

Appendix A—Project Prioritization and Scoring

1.1 INTRODUCTION

As described in Chapter 2, the Transportation Improvement Program (TIP) development and project prioritization and funding process consists of numerous phases and is supported by several different funding sources. This appendix includes information about transportation projects that the Boston Region Metropolitan Planning Organization (MPO) considered for funding through the Highway Discretionary (Regional Target) Program in the federal fiscal years (FFYs) 2024–28 TIP.

To be considered for funding by the MPO, a project must fulfill certain basic criteria. Projects evaluated through the MPO's Bicycle Network and Pedestrian Connections, Complete Streets, Intersection Improvements, and Major Infrastructure investment programs must meet these criteria:

- The Massachusetts Department of Transportation's Project Review Committee must have approved the project or must plan to review it.
- The project proponent must be a municipality or state agency.
- The project must be at the 25-percent design stage or demonstrate the level of detail of a project near this threshold (for example, through the submission of functional design reports, project locus maps and designs, operations analyses, or Highway Capacity Manual data sheets showing future build and no-build scenarios).

For projects evaluated through the MPO's Community Connections Program, the following criteria apply:

- The project proponent must submit a complete application for funding to MPO staff, along with supporting documentation such as geographic files depicting the project area and budgeting worksheets.
- The proponent must be a municipality, transportation management association (TMA), or regional transit authority (RTA). Other entities, such as nonprofit organizations, may apply in partnership with a municipality, TMA, or RTA that has agreed to serve as a project proponent and fiscal manager.
- The proponent must demonstrate that the project will have a positive impact on air quality, as this program is funded using federal Congestion Mitigation and Air Quality funds.
- The proponent must demonstrate readiness and institutional capacity to manage the project sustainably.

If a project meets the above criteria, it is presented to the MPO board in the *Universe of Projects* (Table A-1) to be considered for funding. This project list is presented to the MPO board in November and provides a snapshot of information available on projects at that stage in the TIP development. Some projects that get evaluated for funding may not appear in the *Universe*, as more project information may become available following the compilation of the *Universe*. In addition, some projects that appear on the *Universe* list may not be evaluated each year if these projects are not actively being advanced by municipal or state planners or if they are not at the minimum required level of design for evaluation. Community Connections projects are not typically included in the *Universe* because proponents of those projects apply for funding through a discrete application process, the submission deadline for which is after the presentation of the *Universe* to the MPO board.

Once a proponent provides sufficient design documentation for a project in the *Universe* and the municipality or state is actively prioritizing the project for funding, the project can be evaluated by MPO staff. The evaluation criteria used to score projects are based on the MPO's goals and objectives. After the projects are evaluated, the scores are shared with project proponents, posted on the MPO's website, and presented to the MPO board for review and discussion. The scores for projects evaluated during development of the FFYs 2024–28 TIP for programming in the MPO's Bicycle Network and Pedestrian Connections, Complete Streets, and Intersection Improvements programs are summarized in Table A-3. No projects were evaluated for inclusion in the Major Infrastructure investment program during the development of the FFY 2024-28 TIP. Scores for projects that applied for funding through the MPO's Community Connections Program during the FFYs 2024–28 TIP cycle are summarized in Table A-4.

The MPO board approved a suite of changes to the TIP project selection criteria in October 2020. One of the central goals was to create distinct criteria for each investment program to allow for evaluations to be conducted in ways that better reflect the nuances of different types of transportation projects. For this reason, the project selection criteria for each investment program are shown in separate tables in this appendix as follows: Bicycle Network and Pedestrian Connections (Table A-5); Community Connections (Table A-6); Complete Streets (Table A-7); Intersection Improvements (Table A-8); and Major Infrastructure (Table A-9). Archived project evaluation criteria for all investment programs, which were discontinued in October 2020 after the FFYs 2021–25 TIP cycle, are shown in Tables A-10 and A-11.

In addition to project scores, several other factors are taken into consideration by the MPO when selecting projects for funding. Table A-2 describes many of these elements, including the relationships between the MPO's FFYs 2024–28 Regional Target projects and the MPO's Long-Range Transportation Plan

(LRTP), studies and technical assistance conducted by MPO staff through the Unified Planning Work Program (UPWP), the federally required performance measures discussed in Chapter 4, and Massachusetts' modal plans. These projects are listed by MPO investment program. More details about each of these projects are available in the funding tables and project descriptions included in Chapter 3. Performance-related information for the FFYs 2024–28 Regional Target projects is included in Chapter 4, and information about greenhouse gas (GHG) emissions for these projects is available in Appendix B.

Table 1: FFYs 2024-28 Transportation Improvement Program (TIP) Universe of Projects - FFY 2024-2028 Universe

Projects grouped by MAPC subregion and by MPO Investment Program

This table contains unprogrammed projects in the Boston region that may be considered for evaluation in the FFYs 2024-28 TIP cycle. Not all projects listed in this table will be evaluated for funding in the FFYs 2024-8 TIP, as projects must be PRC approved and submit sufficient project documentation prior to scoring. The MPO has also established a policy to prioritize projects that have reached the 25% design submission stage for funding. This list is subject to change as more project information is received.

Key	
	Evaluated for FFYs 2023-27 TIP
	New project in TIP universe for FFYs 2024-28 TIP
	In 2023-27 universe, not evaluated

Municipality	Project Proponent	Project Name	PROJIS	Design Status	Year Added to	Cost Estimate	Highway	Notes	Previous
Inner Core									
Complete Streets									
Boston	Boston	Reconstruction of Albany Street	N/A	Pre-PRC	2021	N/A	6	Pursuing 2022 PRC approval.	N/A
Boston	MassDOT	Reconstruction on Gallivan Boulevard (Route 6)	606896	PRC approved	2018	\$11,500,000	6	Resulted from FFY 2012 Addressing Priority	N/A
Boston	MassDOT	Improvements on Morton Street (Route 203), from	606897	PRC approved	2018	\$11,500,000	6	Resulted from FFY 2012 Addressing Priority	N/A
Boston	Boston	Roadway Improvements along Commonwealth	608449	25% submitted	2017 or earlier	\$31,036,006	6	Last scored for FFYs 2020-24 TIP.	56
Boston	MassDOT	Intersection & Signal Improvements at VFW Parkway and Spring Street	607759	25% Package Received - R1 (3/09/2022)	2022	\$4,526,907	6		N/A
Boston	MassDOT	Gallivan Boulevard (Route 203) Safety Improvements, from Washington Street to Granite Avenue	610650	PRC approved (2019)	2019	\$5,750,000	6	Priority for District 6. Road safety audit being initiated.	N/A
Brookline	Brookline	Boylston Street (High Street to Brington Road) Complete Streets Improvements	N/A	Pre-PRC	2022	\$3,500,000	6	Ped crossings, bike lanes, street trees. Design through Toole with some facilitation from MassDOT. Three options were pushed through and endorsed by the Select Board. Town met with District 6 to run through this. Should be in PRC soon.	N/A
Brookline	Brookline	Davis Street Path Restoration and Reconstruction of the Davis Street Path Bridge over MBTA	N/A	Pre-PRC	2022	\$12,000,000	6	Conceptual stage. Brookline is investigating avenues to use federal discretionary grant funding to advance this project. Potential for bundling with Boylston Street work above.	N/A
Chelsea	Chelsea	Reconstruction of Spruce Street, from Everett	610675	PRC approved	2019	\$5,408,475	6		N/A
Chelsea	Chelsea	Reconstruction of Everett Avenue and 3rd Street.	N/A	Pre-PRC	2020	N/A	6		N/A
Chelsea	Chelsea	Reconstruction of Marginal Street	N/A	Pre-PRC	2019	N/A	6		N/A
Lynn, Salem	MassDOT	Reconstruction of Route 107	608927	PRC approved	2020	\$38,155,000	4		N/A
Malden	Malden	Broadway Corridor Reconstruction	N/A	Pre-PRC	2022	N/A	4	Malden is currently holding community meetings to discuss this project, with the most recent one being held 10.25.2022.	N/A
Melrose	Melrose	Reconstruction of Lebanon Street, from Lynde	612534	PRC approved	2020	\$3,742,432	4		N/A
Newton	Newton	Reconstruction of Washington Street, from Church	N/A	Pre-PRC	2020	N/A	6		N/A
Revere	Revere	Reconstruction of Ocean Ave, Revere Street, and Revere Beach Boulevard	N/A	Pre-PRC	2020	N/A	4	Project at conceptual stage with schematics, needs full design - investigating roundabout. Key East/West connection.	N/A
Winthrop	Winthrop	Reconstruction & Improvements on Route 145	N/A	PRC approved	2019	\$7,565,512	6		N/A
Intersection									
Boston, Brookline	Boston, Brookline	Mountfort St. & Commonwealth Ave. Connection	608956	PRC approved	2018	\$916,883	6	Preliminary design.	N/A
Medford	Medford	Intersection Improvements at Main Street and South Street	611974	PRC approved (2021)	2019	\$8,498,000	4	Project location studied by CTPS. Priority for municipality. Design is in progress, and eventually the City will work with MassDOT to fund construction.	N/A
Newton	MassDOT	Route 16 at Quinobeguin Road	612613	PRC approved (2/10/2022)	2022	\$4,350,000	6	Reconfiguration of the interchange may result in consideration of this project for the LRTP.	
Quincy	MassDOT	Intersection Improvements at Route 3A (Southern Artery) and Broad Street	608569	PRC approved (2016)	2020	\$2,900,000	6	Priority for District 6.	N/A
Quincy	Quincy	Intersection Improvements at Willard Street and Ricciuti Drive	610823	25% Package Received (9/28/2022)	2020	\$1,544,650	6	25% design complete. PM is Kathy Dougherty.	N/A
Quincy	Quincy	Merrymount Parkway Phase II	N/A	Pre-PRC	2022	N/A	6	December PRC.	N/A
Bicycle and Pedestrian									
Boston	Boston	Fenway Multi-Use Path Phase III	N/A	Pre-PRC	2021	N/A	6	Project at conceptual stage.	N/A
Brookline	Brookline	Beacon Street Bridle Pathway	N/A	Pre-PRC	2022	N/A	6	Project in conceptual design through Toole, receipt of a MassTrails grant in 2020 for feasibility study. Limits would be Audubon Circle to Cleveland Circle.	N/A
Everett, Somerville	DCR	Mystic River Bicycle and Pedestrian Crossing	612004	PRC approved	2021	\$38,218,334	4		N/A
Lynn, Nahant	Lynn, Nahant	Northern Strand Extension	610919	DPH	2020	\$9,363,750	4		N/A
Medford	Medford	Wellington Phase 4 Shared Use Path	613082	Pre-PRC	2022	\$1,195,000	4	ID # is not yet in PINFO. Initiated on 11/3/2022. Includes an eamark and Gaming Commission money.	N/A
Medford	Medford	MacDonald Park Pedestrian Bridge	N/A	Pre-PRC	2022	\$800,000	4	In DCR park, City is requesting expansion of bridge to 10-12feet in width to coordinate with shared use pathway.	N/A
Major Infrastructure									
Boston, Chelsea	Boston	Bridge Rehabilitation and Fender Pier Replacement, Meridian Street Over Chelsea Creek (Andrew P. McArdle Bridge)	600637	PRC Approved (2/10/2022)	2021	\$97,538,787	6		N/A
Cambridge	DCR	Intersection Improvements at Fresh Pond Parkway/Gerry's Landing Road, from Brattle Street to Memorial Drive	609290	PRC approved (2018)	2019	\$7,000,000	6	Short-term improvements being initiated.	N/A
Revere, Malden	MassDOT	Improvements on Route 1 (NB) Add-A-Lane	610543	PRC approved (2019)	2019	\$7,210,000	4	Project is not programmed in <i>Destination 2040</i> . It is located on a regionally significant roadway. If this work includes capacity-adding elements, and it is programmed in the TIP, it will need to be included in <i>Destination 2050</i> .	N/A
Newton	MassDOT	Traffic Signal and Safety Improvements at Interchange 127 (Newton Corner)	609288	PRC approved (2018)	2019	\$14,000,000	6		N/A
Medford	Medford	Roosevelt Circle Interchange Reconfiguration	N/A	Pre-PRC	2022	TBD	4	As discussed on 11.4.2022 with the City of Medford, the City is looking to reconfigure the ramps and adjacent local roadways to improve traffic safety following the results of a RSA along this corridor. Includes improvements for bicycle, pedestrian, and transit access. Given the state of repair on the bridges, this may be coordinated with bridge rehabilitation work for these structures over I-93.	N/A
Boston	Boston	Cambridge Street Bridge Replacement - Charlestown	N/A	Pre-PRC	2022	N/A	6	City wants this programmed to advertise this before Rutherford Avenue enters construction. This is a difficult bridge under I-93 and next to Sullivan Square.	N/A
Revere	Revere	Route 1A Improvement and Reconfiguration	N/A	Pre-PRC	2022	\$9-12,000,000	4	priority is to reconfigure the loop ramps at the General Edwards Bridge to facilitate redevelopment of the area, for which there are already parcel developments planned. The reconfiguration will entail construction of a new roundabout and improved	N/A
Revere, Saugus	Revere, Saugus	Roadway Widening on Route 1 North (Phase 2)	611999	PRC approved (2021)	2021	\$2,397,600	4	2040. It is on a regionally-significant roadway and would add roadway capacity. If programmed in the TIP, this project will also need to be included in <i>Destination 2050</i> . Robins Road to Route 99 interchange are	N/A
Minuteman Advisory Group on Interlocal Coordination									
Complete Streets									
Bedford	Bedford	Roadway Reconstruction of Route 4/225 (The Great Road)	612739	PRC approved (5/12/2022)	2022	\$10,899,448	4	Limits appear to go from North Road to match line near Loomis Street. SRTS project completed in the area under 608000.	N/A
Intersection									
Littleton	Littleton	Intersection Improvements at Route 119/Beaver Brook Road	610702	PRC approved (2020)	2020	\$3,120,110	3	MassDOT agreed to fund design after 25% design approved. As of October 2022, the project remains in preliminary design.	N/A
Bicycle and Pedestrian									
Bedford	Bedford	Minuteman Bikeway Extension, From Loomis Street to Concord Road (Route 62)	607738	47	2022	\$11,218,186	4	Local concerns about permitting. Previously programmed in FY23-27, dropped due to public opposition. Failed to achieve 2/3rds majority in town meeting on 11.14.2022.	N/A

