

# 2 CHAPTER TWO

## The TIP Process

### INTRODUCTION TO THE TIP PROCESS

In planning for its region's future, one of the most important decisions a Metropolitan Planning Organization (MPO) faces is deciding how to allocate limited funds to the region. Transportation improvements form part of the solution to many critical regional, state, national, and even global problems, such as traffic congestion, air pollution, traffic fatalities and injuries, climate change, and environmental justice. Because there is not nearly enough funding available to build all of the necessary and worthy projects that would address these problems, MPO investment choices must be guided by policies that help identify the most viable solutions.

Thus, each year, the Boston Region MPO conducts a Transportation Improvement Program (TIP) development process that prioritizes transportation investments and helps the MPO decide how to spend federal transportation funds for capital projects. The Central Transportation Planning Staff (CTPS) to the Boston Region MPO manages the annual development process for the TIP. MPO staff help evaluate project funding requests, propose programming for new and ongoing projects based on anticipated yearly funding levels, support the MPO by creating a draft TIP document, and facilitate a public

review of the draft before the MPO endorses the final document.

### FINANCING THE PROGRAM

#### Federal Framework

The first step in allocating federal transportation funds is the passage by the United States Congress of a multiyear act that establishes a maximum level of federal transportation funding per federal fiscal year. The establishment of this level of funding is referred to as an authorization. The President signed the most recent authorization act, Fixing America's Surface Transportation Act (FAST Act), into law on December 4, 2015.

Once the authorization level has been established, the United States Department of Transportation allocates funding among the states annually, based on various federal formulas. This allocation is referred to as an apportionment. The annual apportionment rarely represents the actual amount of federal funds that are ultimately committed to a state: this is because of federally imposed limitations on spending in a given fiscal year, referred to as the obligation authority.

In Massachusetts, TIPs are developed based on the estimated obligation authority.

Two of the most important distinctions between apportionment and obligation authority are: 1) apportionment is allocated on a per-program basis, while obligation authority is generally allocated as a lump sum; and 2) unused apportionment carries forward into successive federal fiscal years (FFYs), but unused obligation authority does not. Unused apportionment that is carried forward is referred to as an unobligated balance. Although a state's unobligated balance can be used to increase the amount of federal aid programmed within a particular funding category in a given FFY, it cannot be used to increase the total amount of the state's highway apportionment.

### Federal Highway Program

Federal regulations require states to “provide MPOs with estimates of Federal and State funds which the MPOs shall utilize in developing financial plans” for TIPs.<sup>1</sup> The FFYs 2017–21 TIP was developed with the assumption that the federal funding available would range from \$615 million to \$640 million annually over the next five years. In Massachusetts, federal highway program funding is allocated to several major funding categories.

First, MassDOT allocates federal funding to repay Grant Anticipation Notes (GANs), used to fund the Accelerated Bridge Program (ABP). (GANS are bonds issued by the state that are secured by anticipated

future federal highway funds.) Annual GANs payments range between \$59- and \$82 million over the five years of this TIP. MassDOT matches the remaining amount of federal funding with an 80 percent (federal) and 20 percent (state) split, resulting in \$681 million to \$695 million available statewide for programming.

Next, MassDOT allocates the remaining federal funding into the following categories:

- **Statewide Infrastructure Items:** interstate highway maintenance, intelligent transportation systems, highway safety improvements, congestion mitigation, and other infrastructure needs.
- **Bridge Program:** replacement or rehabilitation of public bridges.
- **Regional Major Infrastructure Projects:** modernization of major highway infrastructure.
- **Other Statewide Items:** change orders for existing contracts.
- **Regional Targets:** projects prioritized by MPOs.

In FFY 2017, MassDOT will end funding for the Regional Major Infrastructure Program after reconstruction of the I-91 Viaduct in Springfield has been completed. These funds will be reallocated to the Regional Target program for prioritization by MPOs across the state.

<sup>1</sup> From the 23 Code of Federal Regulations (CFR) 450.324(e).

