, created in 1964, is a body politic and corporate, and a political subdivision of the Commonwealth. Under the provisions of Chapter 161A of the Massachusetts General Laws (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 97 cities and towns of the Boston Region MPO area.

In April 2015, as a result of a plan of action to improve the MBTA, a five-member Fiscal and Management Control Board (FMCB) was created. The FMCB was created to oversee and improve the finances, management, and operations of the MBTA. The FMCB's authorizing statute called for an initial three-year term, with the option for the board to request that the Governor approve a single two-year extension. In 2017, the FMCB's initial mandate, which would have expired in June 2018, was extended for two years, through June 30, 2020. As of this writing, the FMCB's mandate has not been extended further.

The FMCB's goals target governance, finance, and agency structure and operations through recommended executive and legislative actions that embrace transparency and develop stability in order to earn public trust. By statute, the FMCB consists of five members, one with experience in transportation finance, one with experience in mass transit operations, and three who are also members of the MassDOT Board of Directors.

The **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's service area. Cities are represented by either the city manager or mayor, and towns are represented by the chairperson of the board of selectmen. Specific responsibilities of the Advisory Board include reviewing and commenting on the MBTA's long-range plan, the Program for Mass Transportation; proposed fare increases; the annual MBTA Capital Investment Program; the MBTA's documentation of net operating investment per passenger; and 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, for planning, constructing, owning, and operating such transportation and related facilities as may be necessary for developing and improving commerce in Boston and the surrounding metropolitan area. Massport owns and operates Boston Logan International Airport, the Port of Boston's Conley Terminal, Cruiseport Boston, Hanscom Field, Worcester Regional Airport, and various maritime and waterfront properties, including parks in the Boston neighborhoods of East Boston, South Boston, and Charlestown.



The **Metropolitan Area Planning Council (MAPC)** is the regional planning agency for the Boston region. It is composed of the chief executive officer (or a designee) of each of the cities and towns in the MAPC's planning 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 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 encompass 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 documented in the Boston Region MPO's Unified Planning Work Program.

The **City of Boston**, six elected cities (currently **Beverly, Everett, Framingham, Newton, Somerville, and Woburn**), and six elected towns (currently **Acton, Arlington, Lexington, Medway, Norwood, and Rockland**) represent the 97 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 prioritizes the implementation of 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.

The **Federal Highway Administration (FHWA)** and **Federal Transit Administration (FTA)** participate in the Boston Region MPO in an advisory (nonvoting) capacity, reviewing the Long-Range Transportation Plan, Transportation Improvement Program, and Unified Planning Work Program, and other facets of the MPO's planning process to ensure compliance with federal planning and programming requirements. These two agencies oversee the highway and transit programs, respectively, of the United States Department of Transportation under pertinent legislation and the provisions of the Fixing America's Surface Transportation (FAST) Act.