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Concord	Concord	Assabet River Multi-Use Trail and Bridge Construction	612870	PRC approved (8/29/2022)	2020	\$8,280,000	4	Project was originally a new Pedestrian Bridge with a \$2-3.6M price range. Scope has increased to include improvements for a multi-use trail alongside the bridge. Cost has increased accordingly, and is now in preliminary design. Project location runs between the West Concord MBTA Station and the Concord Meadows Corporate Center with a hookup to the Southern Terminus of the Bruce Freeman.	N/A
Major Infrastructure									
Acton	MassDOT	Intersection Improvements at Route 2 and Route 27 Ramps	610553	PRC approved (2019)	2020	\$3,480,000	3	Project not programmed in LRTP (meets MPO roadway classification requirement). Priority for District 3 and Town of Acton. Project has had surveying and MSA design contracts opened for it. MassDOT appears to be tracking as a Traffic Safety improvement.	N/A
Concord	Concord	Reconstruction & Widening on Route 2, from Sandy Pond Road to Bridge over MBTA/B&M Railroad	608015	PRC approved (2014)	2019	\$8,000,000	4	Project is not programmed in Destination 2040. It is on a regionally significant roadway and includes roadway widening elements. If programmed in the TIP, this project should also be included in Destination 2050.	N/A
Lexington	Lexington	Route 4/225 (Bedford Street) and Hartwell Avenue	N/A	Pre-PRC	2019	\$30,557,000	4	Project is programmed in Destination 2040 (FFYs 2030-34). The project is expected to include work on the I-95 Interchange with Route 4/225. If this work includes capacity-adding elements, it will need to be included in Destination 2050.	N/A
MetroWest Regional Collaborative									
Complete Streets									
Wellesley	Wellesley	Route 135 Reconstruction (Natick Town Line to	N/A	Pre-PRC	N/A	TBD	6		N/A
Holliston	Holliston	Reconstruction of Concord Street (Route 126)	N/A	Pre-PRC	2021	N/A	3	Project is municipal priority, as it's tied to necessary below-grade sewer work.	N/A
Intersection									
Framingham	MassDOT	Roundabout Construction at Salem End Road,	609280	PRC approved	2019	\$2,520,000	3		N/A
Weston	Weston	Intersection Improvements - Signalization of Route	N/A	Pre-PRC	2021	N/A	6	Added through subregional outreach.	N/A
Bicycle and Pedestrian									
Weston	MassDOT	Weston - Shared Use Path Construction on Route 30	612602	PRC Approved (2/10/2022)	2022	\$1,050,000	6	Meant to connect into Project 608954. District 6 priority to ensure that the shared-use-path there ties in to the rest of the bicycle network and concludes at a logical terminus.	N/A
Natick	Natick	Cochituate Rail Trail Extension, from MBTA Station to Mechanic Street	610691	PRC approved (4/30/2020)	2020	\$5,778,069	3	Final section of Cochituate Rail Trail Extension. Imminent 25% design submittal.	N/A
Major Infrastructure									
Framingham	Framingham	Intersection Improvements at Route 126/135/MBTA and CSX Railroad	606109	PRC approved (2010)	2019	\$115,000,000	3	Project is programmed in Destination 2040 (FFYs 2030-34).	N/A
North Suburban Planning Council									
Complete Streets									
Burlington	Burlington	Town Center Complete Streets Improvements	N/A	Pre-PRC	2021	N/A	4	Complete Streets upgrades along Route 3A from Bedford Street to Arthur Woods Avenue. The scope of work would be additive to existing resurfacing planned under 610704, and would focus mostly on paint. There is potential for widening if the town's design includes a multimodal path while maintaining the current number and width of vehicle lanes.	N/A
Lynnfield	Lynnfield	Reconstruction of Summer Street	609381	PRC approved	2019	\$21,521,921	4		N/A
Reading	Reading	Reading Downtown Improvement Project	N/A	Pre-PRC	2020	\$7-\$8 million	4	Project at conceptual stage.	N/A
Stoneham	Stoneham	Reconstruction of South Main Street, from Town	N/A	Pre-PRC	2021	N/A	4		N/A
Wakefield	Wakefield	Main Street Reconstruction (Water St. to Salem St.)	610545	25% Design Complete	2020	\$26,382,000	4	Main St (Nahant to Water) and Water Street (Main to Cyrus) removed from project and bundled in 607329. 25% design incorporates some retention of angled parking in order to appease older public, but focus is on bike parking. Strong public input from youth during town meetings led to approval.	41.8
Winchester	Winchester	Town Center Complete Streets Improvements	N/A	Pre-PRC	2021	N/A	4		N/A
Intersection									
Stoneham	Stoneham	Intersection Improvements at Main Street (Route	N/A	Pre-PRC	2020	N/A	4	Project at conceptual stage.	N/A
Bicycle and Pedestrian									
Stoneham, Wakefield	Stoneham, Wakefield	Mystic Highlands Greenway Project	N/A	Pre-PRC	2021	N/A	4		N/A
Community Connections									
North Reading	North Reading								
North Shore Task Force									
Complete Streets									
Beverly, Manchester-by-the-Sea	MassDOT	Resurfacing and Related Work on Route 127	607707	PRC approved	2018	\$2,300,000	4	Still in preliminary design.	N/A
Danvers	Danvers	Reconstruction on Collins Street, from Sylvan Street to Centre and Holten Streets	602310	75% submitted (3/5/2010)	2017 or earlier	\$5,183,121	4	Updated 75% design submission needed for project to move forward. Last scored for FFYs 2020-24 TIP.	46
Ipswich	Ipswich	Reconstruction of County Road, from South Main Street to East Street	611975	PRC approved (2021)	2020	\$5,653,500	4	On 10/7/2022, Ipswich DPW mentioned that a bridge within the project limits has had a lane closed by MassDOT. Structure IDs are 101005, main concern is Ipswich - 2PN which is an 1861-built historic stone arch mill bridge.	45.4
Ipswich	Ipswich	Argilla Roadway Reconstruction and Adaptation	612738	PRC Approved (5/12/2022)	2021	\$4,628,419	4	Municipal priority for funding.	N/A
Marblehead	Marblehead	Bridge Replacement, M-04-001, Village Street over Marblehead Rail Trail (Harold B. Breare Bridge)	612947	PRC approved (9/15/2022)	2019	N/A	4	Per 10.11 email with C Quigley, the project received a PRC and a PROJIS ID in September 2022 after a PNF was submitted 8/2022.	N/A
Manchester-by-the-Sea	Manchester-by-the-Sea	Pine Street - Central Street (Route 127) to	N/A	Pre-PRC: PNF	2017 or earlier	N/A	4		N/A
Manchester-by-the-Sea	Manchester-by-the-Sea	Bridge Replacement, M-02-001 (8AM), Central Street (route 127) over Saw Mill Brook	610671	PRC approved (2019)	2019	\$4,350,000	4		34.8
Salem	MassDOT	Reconstruction of Bridge Street, from Flint Street to Washington Street	5399	25% submitted (8/20/2004)	2017 or earlier	\$24,810,211	4	Project is not programmed in Destination 2040. It is on a regionally significant roadway and would add roadway capacity. If it is programmed in the TIP, it will need to be programmed in Destination 2050.	N/A
Wenham	Wenham	Safety Improvements on Route 1A	609388	25% Approved	2019	\$3,629,036	4		N/A
Wenham	Wenham	Roadway Reconstruction on Larch Row and	N/A	Pre-PRC	2019	\$800,000	4	Project at conceptual stage.	N/A
Improvements									
Essex	Essex	Targeted Safety Improvements on Route 133 (John Wise Avenue)	609315	PRC approved (2019)	2019	\$2,135,440	4		N/A
Bicycle and Pedestrian									
Peabody, Salem	Peabody, Salem	Rivenwalk Project	N/A	Pre-PRC	2021	N/A	4	MVP grant issued for project design.	N/A
Marblehead	Marblehead	B2B Bikeway Design - Marblehead	N/A	Pre-PRC	2022	\$140,000	4	Earmark. May be added via amendment.	
Peabody, Salem	Peabody, Salem	B2B Bikeway Design - Peabody/Salem	N/A	Pre-PRC	2022	\$600,000	4	Earmark. May be added via amendment.	
Major Infrastructure									
Beverly	Beverly	Interchange Reconstruction at Route 128/Exit 19 at Brimbal Avenue (Phase II)	607727	PRC Approved (2014)	2021	N/A	4	Project is not programmed in Destination 2040. Is on a regionally-significant roadway, and would expand the interchange. If this project is programmed in the TIP and adds roadway capacity, this project will need to be included in Destination 2050.	N/A
South Shore Coalition									
Complete Streets									
Holbrook	Holbrook	Corridor Improvements and Related Work on South Franklin Street (Route 37) from Snell Street to King Road	608543	PRC approved (2017)	2018	\$4,000,200	5		N/A
Rockland	Rockland	Corridor Improvements on VFW Drive/Weymouth Street	612605	PRC approved (2/10/2022)	2021	\$13,047,281	5	PNF entered in Jan 2022	N/A

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Weymouth	MassDOT	Reconstruction on Route 3A, Including Pedestrian and Traffic Signal Improvements	608231	PRC approved (2016)	2017 or earlier	\$10,780,100	6	Pre-25% package submitted in July 2021.	N/A
Weymouth	MassDOT	Resurfacing and Related Work on Route 3A	608483	PRC approved (2016)	2018	\$2,400,000	6		N/A
Intersection Improvements									
Cohasset	Cohasset	Intersection Improvements at Route 3A and King Street	N/A	Pre-PRC	2021	N/A	5	Added through subregional outreach.	N/A
Hull	Hull	Intersection Improvements at George Washington Boulevard and Barnstable Road/ Logan Avenue	N/A	Pre-PRC	2021	N/A	5	Added through subregional outreach.	N/A
South West Advisory Planning Committee									
Complete Streets									
Bellingham	Bellingham	South Main Street (Route 126) - Elm Street to Douglas Drive Reconstruction	N/A	Pre-PRC; PNF submitted (3/13/17)	2017 or earlier	N/A	3	Project would dovetail ongoing project 608887, rehab on Route 126 from Douglas Drive to Route 140.	N/A
Franklin	MassDOT	Resurfacing and Intersection Improvements on	607774	PRC approved	2018	\$4,025,000	3		N/A
Medway	Medway	Improvements on Route 109 West of Highland Street	N/A	Pre-PRC	2021	N/A	3	Project at conceptual stage.	N/A
Milford	MassDOT	Resurfacing and Related Work on Route 16	612091	PRC approved (2021)	2021	\$4,192,500	3		N/A
Millis	Millis	Town Center Improvements	N/A	Pre-PRC	2020	N/A	3	Project at conceptual stage.	N/A
Wrentham	Wrentham	Resurfacing and Related Work on Route 1	608497	PRC approved (2016)	2020	N/A	5	25% design anticipated July 2022.	N/A
Intersection Improvements									
Medway	Medway	Traffic Signalization at Trotter Drive and Route 109	N/A	Pre-PRC	2021	N/A	3	Project at conceptual stage.	N/A
Sherborn	Sherborn	Intersection Improvements at Route 16 and Maple Street	N/A	Pre-PRC	2021	N/A	3	Project at conceptual stage.	N/A
Wrentham	Wrentham	Intersection Improvements on Route 1A at North and Winter Street	610676	PRC Approved (12/19/2019)	2020	\$2,649,000	5		N/A
Wrentham	Wrentham	Intersection Improvements at Randall Road and Route 1A	N/A	Pre-PRC	2020	\$2,649,000	5	Project at conceptual stage.	N/A
Wrentham	Wrentham	Intersection Improvements at Route 1A and Route 140	N/A	Pre-PRC	2020	N/A	5	Project at conceptual stage.	N/A
Bicycle and Pedestrian									
Franklin	Franklin	Southern New England Trunk Trail (SNETT) Extension, from Grove Street to Franklin Town Center	N/A	Pre-PRC	2021	N/A	3	Project at conceptual stage.	
Hopkinton	Hopkinton	Campus Trail Connector, Shared Use Trail	611932	PRC approved	2020	\$1,750,700	3		N/A
Norfolk, Walpole, and	Norfolk	Metacomet Greenway	N/A	Pre-PRC	2021	N/A	5	Project at conceptual stage.	N/A
Sherborn	Sherborn	Upper Charles River Trail Extension to	N/A	Pre-PRC	2021	N/A	3	Project at conceptual stage.	N/A
Major Infrastructure									
Bellingham	MassDOT	Ramp Construction & Relocation, I-495 at Route	604862	PRC approved	2017 or earlier	\$13,543,400	3	High priority for District 3	N/A
Three Rivers Interlocal Council									
Complete Streets									
Canton, Milton	MassDOT	Roadway Improvements on Route 138	608484	PRC approved (2016)	2020	\$18,467,500	6	Milton also in ICC subregion. Project a high priority for the TRIC subregion. District is working to refine scope.	N/A
Medfield	Medfield	Reconstruction of Route 109	N/A	Pre-PRC	2021	N/A	3	Added through subregional outreach.	N/A
Milton	MassDOT	Reconstruction on Granite Avenue, from Neponset	608406	25% submitted	2017 or earlier	\$3,665,146	6	Milton also in ICC subregion.	N/A
Milton	Milton	Adams Street Improvements, from Randolph	610820	PRC approved	2020	\$1,799,330	6	Milton also in ICC subregion.	N/A
Needham	Needham	Reconstruction of Highland Avenue, from Webster	612536	PRC approved	2021	\$10,402,402	6	Needham also in ICC subregion.	N/A
Dover, Needham	Dover, Needham	Centre Street Bridge Replacement	N/A	Pre-PRC	2022	N/A	6	Historic-eligible, needs replacement as it is	N/A
Westwood	Westwood	Reconstruction of Canton Street	608158	25% Package	2017 or earlier	\$19,047,306	6	Priority for municipality. MassDOT	N/A
Intersection									
Foxborough	Foxborough	Intersection Signalization at Route 140/Walnut	612740	PRC Approved	2021	\$11,902,600	5	Added through subregional outreach. Town	N/A
Medfield	Medfield	Intersection Improvements at Route 27 and West	612807	PRC Approved	2021	\$3,987,500	3	Added through subregional outreach.	N/A
Bicycle and Pedestrian									
Canton	Canton	Warner Trail Extension, from Sharon to Blue Hills	N/A	Pre-PRC	2021	N/A	6	Added through subregional outreach.	N/A
Major Infrastructure									
Canton, Westwood	MassDOT	Interchange Improvements at I-95 / I-93 / University Avenue / I-95 Widening	87790	25% submitted (7/25/14)	2017 or earlier	\$202,205,994	6	Project not programmed in <i>Destination 2040</i> . It is on a regionally-significant roadway and adds roadway capacity. If programmed in the TIP, this project would also need to be included in <i>Destination 2050</i> . Last scored for FFYs 2020-24 TIP. Regional priority, potential discretionary grant project via MassDOT for State Highway funding.	47