The Regional Targets are discretionary funding for MPOs, suballocated by formula. MassDOT develops these regional targets in consultation with the Massachusetts Association of Regional Planning Agencies. Each MPO in the state can decide how to prioritize their Regional Target funding. Given that the Regional Target funding is a subset of the Highway Program, the MPO typically programs the majority of funding on roadway projects, however the MPO has recently flexed portions of its “highway” funding to the Transit Program for transit expansion projects. During the next five years, the Boston Region MPO’s total Regional Target Program funding will be approximately \$464 million, an average of \$92 million per year. To decide how to spend its Regional Target funding, the Boston Region MPO engages its 101 cities and towns in an annual development process.

### Federal Transit Program

Federal aid for public transit authorities is allocated by formula to urbanized areas (UZAs). MassDOT is the recipient of this federal aid in the Boston UZA. In UZAs with populations greater than 200,000, such as

the Boston UZA, the distribution formula factors in passenger-miles travelled, population density, and other factors associated with each transit provider. The three regional transit authorities (RTAs) in the Boston Region MPO area are the Massachusetts Bay Transportation Authority (MBTA), MetroWest Regional Transit Authority (MWRTA), and Cape Ann Transportation Authority (CATA). The MBTA, with its extensive transit program and infrastructure, is the recipient of the preponderance of federal transit funds in the region.

### Funding Programs

Metropolitan areas require support from many different federal-aid transportation programs, and each area has unique requirements and thus unique program characteristics. Non-federal aid (state funds) for statewide infrastructure items, the bridge program, and regional targets is derived from various sources, including the Commonwealth’s Transportation Bond Bill. Federal programs that fund projects in the FFYs 2017–21 TIP under the FAST Act are listed in the following two tables.

TABLE 2-1:  
FEDERAL TRANSIT ADMINISTRATION PROGRAMS APPLICABLE TO THE FFYS 2017-21 TIP

<b>FAST Act Program</b>	<b>Eligible Uses</b>
Urbanized Area Formula Grants ( <b>Section 5307</b> )	Transit capital and operating assistance in urbanized areas.
Fixed Guideway/Bus ( <b>Section 5337</b> )	Replacement, rehabilitation, and other state-of-good-repair capital projects.
Bus and Bus Facilities( <b>Section 5339</b> )	Capital projects to replace, rehabilitate, and purchase buses and related equipment, and to construct bus-related facilities.
Enhanced Mobility of Seniors and Individuals with Disabilities ( <b>Section 5310</b> )	Capital expenses that support transportation to meet the special needs of older adults and persons with disabilities.
Fixed-Guideway Capital Investment Grants ( <b>Section 5309</b> )	Provides grants for new and expanded rail, bus rapid transit, and ferry systems that reflect local priorities to improve transportation options in key corridors.

TABLE 2-2:  
FEDERAL HIGHWAY ADMINISTRATION PROGRAMS APPLICABLE TO THE FFYS 2017-21 TIP

FAST Act Program	Eligible Uses
Congestion Mitigation and Air Quality Improvement ( <b>CMAQ</b> )	A wide range of projects to reduce congestion and improve air quality in nonattainment and maintenance areas for ozone, carbon monoxide, and particulate matter.
Highway Safety Improvement Program ( <b>HSIP</b> )	Implementation of infrastructure-related highway safety improvements.
National Highway Performance Program ( <b>NHPP</b> )	Improvements to interstate routes, major urban and rural arterials, connectors to major intermodal facilities, and the national defense network. Also includes replacing or rehabilitating any public bridge, and the resurfacing, restoring, and rehabilitating of routes on the Interstate Highway System.
Surface Transportation Block Grant Program ( <b>STBGP</b> ) [formerly the Surface Transportation Program ( <b>STP</b> )]	A broad range of surface transportation capital needs, including roads; transit, sea, and airport access; and vanpool, bicycle, and pedestrian facilities.
Transportation Alternatives Program ( <b>TAP</b> )	A set-aside from the STBP, TAP funds the construction of infrastructure-related projects (for example, sidewalk, crossing, and on-road bicycle facility improvements).
Metropolitan Planning	For facilities that contribute to an intermodal transportation system, including intercity bus, pedestrian, and bicycle facilities.
National Highway Freight Program (NHFP)	For projects that improve the efficient movement of freight on the National Highway Freight Network.