Table A-2
FFYs 2024–28 Regional Target Projects and Their Relationships to Plans
and Performance Measures

[COMING SOON]

**Table A-3
FFYs 2024–28 TIP Project Evaluation Results: Multiple MPO Investment Programs**

Bicycle Network and Pedestrian Connections Program

Proponent	Project Number	Project Name	MAPC Subregion	Project Status	Project Cost	Cost / Road Mile	Total Score	Total Base Score	Total Scaled Equity Score	Safety	Safety Equity Score	System Preservation and Modernization	System Preservation Equity Score	Capacity Management and Mobility	Capacity Management Equity Score	Clean Air and Sustainable Communities	Clean Air Equity Score	Economic Vitality
Malden	613088	Spot Pond Brook Greenway	ICC	PRC-Approved (12/20/2022)	\$3,250,000	\$8,362,573	73	61	12	16.5	3.6	10	2.4	18	5.4	5	0.6	11.5
Natick	610691	Cochituate Rail Trail Extension	MWRC	25% Received (11/21/2022)	\$6,690,043	\$79,289,399	67	59	8	12	2	11	2.2	18	3.6	5	0.2	13
Possible Points							100	80	20	20	5.6	14	4.8	18	7.2	14	2.4	14

Complete Streets Program

Proponent	Project Number	Project Name	MAPC Subregion	Project Status	Project Cost	Cost / Road Mile	Total Score	Total Base Score	Total Equity Score	Safety	Safety Equity Score	System Preservation and Modernization	System Preservation Equity Score	Capacity Management and Mobility	Capacity Management Equity Score	Clean Air and Sustainable Communities	Clean Air Equity Score	Economic Vitality
Bellingham	612963	Roadway Rehabilitation of Route 126 (Hartford Road) from 800 feet North of the I-495 NB off ramp to Medway T/L (including Bridge B-06-017).	SWAP	PRC-Approved (9/15/2022)	\$10,950,000	\$22,383,275	51.8	46.5	5.3	13	1.55	15	2.1	7.5	1.4	5	0.25	6
Boston	612989	Bridge Preservation, B-16-066 (38D), Cambridge Street Over MBTA	ICC	PRC-Approved (12/21/2022)	\$15,400,000	\$0	53.1	47.25	5.9	5	0.77	15	1.8	12.5	2.56	4.5	0.77	10.25
Ipswich	612738	Argilla Roadway Reconstruction and Adaptation (Crane Estate to Crane Beach)	NSTF	PRC-Approved (5/12/2022)	\$5,500,000	\$33,689,095	37.1	34	3.1	6	0.5	14	1.3	4	1	5	0.3	5
Wakefield	610545	Envision Wakefield - Main Street Complete Streets Improvements	NSPC	PRC-Approved (12/19/2019)	\$16,581,200	\$43,691,354	61.8	53	8.8	13	2.6	13	2.7	10	3.1	6	0.4	11
Westwood	608158	Reconstruction of Canton Street (East Street Rotary and University Avenue) Including Bridge N25032	TRIC	25% Received (2/18/2022)	\$19,047,306	\$29,106,536	53.3	48.25	5	12	1.54	14.5	1.67	9	1.54	3.75	0.25	9
Possible Points							100	80	20	18	4.6	20	5.6	18	7.2	12	2.6	12

Intersection Improvements Program

Proponent	Project Number	Project Name	MAPC Subregion	Project Status	Project Cost	Cost / Road Mile	Total Score	Total Base Score	Total Equity Score	Safety	Safety Equity Score	System Preservation and Modernization	System Preservation Equity Score	Capacity Management and Mobility	Capacity Management Equity Score	Clean Air and Sustainable Communities	Clean Air Equity Score	Economic Vitality
Canton**	N/A	Randolph and York Street Intersection Signalization	TRIC	Pre-PRC	\$500,000	\$25,882,353	N/A*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Possible Points							100	80	20	21	5.4	17	5.4	18	6.8	12	2.4	12

*This project was not recommended for moving forward at TIP Readiness Days until the project is formally initiated through MassDOT's system and goes through the Project Review Committee. Staff are actively working with the project proponent and MassDOT District 6 to initiate this project.

Abbreviations

MWRTA = MetroWest Regional Transit Authority. N/A = not applicable. PRC = MassDOT's Project Review Committee.

Metropolitan Area Planning Council (MAPC) Subregions: ICC = Inner Core Committee. MAGIC = Minuteman Advisory Group on Interlocal Coordination. MWRC = MetroWest Regional Collaborative. NSPC = North Suburban Planning Council. NSTF = North Shore Task Force. SSC = South Shore Coalition. SWAP = SouthWest Advisory Planning Committee. TRIC = Three Rivers Interlocal Council.

Table A-4
FFYs 2024–28 TIP Project Evaluation Results: Community Connections Program

Community Connections Program

Proponent	Project Name	MAPC Subregion	Project Cost	Cost/Monthly Passenger		Total Score	Connectivity	Coordination	Plan Implementation	Transportation Equity	Mode Shift and Demand Projection	Fiscal Sustainability
				Trip	Cost/Point							
Concord	Concord Workforce Shuttle*	MAGIC	\$369,911	\$155	\$5,210	71	13	15	6	6	21	10
MWRTA	CatchConnect Microtransit Expansion Phase 2*	MWRC	\$402,500	\$93	\$4,472	90	17	15	15	9	24	10
North Reading	North Reading Demand Response Shuttle Pilot Program*	NSPC	\$77,637	\$348	\$1,005	77.25	16.25	15	9	9	18	10
Revere	Revere On Demand Shuttle Service*	ICC	\$980,976	\$30	\$17,210	57	17	0	3	12	15	10
Boston	Boston Electric BlueBikes Adoption	ICC	\$1,020,000	\$21	\$12,143	84	17	15	6	12	24	10
Cambridge	Cambridge Electric BlueBikes Adoption	ICC	\$352,575	\$13	\$4,353	81	17	15	6	9	24	10
Canton	Canton Center Bicycle Racks	TRIC	\$10,000	\$12	\$139	72	14	9	12	6	21	10
Canton	Canton Public Schools Bike Program	TRIC	\$22,500	\$4	\$592	38	13	0	6	6	3	10
Lynn	Broad Street Corridor TSP	ICC	\$297,800	\$2	\$3,384	88	17.5	12	13.5	12	23	10
Medford	Medford Bicycle Parking - Tier 1	ICC	\$29,600	\$12	\$352	84	17	12	12	9	24	10
Medford	Medford Bluebikes Expansion	ICC	\$118,643	\$53	\$1,521	78	17	15	3	9	24	10
Possible Points				Possible Points		100	18	15	15	18	24	10

*These shuttle projects requested funding for FFY24 and additional years. Concord requested \$139,749 in FFY24, \$122,165 in FFY25, and \$107,997 in FFY26. The MWRTA requested \$140,000 in FFY24, \$132,500 in FFY 25, and \$107,977 in FFY 26. \$130,000 in FFY 26. North Reading requested \$41,787 in FFY 24 and \$35,850 in FFY 25. Revere requested \$356,825 in FFY 24, \$338,521 in FFY 25, and \$285,630 in FFY 26. The Cost/Monthly Passenger Trip for these projects only shows the cost/monthly user for the first year of funding.

Abbreviations

MWRTA = MetroWest Regional Transit Authority. N/A = not applicable. PRC = MassDOT's Project Review Committee.

Metropolitan Area Planning Council (MAPC) Subregions: ICC = Inner Core Committee. MAGIC = Minuteman Advisory Group on Interlocal Coordination. MWRC = MetroWest Regional Collaborative. NSPC = North Suburban Planning Council. NSTF = North Shore Task Force. SSC = South Shore Coalition. SWAP = SouthWest Advisory Planning Committee. TRIC = Three Rivers Interlocal Council.

Table A-5: FFYs 2022–26 and 2023–27 TIP Evaluation Criteria: Bicycle Network and Pedestrian Connections Program

MPO Goal Area		Safety: Transportation by all modes will be safe. (Up to 20 points)			
Criterion	Project improves bicycle safety (up to 5 points)	Project improves pedestrian safety (up to 5 points)	Project improves safety for all users (up to 3 points)		
Bonus/Penalty (if applicable)	+5 High total effectiveness of bicycle safety improvements +3 Medium total effectiveness of bicycle safety improvements +1 Low total effectiveness of bicycle safety improvements +0 Project does not implement bicycle safety improvements Bonus (up to 2 points) +2 Improves bicycle safety at bicycle HSIP cluster	+5 High total effectiveness of pedestrian safety improvements +3 Medium total effectiveness of pedestrian safety improvements +1 Low total effectiveness of pedestrian safety improvements +0 Project does not implement pedestrian safety improvements Bonus (up to 2 points) +2 Improves pedestrian safety at pedestrian HSIP cluster	+3 Project includes three or more eligible multimodal safety improvements +2 Project includes two eligible multimodal safety improvements +1 Project includes one eligible multimodal safety improvement +0 Project does not include any eligible multimodal safety improvements Bonus (up to 3 points) +3 Addresses safety at multiple all-mode HSIP clusters OR a top-200 crash location +2 Addresses safety at one all-mode HSIP cluster		
Equity Multiplier?	Yes	Yes	No		
MPO Goal Area		System Preservation: Maintain and modernize the transportation system and plan for its resiliency. (Up to 14 points)			
Criterion	Project incorporates resiliency elements into its design (up to 5 points)	Project improves connectivity to critical facilities (up to 2 points)	Project improves existing pedestrian facilities (up to 5 points)	Project improves other existing assets (up to 2 points)	
Bonus/Penalty (if applicable)	+1 Project implements recommendation(s) as identified in a Hazard Mitigation Plan, Municipal Vulnerability Plan, or climate adaptation plan +1 Project improves stormwater infrastructure +1 Project implements innovative resiliency solutions +1 Project designed to meet a range of future climate projections +1 Project demonstrates regional coordination on resiliency Penalty -1 Project is located in an existing or projected flood zone and doesn't specify how the project will address future flooding	+2 Project improves access to critical facilities N/A	+5 Existing pedestrian facilities are in poor condition and improvements are included in the project +3 Existing pedestrian facilities are in fair condition and improvements are included in the project +1 Existing pedestrian facilities are in good condition and improvements are included in the project +0 Project does not improve existing pedestrian facilities N/A	+2 Project improves three or more other assets +1 Project improves one or two other assets +0 Project does not meet or address criteria N/A	
Equity Multiplier?	Yes	Yes	Yes	No	
MPO Goal Area		Capacity Management/Mobility: Use existing facility capacity more efficiently and increase healthy transportation options. (Up to 18 points)			
Criterion	Project improves pedestrian network and ADA accessibility (up to 5 points)	Project improves bicycle network (up to 5 points)			
Bonus/Penalty (if applicable)	+5 Project adds new shared-use path +3 Project adds new high-quality sidewalks +1 Project adds new standard sidewalks +0 Project does not improve pedestrian network Bonus (up to 4 points) +4 Project closes a gap in the pedestrian network +3 Project improves ADA accessibility beyond minimum required standards +2 Project creates or improves a pedestrian connection to transit +1 Project extends existing pedestrian network	+5 Project adds new separated bicycle facility (including shared-use paths) +3 Project adds new buffered bicycle facility +1 Project adds new standard bicycle facility +0 Project does not improve bicycle network Bonus (up to 4 points) +4 Project closes a gap in the bicycle network +2 Project creates or improves a bicycle connection to transit +2 Project extends existing bicycle network +1 Project makes accommodations for bicycle parking or a bicycle share station			
Equity Multiplier?	Yes	Yes			
MPO Goal Area		Clean Air/Sustainable Communities: Create an environmentally friendly transportation system. (Up to 14 points)			
Criterion	Project reduces CO2 (up to 4 points)	Project reduces other transportation-related emissions (up to 4 points)	Enhances Natural Environment (up to 4 points)		
	+4 300 or more annual tons of CO2 reduced +3 100–299 annual tons of CO2 reduced +2 50–99 annual tons of CO2 reduced +1 Less than 50 annual tons of CO2 reduced 0 No expected impact -1 Less than 50 annual tons of CO2 increased -4 50 or more annual tons of CO2 increased	+4 1,500 or more total annual kilograms of other emissions reduced +3 750–1499 total annual kilograms of other emissions reduced +2 250–749 total annual kilograms of other emissions reduced +1 Less than 250 total annual kilograms of other emissions reduced 0 No impact -1 Less than 250 total annual kilograms of other emissions increased -4 250 or more total annual kilograms of other emissions increased	+1 Project improves water quality +1 Project selects a design alternative that avoids impacts to sensitive natural areas +1 Project reduces urban heat island effect +1 Project increases access to parks, open space, or other natural assets		

Bonus/Penalty (if applicable)	N/A	Bonus/Penalty (up to 2 points)	Penalty
		+2 Project reduces NOx emissions in area in top 20% of regional NOx levels	-1 Project is anticipated to lead to negative environmental outcomes
		-2 Project increases NOx emissions in area in top 20% of regional NOx levels	
Equity Multiplier?	No	Yes	No

MPO Goal Area	Economic Vitality: Ensure our transportation network provides a strong foundation for economic vitality. (Up to 14 points)			
Criterion	Project serves sites targeted for future development (up to 4 points)	Project serves existing employment and population centers (up to 4 points)	Project demonstrates proponent investment (up to 2 points)	Project promotes access to affordable housing opportunities (up to 3 points)
	+2 Project improves bicycle access to or within a site	+4 Project mostly serves an existing area of concentrated development	+2 20 percent or more of the project cost is provided	+3 10.4% or more of housing units are affordable in project area
	+2 Project improves pedestrian access to or within a site	+2 Project partly serves an existing area of concentrated development	+1 Less than 20 percent of the project cost is provided	+2 6.6-10.3% of housing units are affordable in project area
		+0 Project does not serve an existing area of concentrated development	+0 No non-TIP funding is provided by the project proponent	+1 1-6.5% of housing units are affordable in project area
				+0 Less than 1% of housing units are affordable in project area
Bonus/Penalty (if applicable)	N/A	N/A	Bonus (up to 1 point)	N/A
			+1 Project proponent supports design process through pilot project OR robust community outreach process	
Equity Multiplier?	No	No	No	No

Total Base Points Possible	80
Total Equity Points Possible	20
Total Possible Points	100

Table A-6
Evaluation Criteria for FFYs 2024 Community Connections Program

[COMING SOON]

Table A-7: FFYs 2022–26 and 2023–27 TIP Evaluation Criteria: Complete Streets Program

MPO Goal Area	Safety: Transportation by all modes will be safe. (Up to 18 points)							
Criterion	Project addresses severe-crash location (up to 3 points) +3 EPDO value of 1000 or more +2 EPDO value of 250 to 999 +1 EPDO value of less than 250 +0 No EPDO value	Project addresses high-crash location (up to 3 points) +3 Crash rate of 6.45 or greater +2 Crash rate between 4.25 and 6.45 +1 Crash rate between 2.05 and 4.25 +0 Crash rate below 2.05	Project addresses truck-related safety issue (up to 2 points) +2 High total effectiveness of truck safety improvements +1 Medium total effectiveness of truck safety improvements +0 Low total effectiveness or no implementation of truck safety improvements	Project improves bicycle safety (up to 2 points) +2 High total effectiveness of bicycle safety improvements +1 Medium total effectiveness of bicycle safety improvements +0 Low total effectiveness or no inclusion of bicycle safety improvements	Project improves pedestrian safety (up to 2 points) +2 High total effectiveness of pedestrian safety improvements +1 Medium total effectiveness of pedestrian safety improvements +0 Low total effectiveness or no inclusion of pedestrian safety improvements	Project improves safety for all users (up to 2 points) +2 Project includes three or more eligible multimodal safety improvements +1 Project includes one or two eligible multimodal safety improvements +0 Project does not include any eligible multimodal safety improvements		
Bonus/Penalty (if applicable)	N/A	N/A	N/A	Bonus (up to 1 point) +1 Improves bicycle safety at bicycle HSIP cluster	Bonus (up to 1 point) +1 Improves pedestrian safety at pedestrian HSIP cluster	Bonus (up to 2 points) +2 Addresses safety at multiple all-mode HSIP clusters OR a top-200 crash location +1 Addresses safety at one all-mode HSIP cluster		
Equity Multiplier?	Yes	No	No	Yes	Yes	No		
MPO Goal Area	System Preservation: Maintain and modernize the transportation system and plan for its resiliency. (Up to 20 points)							
Criterion	Project incorporates resiliency elements into its design (up to 5 points) +1 Project implements recommendation(s) as identified in a Hazard Mitigation Plan, Municipal Vulnerability Plan, or climate adaptation plan +1 Project improves stormwater infrastructure +1 Project implements innovative resiliency solutions +1 Project designed to meet a range of future climate projections	Improves evacuation route (up to 1 point) +1 Project improves an evacuation route, diversion route, or alternate diversion route	Improves connectivity to critical facilities (up to 1 point) +1 Project improves access to critical facilities	Project improves existing transit assets (up to 2 points) +2 Project makes significant improvements to existing transit assets +1 Project makes moderate improvements to existing transit assets +0 Project does not modernize or improve the condition of existing transit assets	Project improves existing pedestrian facilities (up to 3 points) +3 Existing pedestrian facilities are in poor condition and improvements are included in the project +2 Existing pedestrian facilities are in fair condition and improvements are included in the project +1 Existing pedestrian facilities are in good condition and improvements are included in the project +0 Project does not improve existing pedestrian facilities	Project improves existing bridges (up to 2 points) +2 Project improves existing bridge(s) from poor to good condition through rehabilitation or replacement +1 Project improves existing bridge(s) from fair to good condition through rehabilitation or replacement 0 Project does not include bridge improvements	Project improves existing pavement condition (up to 2 points) +2 Current roadway condition is poor and pavement improvements are included in the project +1 Current roadway condition is fair and pavement improvements are included in the project +0 Current roadway condition is good	Project improves other existing assets (up to 2 points) +2 Project improves three or more other assets +1 Project improves one or two other assets +0 Project does not meet or address criteria
Bonus/Penalty (if applicable)	+1 Project demonstrates regional coordination on resiliency Penalty -1 Project is located in an existing or projected flood zone and doesn't specify how the project will address future flooding	N/A	N/A	N/A		Bonus (up to 1 point) +1 Project reduces or removes vehicle weight/height restrictions OR improves bridge on a key roadway	Bonus (up to 1 point) +1 Project improves pavement on a key corridor OR improves roadway substructure	N/A
Equity Multiplier?	Yes	No	Yes	Yes	Yes	No	No	No
MPO Goal Area	Capacity Management/Mobility: Use existing facility capacity more efficiently and increase healthy transportation options. (Up to 18 points)							
Criterion	Project reduces transit passenger delay (up to 3 points) +3 Project results in significant passenger delay reductions +2 Project results in moderate passenger delay reductions +1 Project results in limited passenger delay reductions +0 Project does not make meaningful reductions in passenger delay	Project invests in New Transit Assets (up to 2 points) +2 Project makes significant investments in new transit assets +1 Project makes moderate investments in new transit assets +0 Project does not invest in new transit assets	Project improves pedestrian network and ADA accessibility (up to 3 points) +3 Project adds new sidewalks on high-utility link +2 Project adds new sidewalks on medium-utility link +1 Project adds new sidewalks on low-utility link +0 Project does not improve pedestrian network	Project improves bicycle network (up to 3 points) +3 Project adds new separated bicycle facility (including shared-use paths) +2 Project adds new buffered bicycle facility +1 Project adds new standard bicycle facility +0 Project does not improve bicycle network	Project improves truck movement (up to 2 points) +2 Project significantly improves truck movement +1 Project somewhat improves truck movement +0 Project makes minimal improvements to truck movement or does not address criteria	Project addresses unreliable corridor (up to 1 point) +1 Project addresses a corridor with a level of travel time reliability above 1.25 +0 Project does not meet or address criteria		
Bonus/Penalty (if applicable)	Bonus/Penalty (+/- up to 1 point) +1 Project invests in bus-priority infrastructure on MPO-identified priority corridor -1 Project increases transit vehicle delays or negatively impacts transit vehicle movement	N/A	Bonus (up to 1 point) +1 Project closes a gap in the pedestrian network +1 Project enhances ADA accessibility beyond minimum required standards +1 Project creates or improves pedestrian connection to transit	Bonus (up to 1 point) +1 Project closes a gap in the bicycle network +1 Project creates or improves a bicycle connection to transit share station +1 Project is on a high-utility link	Bonus (up to 1 point) +1 Project addresses key freight corridor or makes accommodations for freight deliveries	N/A		
Equity Multiplier?	Yes	Yes	Yes	Yes	No	No		
MPO Goal Area	Clean Air/Sustainable Communities: Create an environmentally friendly transportation system. (Up to 12 points)							
Criterion	Project reduces CO2 (up to 3 points) +3 750 or more annual tons of CO2 reduced +2 250-749 annual tons of CO2 reduced +1 Less than 250 annual tons of CO2 reduced 0 No impact -1 Less than 250 annual tons of CO2 increased -3 250 or more annual tons of CO2 increased	Project reduces other transportation-related emissions (up to 3 points) +3 1,000 or more total kilograms of VOC, NOx, CO reduced +2 250-999 total kilograms of VOC, NOx, CO reduced +1 Less than 250 total kilograms of VOC, NOx, CO reduced 0 No impact -1 Less than 250 total kilograms of VOC, NOx, CO increased -3 250 or more total kilograms of VOC, NOx, CO increased	Enhances Natural Environment (up to 4 points) +1 Project improves water quality +1 Project selects a design alternative that avoids impacts to sensitive natural areas +1 Project reduces urban heat island effect +1 Project increases access to parks, open space, or other natural assets Penalty -1 Project is anticipated to lead to negative environmental outcomes					
Bonus/Penalty (if applicable)	N/A	Bonus/Penalty (up to 2 points) +2 Project reduces NOx emissions in area in top 20% of regional NOx levels -2 Project increases NOx emissions in area in top 20% of regional NOx levels						
Equity Multiplier?	No	Yes	No					
MPO Goal Area	Economic Vitality: Ensure our transportation network provides a strong foundation for economic vitality. (Up to 12 points)							
Criterion	Project serves sites targeted for future development (up to 3 points) +1 Project improves bicycle access to or within a site +1 Project improves pedestrian access to or within a site +1 Project improves transit access to or within a site	Project serves existing employment and population centers (up to 3 points) +3 Project mostly serves an existing area of concentrated development +1 Project partly serves an existing area of concentrated development +0 Project does not serve an existing area of concentrated development	Project demonstrates proponent investment (up to 2 points) +2 20 percent or more of the project cost is provided +1 Less than 20 percent of the project cost is provided +0 No non-TIP funding is provided by the project proponent	Project promotes access to affordable housing opportunities (up to 3 points) +3 10.4% or more of housing units are affordable in project area +2 6.6-10.3% of housing units are affordable in project area +1 1-6.5% of housing units are affordable in project area +0 Less than 1% of housing units are affordable in project area				
Bonus/Penalty (if applicable)	N/A	N/A	Bonus (up to 1 point) +1 Project proponent supports design process through pilot project OR robust community outreach process	N/A				
Equity Multiplier?	No	No	No	No				

Total Base Points Possible	80
Total Equity Points Possible	20
Total Possible Points	100

Table A-8: FFYs 2022–26 and 2023–27 TIP Evaluation Criteria: Complete Streets Program

MPO Goal Area	Safety: Transportation by all modes will be safe. (Up to 21 points)					
Criterion	Project addresses severe-crash location (up to 3 points)	Project addresses high-crash location (up to 3 points)	Project addresses truck-related safety issue (up to 2 points)	Project improves bicycle safety (up to 3 points)	Project improves pedestrian safety (up to 3 points)	Project improves safety for all users (up to 3 points)
	+3 EFDO value of 300 or more +2 EFDO value of 100 to 299 +1 EFDO value of less than 100 +0 No EFDO value	Signalized Intersection: +3 Crash rate of 1.69 or greater +2 Crash rate between 1.02 and 1.69 +1 Crash rate between 0.35 and 1.02 +0 Crash rate below 0.35 Unsignalized Intersection: +3 Crash rate of 1.36 or greater +2 Crash rate between 0.78 and 1.36 +1 Crash rate between 0.20 and 0.78 +0 Crash rate below 0.20	+2 High total effectiveness of truck safety improvements +1 Medium total effectiveness of truck safety improvements +0 Low total effectiveness or no implementation of truck safety improvements	+3 High total effectiveness of bicycle safety improvements +2 Medium total effectiveness of bicycle safety improvements +1 Low total effectiveness of bicycle safety improvements +0 Project does not include bicycle safety improvements	+3 High total effectiveness of pedestrian safety improvements +2 Medium total effectiveness of pedestrian safety improvements +1 Low total effectiveness of pedestrian safety improvements +0 Project does not include pedestrian safety improvements	+3 Project includes three or more eligible multimodal safety improvements +2 Project includes two eligible multimodal safety improvements +1 Project includes one eligible multimodal safety improvement +0 Project does not include any eligible multimodal safety improvements
Bonus/Penalty (if applicable)	N/A	N/A	N/A	Bonus (up to 1 point) +1 Improves bicycle safety at bicycle HSIP cluster	Bonus (up to 1 point) +1 Improves pedestrian safety at pedestrian HSIP cluster	Bonus (up to 2 points) +2 Addresses safety at multiple all-mode HSIP clusters OR a top-200 crash location +1 Addresses safety at one all-mode HSIP cluster
Equity Multiplier?	Yes	No	No	Yes	Yes	No
MPO Goal Area	System Preservation: Maintain and modernize the transportation system and plan for its resiliency. (Up to 17 points)					
Criterion	Project incorporates resiliency elements into its design (up to 5 points)	Improves evacuation route (up to 1 point)	Improves connectivity to critical facilities (up to 1 point)	Project improves existing transit assets (up to 2 points)	Project improves existing pedestrian facilities (up to 3 points)	Project improves existing pavement condition (up to 2 points)
	+1 Project implements recommendations as identified in a Hazard Mitigation Plan, Municipal Vulnerability Plan, or climate adaptation plan +1 Project improves stormwater infrastructure +1 Project implements innovative resiliency solutions +1 Project designed to meet a range of future climate projections +1 Project demonstrates regional coordination on resiliency	+1 Project improves an evacuation route, diversion route, or alternate diversion route	+1 Project improves access to critical facilities	+2 Project makes significant improvements to existing transit assets +1 Project makes moderate improvements to existing transit assets +0 Project does not modernize or improve the condition of existing transit assets	+3 Existing pedestrian facilities are in poor condition and improvements are included in the project +2 Existing pedestrian facilities are in fair condition and improvements are included in the project +1 Existing pedestrian facilities are in good condition and improvements are included in the project +0 Project does not improve existing pedestrian facilities	+2 Current roadway condition is poor and pavement improvements are included in the project +1 Current roadway condition is fair and pavement improvements are included in the project +0 Current roadway condition is good
Bonus/Penalty (if applicable)	N/A	N/A	N/A	N/A	N/A	Bonus (up to 1 point) +1 Project improves pavement on a key corridor OR improves roadway substructure
Equity Multiplier?	Yes	No	Yes	Yes	Yes	No
MPO Goal Area	Capacity Management/Mobility: Use existing facility capacity more efficiently and increase healthy transportation options. (Up to 18 points)					
Criterion	Project reduces transit passenger delay (up to 3 points)	Project invests in New Transit Assets (up to 2 points)	Project improves pedestrian network and ADA accessibility (up to 3 points)	Project improves bicycle network (up to 3 points)	Project improves truck movement (up to 2 points)	Project addresses unreliable corridor (up to 1 point)
	+3 Project results in significant passenger delay reductions +2 Project results in moderate passenger delay reductions +1 Project results in limited passenger delay reductions +0 Project does not make meaningful reductions in passenger delay	+2 Project makes significant investments in new transit assets +1 Project makes moderate investments in new transit assets +0 Project does not invest in new transit assets	+3 Project adds new sidewalks on high-utility link +2 Project adds new sidewalks on medium-utility link +1 Project adds new sidewalks on low-utility link +0 Project does not improve pedestrian network	+3 Project adds new separated bicycle facility (including shared-use paths) +2 Project adds new buffered bicycle facility +1 Project adds new standard bicycle facility +0 Project does not improve bicycle network	+2 Project significantly improves truck movement +1 Project somewhat improves truck movement +0 Project makes minimal improvements to truck movement or does not address criteria	+1 Project addresses a corridor with a level of travel time reliability above 1.25 +0 Project does not meet or address criteria
Bonus/Penalty (if applicable)	Bonus/Penalty (+/- up to 1 point) +1 Project invests in bus-priority infrastructure on MPO-identified priority corridor -1 Project increases transit vehicle delays or negatively impacts transit vehicle movement	N/A	Bonus (up to 1 point) +1 Project closes a gap in the pedestrian network +1 Project enhances ADA accessibility beyond minimum required standards +1 Project creates or improves pedestrian connection to transit	Bonus (up to 1 point) +1 Project closes a gap in the bicycle network +1 Project creates or improves a bicycle connection to transit +1 Project makes accommodations for bicycle parking or bicycle share station +1 Project is on a high-utility link	Bonus (up to 1 point) +1 Project addresses key freight corridor or makes accommodations for freight deliveries	N/A
Equity Multiplier?	Yes	Yes	Yes	Yes	No	No
MPO Goal Area	Clean Air/Sustainable Communities: Create an environmentally friendly transportation system. (Up to 12 points)					
Criterion	Project reduces CO2 (up to 3 points)	Project reduces other transportation-related emissions (up to 3 points)	Enhances Natural Environment (up to 4 points)			
	+3 750 or more annual tons of CO2 reduced +2 250-749 annual tons of CO2 reduced +1 Less than 250 annual tons of CO2 reduced 0 No impact -1 Less than 250 annual tons of CO2 increased -3 250 or more annual tons of CO2 increased	+3 1,000 or more total kilograms of VOC, NOx, CO reduced +2 250-999 total kilograms of VOC, NOx, CO reduced +1 Less than 250 total kilograms of VOC, NOx, CO reduced 0 No impact -1 Less than 250 total kilograms of VOC, NOx, CO increased -3 250 or more total kilograms of VOC, NOx, CO increased	+1 Project improves water quality +1 Project selects a design alternative that avoids impacts to sensitive natural areas +1 Project reduces urban heat island effect			
Bonus/Penalty (if applicable)	N/A	Bonus/Penalty (up to 2 points) +2 Project reduces NOx emissions in area in top 20% of regional NOx levels -2 Project increases NOx emissions in area in top 20% of regional NOx levels	Penalty -1 Project is anticipated to lead to negative environmental outcomes			
Equity Multiplier?	No	Yes	No			
MPO Goal Area	Economic Vitality: Ensure our transportation network provides a strong foundation for economic vitality. (Up to 12 points)					
Criterion	Project serves sites targeted for future development (up to 3 points)	Project serves existing employment and population centers (up to 3 points)	Project demonstrates proponent investment (up to 2 points)	Project promotes access to affordable housing opportunities (up to 3 points)		
	+1 Project improves bicycle access to or within a site +1 Project improves pedestrian access to or within a site +0 Project does not serve an existing area of concentrated development	+3 Project mostly serves an existing area of concentrated development +1 Project partly serves an existing area of concentrated development +0 Project does not serve an existing area of concentrated development	+2 20 percent or more of the project cost is provided +1 Less than 20 percent of the project cost is provided +0 No non-TIP funding is provided by the project proponent	+3 10.4% or more of housing units are affordable in project area +2 6.6-10.3% of housing units are affordable in project area +1 1-6.5% of housing units are affordable in project area +0 Less than 1% of housing units are affordable in project area		
Bonus/Penalty (if applicable)	N/A	N/A	Bonus (up to 1 point) +1 Project proponent supports design process through pilot project OR robust community outreach process	N/A		
Equity Multiplier?	No	No	No	No		
Total Base Points Possible	80					
Total Equity Points Possible	20					
Total Possible Points	100					