## DEVELOPING THE TIP

### Highway Discretionary (“Regional Target”) Funding Project Selection Process

#### Overview

The MPO’s project selection process for highway discretionary (“regional target”) funding uses evaluation criteria to help identify and prioritize projects that advance the MPO’s goals. The criteria are based on the MPO’s goals and objectives, which were adopted for its current Long-Range Transportation Plan, *Charting Progress to 2040*.

All projects are required to show consistency with the Long-Range Transportation Plan and other statewide and regional plans.

The MPO staff evaluates each project that is considered for inclusion in the TIP based on the specific criteria that were developed by the MPO. Other criteria include project readiness for construction and municipal support for the project. Background information about the TIP project evaluation process is presented in Appendix B.

#### Outreach and Data Collection (November 2015–February 2016)

The outreach process begins early in the federal fiscal year, when cities and towns designate TIP contacts and begin developing a list of priority projects to be considered for federal funding. Each November, MPO staff asks the staff of cities and towns in the region to identify their priority projects for consideration for

federal funding. The MPO also solicits input from interested parties and members of the general public.

New projects must be initiated by the MassDOT Highway Division before they can be considered for programming in the TIP. MassDOT details the project initiation process and posts relevant documents on its Project Review Committee’s webpage, <[www.massdot.state.ma.us/highway/Departments/ProjectManagement/ProjectReviewCommittee.aspx](http://www.massdot.state.ma.us/highway/Departments/ProjectManagement/ProjectReviewCommittee.aspx)>. Municipal TIP Contacts and the MPO staff coordinate to update each project’s Project Funding Application Form through the MPO’s Interactive TIP Database, <[www.bostonmpo.org/apps/tip11/tip\\_query.html](http://www.bostonmpo.org/apps/tip11/tip_query.html)>, which summarizes information about each project’s background, infrastructure condition and needs, development status, and ability to help the region attain the MPO’s goals and objectives. More information on the Project Funding Application Forms is presented in Appendix B.

MPO staff compiles the project funding requests into a Universe of Projects list for the MPO, which consists of all identified projects being advanced for possible funding. The Universe includes projects that are fully designed and ready to be advertised for construction, those that are undergoing preliminary engineering and design, and also projects still in the conceptual planning stage.

The MPO staff also monitors the anticipated greenhouse gas (GHG) emission impacts of each planned and programmed project in order to consider these impacts when prioritizing transportation

investments. For more information on GHG emission monitoring and evaluation, see Appendix C.

### **Project Evaluation (February–March 2016)**

The MPO uses TIP project-evaluation criteria to logically and transparently evaluate and select projects for programming in the TIP that advance the transportation future envisioned by the MPO. This process favors projects that:

- Provide safe transportation for all modes.
- Maintain the transportation system.
- Use existing facility capacity more efficiently and increase the number of healthy transportation options.
- Create an environmentally friendly transportation system.
- Offer comparable access and service quality across communities, regardless of income level or minority population.
- Ensure that our transportation network serves as a strong foundation for economic vitality.

The project evaluation criteria consist of 28 questions that relate to six goals. A figure that illustrates the TIP evaluation criteria (on the following page) provides an overview of the goals, criteria, and their point values.

In order for MPO staff to conduct a complete project evaluation, the project must have a Functional Design Report. See MassDOT's Project Development and Design Guide for information about what is included in a Functional Design Report. This report is available at

[www.massdot.state.ma.us/highway/DoingBusinessWithUs/ManualsPublicationsForms/ProjectDevelopmentDesignGuide.aspx](http://www.massdot.state.ma.us/highway/DoingBusinessWithUs/ManualsPublicationsForms/ProjectDevelopmentDesignGuide.aspx).