Table A-9: FFYs 2022–26 and 2023–27 TIP Evaluation Criteria: Major Infrastructure Program

MPO Goal Area	Safety: Transportation by all modes will be safe. (Up to 18 points)										
Criterion Project addresses severe-crash location (up to 3 points) -3 EPOD value of 1000 or more -2 EPOD value of 250 to 999 -1 EPOD value of less than 250 -0 No EPOD value Project addresses high-crash location (up to 3 points) For corridor projects: -3 Crash rate of 6.45 or greater -2 Crash rate between 4.25 and 6.45 -1 Crash rate between 2.65 and 4.25 -0 Crash rate below 2.65 For intersection and interchange projects: Signalized intersection: -3 Crash rate of 1.69 or greater -2 Crash rate between 1.02 and 1.69 -1 Crash rate between 0.35 and 1.02 -0 Crash rate below 0.35 Unsignalized intersection: -3 Crash rate of 1.36 or greater -2 Crash rate between 0.78 and 1.36 -1 Crash rate between 0.26 and 0.78 -0 Crash rate below 0.26 Bonus/Penalty (if applicable) N/A Equity Multiplier? Yes	Project addresses truck-related safety issue (up to 2 points) +2 High total effectiveness of truck safety improvements +1 Medium total effectiveness of truck safety improvements -0 Low total effectiveness or no implementation of truck safety improvements N/A No	Project improves bicycle safety (up to 2 points) +2 High total effectiveness of bicycle safety improvements +1 Medium total effectiveness of bicycle safety improvements -0 Low total effectiveness or no inclusion of bicycle safety improvements Bonus (up to 1 point) +1 Improves bicycle safety at bicycle HSIP cluster Yes	Project improves pedestrian safety (up to 2 points) +2 High total effectiveness of pedestrian safety improvements +1 Medium total effectiveness of pedestrian safety improvements -0 Low total effectiveness or no inclusion of pedestrian safety improvements Bonus (up to 1 point) +1 Improves pedestrian safety at pedestrian HSIP cluster Yes	Project improves safety for all users (up to 2 points) +2 Project includes three or more eligible multimodal safety improvements +1 Project includes one or two eligible multimodal safety improvements -0 Project does not include any eligible multimodal safety improvements Bonus (up to 2 points) +2 Addresses safety at multiple all-mode HSIP clusters OR a top-200 crash location +1 Addresses safety at one all-mode HSIP cluster No	System Preservation: Maintain and modernize the transportation system and plan for its resiliency. (Up to 20 points) Criterion Project incorporates resiliency elements into the design (up to 1 point) +1 Project implements recommendations as identified in a hazard mitigation plan, municipal vulnerability plan, or climate adaptation plan -1 Project improves stormwater infrastructure -1 Project implements innovative resiliency solutions -1 Project designed to meet a range of future climate projections -1 Project demonstrates regional coordination on resiliency Bonus/Penalty (if applicable) N/A Penalty -1 Project is located in an existing or projected flood zone and doesn't specify how the project will address future flooding Equity Multiplier? Yes	Improves connectivity to critical facilities (up to 1 point) +1 Project improves access to critical facilities N/A Yes	Project improves existing transit assets (up to 2 points) +2 Project makes significant improvements to existing transit assets +1 Project makes moderate improvements to existing transit assets -0 Project does not modernize or improve the condition of existing transit assets N/A Yes	Project improves existing pedestrian facilities (up to 3 points) +3 Existing pedestrian facilities are in poor condition and improvements are included in the project +2 Existing pedestrian facilities are in fair condition and improvements are included in the project +1 Existing pedestrian facilities are in good condition and improvements are included in the project -0 Project does not improve existing pedestrian facilities N/A Yes	Project improves existing bridges (up to 2 points) +2 Project improves existing bridge(s) from poor to good condition through rehabilitation or replacement +1 Project improves existing bridge(s) from fair to good condition through rehabilitation or replacement 0 Project does not include bridge improvements Bonus (up to 1 point) +1 Project reduces or removes vehicle weight/height restrictions OR improves bridge on a key roadway No	Project improves existing pavement condition (up to 2 points) +2 Current roadway condition is poor and pavement improvements are included in the project +1 Current roadway condition is fair and pavement improvements are included in the project -0 Current roadway condition is good N/A No	Project improves other existing assets (up to 2 points) +2 Project improves three or more other assets +1 Project improves one or two other assets -0 Project does not meet or address criteria N/A No
MPO Goal Area Capacity Management/Reliability: Use existing facility capacity more efficiently and increase healthy transportation options. (Up to 16 points) Criterion Project reduces transit passenger delay (up to 3 points) -3 Project results in significant passenger delay reductions -2 Project results in moderate passenger delay reductions -1 Project results in limited passenger delay reductions -0 Project does not make meaningful reductions in passenger delay Project invests in New Transit Assets (up to 2 points) +2 Project makes significant investments in new transit assets +1 Project makes moderate investments in new transit assets -0 Project does not invest in new transit assets Project improves pedestrian network and ADA accessibility (up to 3 points) +3 Project adds new sidewalks on high-utility link +2 Project adds new sidewalks on medium-utility link +1 Project adds new sidewalks on low-utility link -0 Project does not improve pedestrian network Project improves bicycle network (up to 3 points) +3 Project adds new separated bicycle facility (including shared-use path) +2 Project adds new buffered bicycle facility +1 Project adds new standard bicycle facility -0 Project does not improve bicycle network Project improves truck movement (up to 2 points) +2 Project significantly improves truck movement +1 Project somewhat improves truck movement -0 Project makes minimal improvements to truck movement or does not address criteria Project addresses unreliable corridor (up to 1 point) +1 Project addresses a corridor with a level of travel time reliability above 1.25 -0 Project does not meet or address criteria Bonus/Penalty (if applicable) N/A Bonus/Penalty (+/- up to 1 point) +1 Project invests in bus-priority infrastructure on MPO-identified priority corridor -1 Project increases transit vehicle delays or negatively impacts transit vehicle movement Yes	Project reduces CO2 (up to 3 points) +3 750 or more annual tons of CO2 reduced +2 250-749 annual tons of CO2 reduced +1 Less than 250 annual tons of CO2 reduced 0 No impact -1 Less than 250 annual tons of CO2 increased -2 250 or more annual tons of CO2 increased Project reduces other transportation-related emissions (up to 3 points) +3 1,000 or more total kilograms of VOC, NOx, CO reduced +2 250-999 total kilograms of VOC, NOx, CO reduced +1 Less than 250 total kilograms of VOC, NOx, CO reduced 0 No impact -1 Less than 250 total kilograms of VOC, NOx, CO increased -2 250 or more total kilograms of VOC, NOx, CO increased Enhances Natural Environment (up to 4 points) +1 Project improves water quality +2 Project adds new sidewalks on high-utility link +1 Project selects a design alternative that avoids impacts to sensitive natural areas -1 Project reduces urban heat island effect Bonus/Penalty (up to 2 points) -1 Project increases access to parks, open space, or other natural assets -1 Project is anticipated to lead to negative environmental outcomes Penalty -1 Project increases Ndx emissions in area in top 20% of regional Ndx levels -2 Project increases Ndx emissions in area in top 20% of regional Ndx levels Yes	Project improves access to affordable housing opportunities (up to 3 points) +2 20 percent or more of the project cost is provided +1 Less than 20 percent of the project cost is provided -0 No non-TIP funding is provided by the project proponent Project promotes access to affordable housing opportunities (up to 3 points) +3 10.4% or more of housing units are affordable in project area +2 6.6-10.3% of housing units are affordable in project area +1 1.6-6.5% of housing units are affordable in project area -0 Less than 1% of housing units are affordable in project area N/A Bonus (up to 1 point) +1 Project proponent appoints design process through pilot project OR robust community outreach process No									
MPO Goal Area Clean Air/Sustainable Communities: Create an environmentally friendly transportation system. (Up to 12 points) Criterion Project serves sites targeted for future development (up to 3 points) +1 Project improves bicycle access to or within a site -1 Project improves pedestrian access to or within a site -1 Project improves transit access to or within a site N/A No	Project serves existing employment and population centers (up to 3 points) +2 20 percent or more of the project cost is provided +1 Less than 20 percent of the project cost is provided -0 No non-TIP funding is provided by the project proponent Project demonstrates proponent investment (up to 2 points) +2 20 percent or more of the project cost is provided +1 Less than 20 percent of the project cost is provided -0 No non-TIP funding is provided by the project proponent Project promotes access to affordable housing opportunities (up to 3 points) +3 10.4% or more of housing units are affordable in project area +2 6.6-10.3% of housing units are affordable in project area +1 1.6-6.5% of housing units are affordable in project area -0 Less than 1% of housing units are affordable in project area N/A Bonus (up to 1 point) +1 Project proponent appoints design process through pilot project OR robust community outreach process No	Project promotes access to affordable housing opportunities (up to 3 points) +3 10.4% or more of housing units are affordable in project area +2 6.6-10.3% of housing units are affordable in project area +1 1.6-6.5% of housing units are affordable in project area -0 Less than 1% of housing units are affordable in project area N/A Bonus (up to 1 point) +1 Project proponent appoints design process through pilot project OR robust community outreach process No									
MPO Goal Area Economic Vitality: Ensure our transportation network provides a strong foundation for economic vitality. (Up to 12 points) Criterion Project serves sites targeted for future development (up to 3 points) +1 Project improves bicycle access to or within a site -1 Project improves pedestrian access to or within a site -1 Project improves transit access to or within a site N/A No	Project serves existing employment and population centers (up to 3 points) +2 20 percent or more of the project cost is provided +1 Less than 20 percent of the project cost is provided -0 No non-TIP funding is provided by the project proponent Project demonstrates proponent investment (up to 2 points) +2 20 percent or more of the project cost is provided +1 Less than 20 percent of the project cost is provided -0 No non-TIP funding is provided by the project proponent Project promotes access to affordable housing opportunities (up to 3 points) +3 10.4% or more of housing units are affordable in project area +2 6.6-10.3% of housing units are affordable in project area +1 1.6-6.5% of housing units are affordable in project area -0 Less than 1% of housing units are affordable in project area N/A Bonus (up to 1 point) +1 Project proponent appoints design process through pilot project OR robust community outreach process No	Project promotes access to affordable housing opportunities (up to 3 points) +3 10.4% or more of housing units are affordable in project area +2 6.6-10.3% of housing units are affordable in project area +1 1.6-6.5% of housing units are affordable in project area -0 Less than 1% of housing units are affordable in project area N/A Bonus (up to 1 point) +1 Project proponent appoints design process through pilot project OR robust community outreach process No									
Total Base Points Possible 60 Total Equity Points Possible 10 Total Possible Points 70											