The summary of evaluation results for projects being considered for the federal fiscal years (FFYs) 2017–21 TIP is available in Table A-1, Appendix A. The table contains the total project rating for each project. For more details about the evaluation criteria used to score projects, see Appendix B.

### **Staff Recommendation (April 2016)**

Using the evaluation ratings and information gathered about project readiness (when a project likely would be fully designed and ready for construction), staff prepares a First-Tier List of Projects. This list cites the projects that both earned the highest ratings in the MPO's evaluation process, and which could be made ready for advertising within the TIP's time horizon—the next five federal fiscal years.

The MPO staff strongly considers the First-Tier List of Projects when preparing a recommendation to the MPO for projects to program in the TIP. Other factors considered include whether a project was included in the LRTP, equity of investments across the region, and whether sufficient funding is available for the proposed projects.

**Figure 2-1:  
TIP Evaluation Criteria**

<b>GOALS</b>	<b>CRITERIA</b>	
<b>Safety</b>	<ul style="list-style-type: none"> <li>• Crash Severity Value: EPDO index</li> <li>• Crash Severity Rate: EPDO index per VMT</li> <li>• Improves truck-related safety issue</li> <li>• Improves bicycle safety</li> <li>• Improves pedestrian safety</li> <li>• Improves safety or removes an at-grade railroad crossing</li> </ul>	<b>30</b>
<b>System Preservation</b>	<ul style="list-style-type: none"> <li>• Improves substandard roadway bridge(s)</li> <li>• Improves substandard pavement</li> <li>• Improves substandard traffic signal equipment</li> <li>• Improves transit asset(s)</li> <li>• Improves substandard sidewalk(s)</li> <li>• Improves emergency response</li> <li>• Improves ability to respond to extreme conditions</li> </ul>	<b>29</b>
<b>Capacity Management/ Mobility</b>	<ul style="list-style-type: none"> <li>• Reduces transit vehicle delay</li> <li>• Improves pedestrian network and ADA accessibility</li> <li>• Improves bicycle network</li> <li>• Improves intermodal accommodations/connections to transit</li> <li>• Improves truck movement</li> <li>• Reduces vehicle congestion</li> </ul>	<b>29</b>
<b>Clean Air/ Clean Communities</b>	<ul style="list-style-type: none"> <li>• Reduces CO<sub>2</sub></li> <li>• Reduces other transportation-related emissions</li> <li>• Addresses environmental impacts</li> <li>• Is in an EOEEA-certified "Green Community"</li> </ul>	<b>16</b>
<b>Transportation Equity</b>	<ul style="list-style-type: none"> <li>• Serves Title VI/non-discrimination populations</li> </ul>	<b>12</b>
<b>Economic Vitality</b>	<ul style="list-style-type: none"> <li>• Serves targeted development site</li> <li>• Consistent with the compact growth strategies of MetroFuture</li> <li>• Provides multimodal access to an activity center</li> <li>• Leverages other investments (non-TIP funding)</li> </ul>	<b>18</b>

**Project Rating**



## Selection Process for State Prioritized Projects

The process of selecting transit, bridge, and statewide infrastructure projects to be programmed in the TIP draws primarily from MassDOT's Capital Investment Plan (CIP), which is a fully integrated capital plan produced by all MassDOT divisions and the MBTA.

Projects in the CIP are selected from MassDOT's Universe of Projects. They are prioritized based on a process recommended by the independent Project Selection Advisory Council and on data from asset management systems maintained by MassDOT agencies.