**Table A-10
Evaluation Criteria for FFYs 2021-25 TIP and Prior TIP Cycles (Archived)**

OBJECTIVES	CRITERIA	SUBCRITERIA/SCORING																																												
SAFETY: Transportation by all modes will be safe.																																														
Reduce the number and severity of crashes and safety incidents for all modes Reduce serious injuries and fatalities from transportation	Crash severity value: EPDO index (0–5 points)	+5 EPDO value of 300 or more +4 EPDO value between 200 and 299 +3 EPDO value between 100 and 199 +2 EPDO value between 50 and 99 +1 EPDO value less than 50 +0 No EPDO value																																												
Make investments and support initiatives that help protect transportation customers, employees, and the public from safety and security threats	Crash rate (intersections and corridors) (0–5 points)	<p>Intersection</p> <table border="1"> <thead> <tr> <th>Evaluation Score</th> <th>Signalized</th> <th>Unsignalized</th> </tr> </thead> <tbody> <tr> <td>+5</td> <td>≥ 1.69</td> <td>≥ 1.36</td> </tr> <tr> <td>+4</td> <td>1.31–1.69</td> <td>1.03–1.36</td> </tr> <tr> <td>+3</td> <td>0.93–1.31</td> <td>0.70–1.03</td> </tr> <tr> <td>+2</td> <td>0.55–0.93</td> <td>0.37–0.70</td> </tr> <tr> <td>+1</td> <td>0.36–0.55</td> <td>0.21–0.37</td> </tr> <tr> <td>+0</td> <td>< 0.36</td> <td>< 0.21</td> </tr> </tbody> </table> <p>Corridor</p> <table border="1"> <thead> <tr> <th rowspan="2">Evaluation Score</th> <th>Interstate</th> <th>Principal Arterials or Other</th> </tr> <tr> <th>Other Freeways Expressways</th> <th>Minor Arterials Major–Minor Collectors</th> </tr> </thead> <tbody> <tr> <td>+5</td> <td>≥ 1.81</td> <td>≥ 6.45</td> </tr> <tr> <td>+4</td> <td>1.40–1.81</td> <td>5.35–6.45</td> </tr> <tr> <td>+3</td> <td>1.00–1.40</td> <td>4.25–5.35</td> </tr> <tr> <td>+2</td> <td>0.59–1.00</td> <td>3.15–4.25</td> </tr> <tr> <td>+1</td> <td>0.40–0.59</td> <td>2.05–3.15</td> </tr> <tr> <td>+0</td> <td>< 0.40</td> <td>< 2.05</td> </tr> </tbody> </table>	Evaluation Score	Signalized	Unsignalized	+5	≥ 1.69	≥ 1.36	+4	1.31–1.69	1.03–1.36	+3	0.93–1.31	0.70–1.03	+2	0.55–0.93	0.37–0.70	+1	0.36–0.55	0.21–0.37	+0	< 0.36	< 0.21	Evaluation Score	Interstate	Principal Arterials or Other	Other Freeways Expressways	Minor Arterials Major–Minor Collectors	+5	≥ 1.81	≥ 6.45	+4	1.40–1.81	5.35–6.45	+3	1.00–1.40	4.25–5.35	+2	0.59–1.00	3.15–4.25	+1	0.40–0.59	2.05–3.15	+0	< 0.40	< 2.05
Evaluation Score	Signalized	Unsignalized																																												
+5	≥ 1.69	≥ 1.36																																												
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+1	0.40–0.59	2.05–3.15																																												
+0	< 0.40	< 2.05																																												
	Improves truck-related safety issue (0–5 points)	+3 High total effectiveness of truck safety countermeasures +2 Medium total effectiveness of truck safety countermeasures +1 Low total effectiveness of truck safety countermeasures +0 Does not implement truck safety countermeasures If project scores points above, then it is eligible for additional points below: +2 Improves truck safety at HSIP Cluster																																												
	Improves bicycle safety (0–5 points)	+3 High total effectiveness of bicycle safety countermeasures +2 Medium total effectiveness of bicycle safety countermeasures +1 Low total effectiveness of bicycle safety countermeasures +0 Does not implement bicycle safety countermeasures If project scores points above, then it is eligible for additional points below: +2 Improves bicycle safety at HSIP Bicycle Cluster +1 Improves bicycle safety at HSIP Cluster																																												
	Improves pedestrian safety (0–5 points)	+3 High total effectiveness of pedestrian safety countermeasures +2 Medium total effectiveness of pedestrian safety countermeasures +1 Low total effectiveness of pedestrian safety countermeasures +0 Does not implement pedestrian safety countermeasures If project scores points above, then it is eligible for additional points below: +2 Improves pedestrian safety at HSIP Pedestrian Cluster +1 Improves pedestrian safety at HSIP Cluster																																												
	Improves safety or removes an at-grade railroad crossing (0–5 points)	+5 Removes an at-grade railroad crossing +3 Significantly improves safety at an at-grade railroad crossing +1 Improves safety at an at-grade railroad crossing +0 Does not include a railroad crossing																																												
SAFETY (30 possible points)																																														
SYSTEM PRESERVATION AND MODERNIZATION: Maintain and modernize the transportation system and plan for its resiliency.																																														
Maintain the transportation system, including roadway, transit, and active transportation infrastructure, in a state of good repair	Improves substandard roadway bridge(s) (0–3 points)	+3 Condition is structurally deficient and improvements are included in the project +1 Condition is functionally obsolete and improvements are included in the project +0 Does not improve substandard bridge or does not include a bridge																																												
Modernize transportation infrastructure across all modes Prioritize projects that support planned response capability to existing or future extreme conditions (sea level rise, flooding, and other natural and security-related man-made impacts)	Improves substandard pavement (0–6 points)	+6 IRI rating greater than 320: Poor condition and pavement improvements are included in the project +4 IRI rating between 320 and 191: Fair condition and pavement improvements are included in the project +0 IRI rating less than 190: Good or better condition																																												
	Improves substandard traffic signal equipment (0–6 points)	+6 Poor condition and improvements are included in the project +4 Fair condition and improvements are included in the project +0 Does not meet or address criteria																																												
	Improves transit asset(s) (0–3 points)	+2 Brings transit asset into state of good repair +1 Meets an identified-need in an asset management plan +0 Does not meet or address criteria																																												
	Improves substandard sidewalk(s) (0–3 points)	+3 Poor condition and sidewalk improvements are included in the project +2 Fair condition and sidewalk improvements are included in the project +0 Sidewalk condition is good or better																																												
	Improves emergency response (0–2 points)	+1 Project improves an evacuation route, diversion route, or alternate diversion route																																												

Table A-10
Evaluation Criteria for FFYs 2021-25 TIP and Prior TIP Cycles (Archived)

OBJECTIVES	CRITERIA	SUBCRITERIA/SCORING
		+1 Project improves an access route to or in proximity to an emergency support location
	Improves ability to respond to extreme conditions (0–6 points)	+2 Addresses flooding problem and/or sea level rise and enables facility to function in such a condition +1 Brings facility up to current seismic design standards +1 Addresses critical transportation infrastructure +1 Protects freight network elements +1 Implements hazard mitigation or climate adaptation plans
SYSTEM PRESERVATION AND MODERNIZATION (29 possible points)		
CAPACITY MANAGEMENT AND MOBILITY: Use existing facility capacity more efficiently and increase transportation options.		
Improve access to and accessibility of all modes, especially transit and active transportation Support roadway management and operations strategies to improve travel reliability, mitigate congestion, and support non-single-occupant-vehicle travel Emphasize capacity management through low-cost investments; prioritize projects that focus on lower-cost operations/management-type improvements such as intersection improvements, transit priority, and Complete Streets solutions Improve reliability of transit	Reduces transit vehicle delay (0–4 points)	+3 5 hours or more of daily transit vehicle delay reduced +2 1–5 hours of daily transit vehicle delay reduced +1 Less than one hour of daily transit vehicle delay reduced +0 Does not reduce transit delay If project scores points above, then it is eligible for additional points below: +1 Improves one or more key bus route(s)
	Improves pedestrian network and ADA accessibility (0–5 points)	+2 Adds new sidewalk(s) (including shared-use paths) +2 Improves ADA accessibility +1 Closes a gap in the pedestrian network +0 Does not improve pedestrian network
	Improves bicycle network (0–4 points)	+3 Adds new physically separated bicycle facility (including shared-use paths) +2 Adds new buffered bicycle facility +1 Adds new standard bicycle facility +1 Closes a gap in the bicycle network +0 Does not improve bicycle network
Increase percentage of population and employment within one-quarter mile of transit stations and stops Support community-based and private-initiative services to meet first- and last-mile, reverse commute, and other non-traditional transportation needs, including those of people 75 years old or older and people with disabilities	Improves intermodal accommodations/ connections to transit (0–6 points)	+6 Meets or addresses criteria to a high degree +4 Meets or addresses criteria to a medium degree +2 Meets or addresses criteria to a low degree +0 Does not meet or address criteria
Support strategies to better manage automobile and bicycle parking capacity and usage at transit stations	Improves truck movement (0–4 points)	+3 Meets or addresses criteria to a high degree +2 Meets or addresses criteria to a medium degree +1 Meets or addresses criteria to a low degree +0 Does not meet or address criteria If project scores points above, then it is eligible for additional points below: +1 Addresses MPO-identified bottleneck location
Fund improvements to bicycle and pedestrian networks aimed at creating a connected network of bicycle and accessible sidewalk facilities by expanding existing facilities and closing gaps Increase percentage of population and places of employment with access to facilities on the bicycle network Eliminate bottlenecks on the freight network, improve freight reliability, and enhance freight intermodal connections	Reduces vehicle congestion (0–6 points)	+6 400 hours or more of daily vehicle delay reduced +4 100–400 hours of daily vehicle delay reduced +2 Less than 100 hours of daily vehicle delay reduced +0 Does not meet or address criteria
CAPACITY MANAGEMENT AND MOBILITY (29 possible points)		
CLEAN AIR/SUSTAINABLE COMMUNITIES: Create an environmentally friendly transportation system.		

**Table A-10
Evaluation Criteria for FFYs 2021-25 TIP and Prior TIP Cycles (Archived)**

OBJECTIVES	CRITERIA	SUBCRITERIA/SCORING
<p>Reduce greenhouse gases generated in the Boston region by all transportation modes</p> <p>Reduce other transportation-related pollutants</p> <p>Minimize negative environmental impacts of the transportation system</p> <p>Support land use policies consistent with smart, healthy, and resilient growth</p>	<p>Reduces CO₂ (-5-5 points)</p>	<p>+5 1,000 or more annual tons of CO₂ reduced</p> <p>+4 500-999 annual tons of CO₂ reduced</p> <p>+3 250-499 annual tons of CO₂ reduced</p> <p>+2 100-249 annual tons of CO₂ reduced</p> <p>+1 Less than 100 annual tons of CO₂ reduced</p> <p>0 No impact</p> <p>-1 Less than 100 annual tons of CO₂ increased</p> <p>-2 100-249 annual tons of CO₂ increased</p> <p>-3 250-499 annual tons of CO₂ increased</p> <p>-4 500-999 annual tons of CO₂ increased</p> <p>-5 1,000 or more annual tons of CO₂ increased</p>
	<p>Reduces other transportation-related emissions (VOC, NOx, CO) (-5-5 points)</p>	<p>+5 2,000 or more total kilograms of VOC, NOx, CO reduced</p> <p>+4 1,000-1999 total kilograms of VOC, NOx, CO reduced</p> <p>+3 500-999 total kilograms of VOC, NOx, CO reduced</p> <p>+2 250-499 total kilograms of VOC, NOx, CO reduced</p> <p>+1 Less than 250 total kilograms of VOC, NOx, CO reduced</p> <p>0 No impact</p> <p>-1 Less than 250 total kilograms of VOC, NOx, CO increased</p> <p>-2 250-499 total kilograms of VOC, NOx, CO increased</p> <p>-3 500-999 total kilograms of VOC, NOx, CO increased</p> <p>-4 1,000-1999 total kilograms of VOC, NOx, CO increased</p> <p>-5 2,000 or more total kilograms of VOC, NOx, CO increased</p>
	<p>Addresses environmental impacts (0-4 points)</p>	<p>+1 Addresses water quality</p>
		<p>+1 Addresses cultural resources/open space</p>
		<p>+1 Addresses wetlands/resource areas</p>
		<p>+1 Addresses wildlife preservation/protected habitats</p>
		<p>+0 Does not meet or address criteria</p>
	<p>Is in an EOEEA-certified "Green Community" (0-2 points)</p>	<p>+2 Project is located in a "Green Community"</p> <p>+0 Project is not located in a "Green Community"</p>
<p>CLEAN AIR/SUSTAINABLE COMMUNITIES (16 possible points)</p>		
<p>TRANSPORTATION EQUITY: Ensure that all people receive comparable benefits from, and are not disproportionately burdened by, MPO investments, regardless of race, color, national origin, age, income, ability, or sex.</p>		
<p>Prioritize MPO investments that benefit equity populations</p> <p>Minimize potential harmful environmental, health, and safety effects of MPO funded projects for all equity populations</p> <p>Promote investments that support transportation for all ages (age-friendly communities)</p> <p>Promote investments that are accessible to all people regardless of ability</p>	<p>Serves Title VI/non-discrimination populations (-10-12 points)</p>	<p>+2 Serves minority (high concentration) population (>2,000 people)</p> <p>+1 Serves minority (low concentration) population (≤ 2,000 people)</p> <p>+2 Serves low-income (high concentration) population (>2,000 people)</p> <p>+1 Serves low-income (low concentration) population (≤ 2,000 people)</p> <p>+2 Serves limited-English proficiency (high concentration) population (>1,000 people)</p> <p>+1 Serves limited-English proficiency (low concentration) population (≤ 1,000 people)</p> <p>+2 Serves elderly (high concentration) population (>2,000 people)</p> <p>+1 Serves elderly (low concentration) population (≤ 2,000 people)</p> <p>+2 Serves zero vehicle households (high concentration) population (>1,000 people)</p> <p>+1 Serves zero vehicle households (low concentration) population (≤ 1,000 people)</p> <p>+2 Serves persons with disabilities (high concentration) population (>1,000 people)</p> <p>+1 Serves persons with disabilities (low concentration) population (≤ 1,000 people)</p> <p>+0 Does not serve Title VI or non-discrimination populations</p> <p>-10 Creates a burden for Title VI/non -discrimination populations</p>
<p>TRANSPORTATION EQUITY (12 possible points)</p>		
<p>ECONOMIC VITALITY: Ensure our transportation network provides a strong foundation for economic vitality.</p>		
<p>Respond to mobility needs of the workforce population</p> <p>Minimize the burden of housing and transportation costs for residents in the region</p>	<p>Serves targeted development site (0-6 points)</p>	<p>+2 Provides new transit access to or within site</p> <p>+1 Improves transit access to or within site</p> <p>+1 Provides for bicycle access to or within site</p> <p>+1 Provides for pedestrian access to or within site</p> <p>+1 Provides for improved road access to or within site</p> <p>+0 Does not provide any of the above measures</p>
<p>Prioritize transportation investments that serve residential, commercial, and logistics targeted development sites and "Priority Places" identified in the MBTA's <i>Focus 40</i> plan</p> <p>Prioritize transportation investments consistent with compact-growth strategies of the regional transportation plan</p>	<p>Provides for development consistent with the compact growth strategies of MetroFuture (0-5 points)</p>	<p>+2 Mostly serves an existing area of concentrated development</p> <p>+1 Partly serves an existing area of concentrated development</p> <p>+1 Supports local zoning or other regulations that are supportive of smart growth development</p> <p>+2 Complements other local financial or regulatory support that fosters economic revitalization in a manner consistent with smart growth development principles</p> <p>+0 Does not provide any of the above measures</p>
	<p>Provides multimodal access to an activity center</p>	<p>+1 Provides transit access (within a quarter mile) to an activity center</p>

**Table A-10
Evaluation Criteria for FFYs 2021-25 TIP and Prior TIP Cycles (Archived)**

OBJECTIVES	CRITERIA	SUBCRITERIA/SCORING
	(0–4 points)	+1 Provides truck access to an activity center +1 Provides bicycle access to an activity center +1 Provides pedestrian access to an activity center +0 Does not provide multimodal access
	Leverages other investments (non-TIP funding) (0–3 points)	+3 Meets or addresses criteria to a high degree (>30 percent of the project cost) +2 Meets or addresses criteria to a medium degree (10–30 percent of the project cost) +1 Meets or addresses criteria to a low degree (< 10 percent of the project cost) +0 Does not meet or address criteria
ECONOMIC VITALITY (18 possible points)		
TOTAL SCORE (134 possible points)		

**Table A-11
Evaluation Criteria for FFY 2021 Community Connections Program (Archived)**

Key		
Blue = Criteria that apply to all projects		
Green = Criteria for capital projects		
Red/Pink = Criteria for operating projects		
OBJECTIVE	CRITERIA	FACTORS
PROJECT ELIGIBILITY VERIFICATION		
Each project funded through this program must show an air quality benefit when analyzed through the MPO's air quality analysis process. Projects must be ready to begin construction or operation by October 2020. Project sponsors or proponents must demonstrate that they have gained support from stakeholders and have the institutional capacity to carry out the project within the MPO timeframe.	Air Quality Analysis	Projects must pass a spreadsheet-based air quality benefit test based on a variety of data inputs customized to the type of project.
	Proponent's Project Management Capacity	Names, experience, and time commitment of project management staff, as provided by the proponent.
GENERAL SCORING CRITERIA (30 possible points)		
Network or connectivity value (6 points)		
The primary purpose of the Community Connections Program is to close gaps in the transportation network, especially those in the first or last mile between transit and a destination. Projects will be awarded points based on how effectively a proposed project closes different types of gaps and makes travel easier or more efficient.	Connection to existing activity hubs and residential developments (2 points)	Proximity of the project or service to employment, residential, and civic activity hubs, such as dense areas of employment or housing.
	Connection to existing transit hubs (2 points)	Proximity of the project to transit service, with added incentive for connecting to frequent or high-quality service.
	Connection to other transportation infrastructure (2 points)	Proximity of the project to sidewalk or protected or off-road bicycle infrastructure.
Coordination or cooperation between multiple entities (5 points)		
The MPO prioritizes collaboration among different entities in the transportation planning process. Cooperative project planning and execution is particularly important for first-mile and last-mile connections of the type that the Community Connections Program is intended to facilitate. The cooperation can involve actors from both the public and private sectors.	Number of collaborating entities (5 points)	Number and variety (judged by sector of origin) of entities collaborating to support the project.
Inclusion in and consistency with local and regional plans (5 points)		
A comprehensive planning process is important to ensure that projects occur in an environment of collaboration and careful consideration rather than independently. This criterion proposes to award points based on the extent to which a proposed project has been included in prior plans at both the local and regional levels, and whether it meets the goals of those plans.	Inclusion in local plans (2 points)	Whether the project is included as a need or priority in a local comprehensive plan.
	Inclusion in MPO plans (2 points)	Whether the project is identified as a need in the LRTP Needs Assessment or recommended in an MPO or MAPC study.
	Inclusion in statewide plans (1 point)	Whether the project is included as a need or priority in a MassDOT or other statewide study.
Transportation equity (5 points)		

**Table A-11
Evaluation Criteria for FFY 2021 Community Connections Program (Archived)**

OBJECTIVE	CRITERIA	FACTORS
The MPO seeks to target investments to areas that benefit a high percentage of low-income and minority populations; minimize any burdens associated with MPO-funded projects in low-income and minority areas; and break down barriers to participation in MPO-decision making.	Serves a demographic of transportation equity concern, as identified by the MPO (5 points)	The extent to which the project serves equity populations.
Generation of mode shift (4 points)		
Another primary purpose of the Community Connection Program is to enable modal shift from SOV to transit or other modes. This criterion would award points based on the project's effectiveness at creating mode shift and/or enabling trips that were previously impossible by non-SOV modes.	Allow new trips that would not be otherwise possible without a car (4 points)	Whether the project adds to overall non-automotive mobility by creating new connections or making trips possible that were not previously, without detracting from or competing with existing transit options.
Demand projection (4 points)		
Gaining an understanding of how many transportation network users a project will reach is crucial for understanding its cost-effectiveness.	Overall demand estimate (2 points)	Presence of demand/usage estimates and quality of analysis used to support them in the application materials.
	Staff evaluation of demand estimate (2 points)	Whether staff judge the demand/usage projections realistic.
TYPE-SPECIFIC EVALUATION CRITERIA: CAPITAL PROJECTS (30 points)		
SAFETY BENEFITS (12 points)		
Bicycle safety (6 points)		
Improving safety on the regional transportation network is one of the MPO's key goals. This criterion would award points to projects that improve safety for the most vulnerable users of the network – people walking and people riding bicycles. An overall score of the effectiveness of bicycle safety countermeasures will be made through professional judgement comparing existing facilities, safety issues, use, and desired/anticipated use to the proposed bicycle safety countermeasures planned to be implemented as part of the project.	Total effectiveness of bicycle safety countermeasures (6 points)	Existing and potential bicyclist usage of the infrastructure and effectiveness of the expected safety improvements.
Pedestrian safety (6 points)		
An overall score of the effectiveness of pedestrian safety countermeasures will be made through professional judgement comparing existing facilities, safety issues, use, and desired/anticipated use to the proposed pedestrian safety countermeasures planned to be implemented as part of the project.	Total effectiveness of pedestrian safety countermeasures (6 points)	Existing and potential pedestrian usage of the infrastructure and effectiveness of the expected safety improvements.
Lifecycle cost-effectiveness (10 points)		
In addition to the initial construction costs, the MPO is concerned that projects funded through the Community Connection Program remain fiscally sustainable after MPO-awarded funding runs out. Projects proposed to the program should be cost-effective compared to potential alternatives, and proponents should demonstrate that local maintenance budgets will be able to accommodate the increased costs of maintaining the project.	Lifecycle Alternatives Analysis (5 Points)	Presence of a cost-effectiveness analysis in the application and whether the analysis is qualitative or quantitative.
	Maintenance budget and plan (5 Points)	Identification of a maintenance plan for the project, including the entity responsible for it and a source of funds.
Resilience to weather and environmental hazards (8 points)		

**Table A-11
Evaluation Criteria for FFY 2021 Community Connections Program (Archived)**

OBJECTIVE	CRITERIA	FACTORS
Resilience in the face of increasingly destructive storms and weather hazards is a growing concern in the Boston region, and is codified in the MPO's System Preservation goal. Project proponents should demonstrate that their project will not cause damage to a sensitive ecosystem and that it will be able to resist damage from extreme weather events.	Impact on areas of environmental concern (6 points)	Magnitude of the project's environmental impact, positive or negative.
	Relationship to resilience plans (2 points)	Whether the project is included in local resilience plans.
TYPE-SPECIFIC CRITERIA: OPERATIONAL PROJECTS		
Long-Term Financial Plan (12 points)		
	Annual operating costs (2 points)	Whether the estimate of operating costs is present and realistic.
	Annual maintenance costs (1 point)	Whether the estimate of maintenance costs is present and realistic.
	All other costs (1 point)	Whether the estimate of other costs is present and realistic.
	Fare structure (2 points)	Presence of a detailed description of the proposed fare structure and explanation thereof.
	Plan for fiscal sustainability (6 points)	Whether the application identifies full funding for the project (reflecting a local match to MPO funds) for 0, 1, 2, 3 or more years.
Service Plan (10 points)		
	Service Plan (4 points)	Presence of details on: <ul style="list-style-type: none"> • Plans for ADA compliance • Frequency and routing of service • How the service plans meet the need of projected riders
	Operational/contracting plan (4 points)	Presence of details on administrative and/or contracting plans and the background of the operator.
	Marketing plan (2 points)	Presence of a detailed description of a marketing plan.
Performance Monitoring Plan (8 points)		
	Data management plan (3 points)	Inclusion of plans for data collection, analysis for monitoring service, and sharing the data with the MPO.
	Passenger survey (2 points)	Whether the application describes plans for a ridership survey and the frequency with which it will be administered.
	Trip-level boarding counts (1 point)	Presence of plans for trip-level data collection.
	Stop-level data collection (1 point)	Presence of plans for stop-level data collection.
	Marketing evaluation (1 point)	Presence of plans for an evaluation of the marketing effort.

ADA = Americans with Disabilities Act. CMAQ = Congestion Mitigation and Air Quality Improvement Program. CTPS = Central Transportation Planning Staff. FFY = federal fiscal year. GIS = geographic information systems. GTFS = general transit feed specification. LRTP = Long-Range Transportation Plan. MAPC = Metropolitan Area Planning Council. MassDOT = Massachusetts Department of Transportation. MBTA = Massachusetts Bay Transportation Authority. MPO = Metropolitan Planning Organization. MVP = Municipal Vulnerability Program. SOV = single occupancy vehicle. TAD = Traffic and Design. TAZ = transportation analysis zone. TIP = Transportation Improvement Program.

APPENDIX B-Greenhouse Gas Monitoring and Evaluation

Background

The Global Warming Solutions Act of 2008 (GWSA) required statewide reductions in greenhouse gas (GHG) emissions of 25 percent below 1990 levels by the year 2020, and 80 percent below 1990 levels by 2050. As part of the GWSA, the Executive Office of Energy and Environmental Affairs developed the Massachusetts Clean Energy and Climate Plan (CECP), which outlined programs to attain the 25 percent reduction by 2020—including a 7.6 percent reduction attributed to the transportation sector.

The Commonwealth's 13 metropolitan planning organizations (MPOs) are integrally involved in helping to achieve GHG emissions reductions mandated under the GWSA. The MPOs work closely with the Massachusetts Department of Transportation (MassDOT) and other involved agencies to develop common transportation goals, policies, and projects that will help to reduce GHG emissions levels statewide, and meet the specific requirements of the GWSA regulation, Global Warming Solutions Act Requirements for the Transportation Sector and the Massachusetts Department of Transportation (310 CMR 60.05). The purpose of this regulation is to assist the Commonwealth in achieving its adopted GHG emissions reduction goals by requiring the following:

- MassDOT must demonstrate that its GHG emissions reduction commitments and targets are being achieved.
- Each MPO must evaluate and track the GHG emissions and impacts of both its Long Range Transportation Plan (LRTP) and Transportation Improvement Program (TIP).
- Each MPO, in consultation with MassDOT, must develop and use procedures to prioritize and select projects for its LRTP and TIP based on factors that include GHG emissions and impacts.

The Commonwealth's MPOs are meeting the requirements of this regulation through the transportation goals and policies contained in their LRTPs, the major projects planned in their LRTPs, and the mix of new transportation projects that are programmed and implemented through their TIPs.

The GHG tracking and evaluation processes enable the MPOs and MassDOT to identify the anticipated GHG impacts of the planned and programmed projects, and to use GHG impacts as criteria to prioritize transportation projects. This approach is consistent with the GHG emissions reduction policies that promote healthy transportation modes through prioritizing and

programming an appropriate balance of roadway, transit, bicycle, and pedestrian investments, as well as policies that support smart growth development patterns by creating a balanced multimodal transportation system.

Regional Tracking and Evaluating Long-Range Transportation Plans

MassDOT coordinated with MPOs and regional planning agencies to implement GHG tracking and to evaluate projects during the development of the LRTPs that were adopted in September 2011. This collaboration continued during the development of the LRTPs and amendments adopted in 2016, and for the TIPs produced for federal fiscal years (FFYs) 2016–19, 2017–21, 2018–22, 2019–23, 2020–24, 2021–25, and 2022–26. Working together, MassDOT and the MPOs have attained the following milestones:

- As a supplement to the 2016 LRTPs and Amendment One to the Boston Region MPO's LRTP, Charting Progress to 2040, the MPOs have completed modeling and developed long-range statewide projections for GHG emissions produced by the transportation sector. The Boston Region MPO's travel demand model and the statewide travel demand model were used to project GHG emissions levels for 2018, 2019, and 2020 No-Build (base conditions). These projections were developed as part of amendments to 310 CMR 60.05 (adopted in August 2017 by the Massachusetts Department of Environmental Protection) to demonstrate that aggregate transportation GHG emissions reported by MassDOT will meet established annual GHG emissions targets.
- All of the MPOs have discussed climate change, addressed GHG emissions reduction projections in their LRTPs, and prepared statements affirming their support for reducing GHG emissions as a regional goal.

Tracking and Evaluating the Transportation Improvement Program

In addition to monitoring the GHG impacts of projects in the LRTP that will add capacity to the transportation system, it also is important to monitor and evaluate the GHG impacts of all transportation projects that are programmed in the TIP. The TIP includes both the larger, capacity-adding projects from the LRTP and smaller projects, which are not included in the LRTP but that may affect GHG emissions. The principal objective of this tracking is to enable the MPOs to evaluate the expected GHG impacts of different projects and to use this information as criteria to prioritize and program projects in future TIPs.

In order to monitor and evaluate the GHG impacts of TIP projects, MassDOT and the MPOs have developed approaches for identifying anticipated GHG emissions impacts of different types of projects. Since carbon dioxide (CO₂) is the largest component of GHG emissions overall and is the focus of regulation 310 CMR 60.05, CO₂ has been used to measure the GHG emissions impacts of transportation projects in the TIP and LRTP.

All TIP projects have been sorted into two categories for analysis: 1) projects with quantified CO₂ impacts, and 2) projects with assumed CO₂ impacts. Projects with quantified impacts consist of capacity-adding projects from the LRTP and projects from the TIP that underwent a Congestion Mitigation and Air Quality Improvement (CMAQ) program spreadsheet analysis. Projects with assumed impacts are those that would be expected to produce a minor decrease or increase in emissions, and those that would be assumed to have no CO₂ impact.