Projects that receive the highest priority are those that meet MassDOT's goals for maintaining and improving the overall condition and reliability of the system; modernizing the system to make it safer and more accessible and to accommodate growth; and expanding and diversifying transportation options for communities. The following criteria guide project selection:

- **System Preservation:** Projects should contribute to a state of good repair on the system.
- **Mobility:** Projects should provide efficient and effective modal options.
- **Cost Effectiveness:** Projects should result in benefits commensurate with costs and should be aimed at maximizing the return on the public's investment.

- **Economic Impact:** Projects should support strategic economic growth in the Commonwealth.
- **Safety:** Projects should contribute to the safety and security of people and goods in transit.
- **Social Equity and Fairness:** Projects should equitably distribute both the benefits and the burdens of investments among all communities.
- **Environment and Health Impacts:** Projects should maximize the potential positive health and environmental aspects of the transportation system.
- **Policy Support:** Projects should get credit if they support local or regional policies or plans or state policies not addressed through the other criteria.

The transit element of the TIP also includes the federal-aid programs of the other two transit authorities in the region, CATA and MWRTA. CATA and MWRTA coordinate with the MassDOT Rail and Transit Division to develop their capital programs.

## APPROVING THE TIP

### Approval of the Draft TIP for Public Review

The MPO considers the evaluation results, first-tier list of projects, and staff recommendation in prioritizing projects for regional target funding. The body also considers public input, regional importance, and other factors in developing the draft TIP. In addition to prioritizing the regional target funding, the MPO reviews statewide infrastructure items, the bridge program, and the capital programs for the MBTA,

CATA, and MWRTA before voting to release a draft TIP for public review.

The MPO votes to release the draft document for a 30-day public review and comment period and invites members of the public, regional and local officials, and other stakeholders in the Boston region to review the proposed program. MPO staff hosted “Office Hours” during the public comment period to solicit comments on the draft document; summaries of these are listed in Appendix F.

### Approval of the Draft TIP

After the comment period ends, the MPO reviews all municipal and public comments and makes changes to the document as appropriate. It then endorses the TIP and submits it to FHWA and FTA for approval. MassDOT incorporates the MPO-endorsed TIP into the State Transportation Improvement Program (STIP). The FHWA, FTA and US Environmental Protection Agency (EPA) review the STIP for certification by September 30, the federal fiscal year-end.

### UPDATING THE TIP

The TIP is a dynamic program that is amended and adjusted throughout the year. Administrative modifications and amendments often must be introduced because of changes in project status, project cost, or available revenues.

Consistent with federal guidelines, if a project is valued at \$5 million or less, the threshold for defining an amendment is a change of \$500,000 or more. The

threshold for projects valued at greater than \$5 million is 10 percent or more of the project value. Changes that are less than these thresholds may be considered in the form of administrative modifications. The MPO acts on administrative modifications, and although a public review period is not required, one may be provided at the MPO’s discretion.

Affected municipalities and constituencies and the public are notified of pending amendments at the start of an amendment’s 30-day public review period. The proposed amendments are posted on the MPO’s website, [www.bostonmpo.org](http://www.bostonmpo.org). Public notices are distributed to the media via press releases, and through MPOinfo, the MPO’s email contact list, which members of the public may join by signing up on the MPO’s website [http://www.ctps.org/stay\\_connected](http://www.ctps.org/stay_connected). These notices provide a summary of the amendment’s contents, dates of the 30-day public review period, how to submit a comment to the MPO, and the date, time and location that the MPO will take a vote on that amendment. Also during the public review period, the MPO staff notifies and briefs the Regional Transportation Advisory Council on the amendment and provides comments from the Council to the MPO. Municipal representatives and members of the public are also invited to submit written or oral testimony at the MPO meetings at which amendments are discussed or voted upon.

The MPO’s website is the best place to find current information about the TIP.

All changes to the draft TIP that have been approved by the MPO, and changes to the endorsed TIP, such as amendments and modifications, that have been approved by the MPO, are available on the TIP webpage on the MPO's website, <http://www.bostonmpo.org/tip>. Comments or questions about the draft materials may be submitted directly through the website, voiced at MPO meetings, or submitted via US mail.