Travel Demand Model

Projects with quantified impacts include capacity-adding projects in the LRTP that were analyzed using the Boston Region MPO's travel demand model set. No independent calculations were done for these projects during the development of the TIP.

Off-Model Methods

MassDOT's Office of Transportation Planning provided spreadsheets that are used to determine projects' eligibility for funding through the CMAQ program. Typically, MPO staff uses data from projects' functional design reports, which are prepared at the 25-percent design phase, to conduct these calculations. Staff used these spreadsheets to calculate estimated projections of CO₂ for each project, in compliance with GWSA regulations. These estimates are shown in Tables B-1 and B-2. A note of "to be determined" is shown for those projects for which a functional design report was not yet available.

As part of the development of the FFYs 2024–28 TIP, analyses were done for the types of projects described below. A summary of steps performed in the analyses is provided.

Traffic Operational Improvement

For an intersection reconstruction or signalization project that typically reduces delay and, therefore, idling, the following steps are taken:

- Step 1: Calculate the AM peak hour total intersection delay (seconds)
- Step 2: Calculate the PM peak hour total intersection delay (seconds)
- Step 3: Select the peak hour with the longer intersection delay
- Step 4: Calculate the selected peak hour total intersection delay with improvements
- Step 5: Calculate the vehicle delay in hours per day (assumes peak hour delay is 10 percent of daily delay)
- Step 6: Input the emissions factors for arterial idling speed from the US Environmental Protection Agency's Motor Vehicle Emission Simulator (MOVES)
- Step 7: Calculate the net emissions change in kilograms per day
- Step 8: Calculate the net emissions change in kilograms per year (seasonally adjusted)
- Step 9: Calculate the cost effectiveness (first year cost per kilogram of emissions reduced)

Pedestrian and Bicycle Infrastructure

For a shared-use path that would enable more walking and biking trips and reduce automobile trips, the following steps are taken:

- Step 1: Calculate the estimated number of one-way trips based on the percentage of workers residing in the communities served by the facility and the communities' bicycle and pedestrian commuter mode share
- Step 2: Calculate the reduction in vehicle-miles traveled per day and per year (assumes each trip is the length of the facility and that the facility operates 200 days per year)
- Step 3: Input the MOVES emissions factors for the average commuter travel speed (assumes 35 miles per hour)
- Step 4: Calculate the net emissions change in kilograms per year (seasonally adjusted)
- Step 5: Calculate the cost effectiveness (first year cost per kilogram of emissions reduced)

Bus Replacement

For a program that replaces old buses with new buses that reduce emissions or run on cleaner fuel, the following steps are taken:

- Step 1: Input the MOVES emissions factors for the average bus travel speed (assumes 18 miles per hour) for both the old model year bus and the new model year bus
- Step 2: Calculate the fleet vehicle-miles per day based on the vehicle revenue-miles and operating days per year
- Step 3: Calculate the net emissions change in kilograms per year (seasonally adjusted)
- Step 4: Calculate the cost effectiveness (first-year cost per kilogram of emissions reduced)

Other Types of Projects

Calculations may be performed on the project types listed below:

- **New and Additional Transit Service:** A new bus or shuttle service that reduces automobile trips
- **Park-and-Ride Lot:** A facility that reduces automobile trips by encouraging high-occupancy vehicle (HOV) travel via carpooling or transit
- **Alternative Fuel Vehicles:** New vehicle purchases that replace traditional gas or diesel vehicles with alternative fuel or advanced technology vehicles
- **Anti-Idling Strategies:** Strategies that include incorporating anti-idling technology into fleets and using light-emitting diode (LED) lights on trucks for the purpose of illuminating worksites
- **Bike-share Projects:** Programs in which bicycles are made available for shared use to individuals on a short-term basis, allowing each bicycle to serve several users per day
- **Induced Travel:** Projects associated with a roadway capacity change that gives rise to new automobile trips
- **Speed Reduction Projects:** Projects that result in slower vehicle travel speeds and, therefore, reduced emissions
- **Transit Signal Priority Projects:** Technology at signalized intersections or along corridors that affect bus travel times
- **Truck Stop Electrification:** Provides truck drivers with necessary services, such as heating, air conditioning, or appliances, without requiring them to idle their engines

Analyzing Projects with Assumed Impacts

Qualitative Decrease or Increase in Carbon Dioxide Emissions

Projects with assumed CO₂ impacts are those that could produce a minor decrease or increase in emissions, but the change in emissions cannot be calculated with any precision. Examples include a bicycle rack installation, Safe Routes to School project, or transit marketing or customer service improvement. These projects are categorized as producing an assumed nominal increase or decrease in emissions.

No Carbon Dioxide Impact

Projects that do not change the capacity or use of a facility—for example, a resurfacing project that restores a roadway to its previous condition, or a bridge rehabilitation or replacement that restores the bridge to its previous condition—are assumed to have no CO₂ impact. More details about these projects are discussed in Chapter 3. The following tables display the GHG impact analyses of projects funded in the FFYs 2023–27 Highway Program (Table B-1) and Transit Program (Table B-2). Table B-3 summarizes the GHG impact analyses of highway projects completed before FFY 2024. Table B-4 summarizes the GHG impact analyses of transit projects completed before FFY 2024. A project is considered completed when the construction contract has been awarded or the transit vehicles have been purchased.

Table B-1

Greenhouse Gas Regional Highway Project Tracking: FFYs 2024-28 Programmed Projects

Project ID Number	Project Name	GHG Analysis Type	GHG CO2 Impact (kg/yr)	GHG Impact Description
Federal Fiscal Year 2024				
110980	NEWTON- WESTON- BRIDGE REHABILITATION, N-12-010=W-29-005, CO	Qualitative	0	No assumed impact/negligible impact on emissions
603739	WRENTHAM- CONSTRUCTION OF ROUTE I-495/ROUTE 1A RAMPS	Quantified	1,233,486	Quantified Decrease in Emissions from Traffic Operational Improvement
605313	NATICK- BRIDGE REPLACEMENT, N-03-020, ROUTE 27 (NORTH MAIN S	Not Applicable	0	No assumed impact/negligible impact on emissions
606496	BOSTON- BRIDGE REHABILITATION, B-16-052, BOWKER OVERPASS O	Qualitative	0	No assumed impact/negligible impact on emissions
606901	BOSTON- BRIDGE REPLACEMENT, B-16-109, RIVER STREET BRIDGE C	Qualitative	0	No assumed impact/negligible impact on emissions
606902	BOSTON- BRIDGE REPLACEMENT, B-16-181, WEST ROXBURY PARKW	Qualitative	0	No assumed impact/negligible impact on emissions
607342	MILTON- INTERSECTION IMPROVEMENTS AT ROUTE 28 (RANDOLPH A	Quantified	1,148,459	Quantified Decrease in Emissions from Traffic Operational Improvement
607777	WATERTOWN- REHABILITATION OF MOUNT AUBURN STREET (ROUTE	Quantified	536,769	Quantified Decrease in Emissions from Complete Streets Project
607977	HOPKINTON- WESTBOROUGH- RECONSTRUCTION OF I-90/I-495 INTER	Quantified	0	RTP project included in the statewide model
608007	COHASSET- SCITUATE- CORRIDOR IMPROVEMENTS AND RELATED WC	Quantified	5,849	Quantified Decrease in Emissions from Complete Streets Project
608522	MIDDLETON- BRIDGE REPLACEMENT, M-20-003, ROUTE 62 (MAPLE ST	Qualitative	0	No assumed impact/negligible impact on emissions
608562	SOMERVILLE- SIGNAL AND INTERSECTION IMPROVEMENT ON I-93 AT	Qualitative	0	Qualitative Decrease in Emissions
609054	LITTLETON- RECONSTRUCTION OF FOSTER STREET	Quantified	1,140	Quantified Decrease in Emissions from Complete Streets Project
609211	PEABODY- INDEPENDENCE GREENWAY EXTENSION	Quantified	36,612	Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure
609438	CANTON- BRIDGE REPLACEMENT, C-02-042, REVERE COURT OVER W	Qualitative	0	No assumed impact/negligible impact on emissions
612034	WOBURN- INTERSTATE PAVEMENT PRESERVATION AND RELATED WC	Qualitative	0	Qualitative Decrease in Emissions
612048	WALTHAM- INTERSTATE MAINTENANCE AND RELATED WORK ON I-95	Qualitative	0	Qualitative Decrease in Emissions
613196	BURLINGTON- LYNNFIELD- WAKEFIELD- WOBURN- BRIDGE PRESERVA	Qualitative	0	No assumed impact/negligible impact on emissions
613209	BOSTON- BRIDGE PRESERVATION, B-16-236 (39M, 39P, 39U, 39W, 39Y	Qualitative	0	No assumed impact/negligible impact on emissions
613211	MEDFORD- BRIDGE PRESERVATION OF 10 BRIDGES CARRYING I-93	Qualitative	0	No assumed impact/negligible impact on emissions
S12114	ROYALL STREET SHUTTLE	Quantified	409,583	Quantified Decrease in Emissions from New/Additional Transit Service
S12694	NEWMO MICROTRANSIT SERVICE EXPANSION	Quantified	91,800	Quantified Decrease in Emissions from New/Additional Transit Service
S12697	PLEASANT STREET SHUTTLE SERVICE EXPANSION	Quantified	183,575	Quantified Decrease in Emissions from New/Additional Transit Service
S12699	STONEHAM SHUTTLE SERVICE	Quantified	41,707	Quantified Decrease in Emissions from New/Additional Transit Service
S12700	CATA ON DEMAND MICROTRANSIT SERVICE EXPANSION	Quantified	33,400	Quantified Decrease in Emissions from New/Additional Transit Service
S12701	MWRTA CATCHCONNECT MICROTRANSIT SERVICE EXPANSION	Quantified	11,936	Quantified Decrease in Emissions from New/Additional Transit Service
S12703	MONTACHUSETT RTA MICROTRANSIT SERVICE	Quantified	24,602	Quantified Decrease in Emissions from New/Additional Transit Service
S12705	LYNN STATION IMPROVEMENTS PHASE II	Qualitative	0	Qualitative Decrease in Emissions
S12802	LYNN - BROAD STREET CORRIDOR TRANSIT SIGNAL PRIORITY	Quantified	1,328,755	Quantified Decrease in Emissions from Traffic Operational Improvement
S12803	MEDFORD - BICYCLE PARKING (TIER 1)	Qualitative	0	Qualitative Decrease in Emissions
S12804	MEDFORD - BLUEBIKES EXPANSION	Quantified	4,561	Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure
S12805	CANTON PUBLIC SCHOOLS BIKE PROGRAM	Qualitative	0	Qualitative Decrease in Emissions
S12806	CANTON CENTER BICYCLE RACKS	Qualitative	0	Qualitative Decrease in Emissions
S12807	MWRTA CATCHCONNECT MICROTRANSIT EXPANSION PHASE 2	Quantified	102,845	Quantified Decrease in Emissions from New/Additional Transit Service
S12818	ACTON PARKING MANAGEMENT SYSTEM	Qualitative	0	Quantified Decrease in Emissions from Park and Ride Lot
S12819	JACKSON SQUARE STATION ACCESSIBILITY IMPROVEMENTS	Qualitative	0	Qualitative Decrease in Emissions
S12821	RAIL TRANSFORMATION - EARLY ACTION ITEMS - READING STATION /	Qualitative	0	Qualitative Decrease in Emissions
S12822	COLUMBUS AVENUE BUS LANES PHASE 2	Qualitative	0	Qualitative Decrease in Emissions
S12823	BOSTON - ELECTRIC BLUEBIKES ADOPTION	Quantified	160,925	Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure

S12824	CAMBRIDGE - ELECTRIC BLUEBIKES ADOPTION	Quantified	66,559	Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure
Federal Fiscal Year 2025				
604564	MAYNARD- BRIDGE REPLACEMENT, M-10-004, ROUTE 62 (MAIN STREE	Qualitative	0	No assumed impact/negligible impact on emissions
605168	HINGHAM- IMPROVEMENTS ON ROUTE 3A FROM OTIS STREET/COLE F	Quantified	284,736	Quantified Decrease in Emissions from Complete Streets Project
606453	BOSTON- IMPROVEMENTS ON BOYLSTON STREET, FROM INTERSECT	Quantified	1,920,790	Quantified Decrease in Emissions from Complete Streets Project
607684	BRAINTREE- BRIDGE REPLACEMENT, B-21-017, WASHINGTON STREE	Qualitative	0	No assumed impact/negligible impact on emissions
607977	HOPKINTON- WESTBOROUGH- RECONSTRUCTION OF I-90/I-495 INTER	Quantified	0	RTP project included in the statewide model
608051	WILMINGTON- RECONSTRUCTION ON ROUTE 38 (MAIN STREET), FROM	Quantified	492,167	Quantified Decrease in Emissions from Complete Streets Project
608067	WOBURN- INTERSECTION RECONSTRUCTION AT ROUTE 3 (CAMBRIDG	Quantified	168,263	Quantified Decrease in Emissions from Traffic Operational Improvement
608197	BOSTON- BRIDGE REHABILITATION, B-16-107, CANTERBURY STREET	Qualitative	0	No assumed impact/negligible impact on emissions
608436	ASHLAND- REHABILITATION AND RAIL CROSSING IMPROVEMENTS ON	Qualitative	0	No assumed impact/negligible impact on emissions
608498	QUINCY- WEYMOUTH- BRAINTREE- RESURFACING AND RELATED WOF	Qualitative	0	Qualitative Decrease in Emissions
608703	WILMINGTON- BRIDGE REPLACEMENT, W-38-029 (2KV), ST 129 LOWEL	Qualitative	0	No assumed impact/negligible impact on emissions
608952	CHELSEA- BRIDGE SUPERSTRUCTURE REPLACEMENT C-09-013, WASH	Qualitative	0	No assumed impact/negligible impact on emissions
609252	LYNN- REHABILITATION OF ESSEX STREET	Quantified	411,006	Quantified Decrease in Emissions from Complete Streets Project
609257	EVERETT- RECONSTRUCTION OF BEACHAM STREET	Quantified	4,038	Quantified Decrease in Emissions from Complete Streets Project
609399	RANDOLPH- RESURFACING AND RELATED WORK ON ROUTE 28	Qualitative	0	Qualitative Decrease in Emissions
609467	HAMILTON- IPSWICH- SUPERSTRUCTURE REPLACEMENT, H-03-002=I-C	Qualitative	0	No assumed impact/negligible impact on emissions
609516	BURLINGTON- IMPROVEMENTS AT I-95 (ROUTE 128)/ROUTE 3 INTERC	Qualitative	0	No assumed impact/negligible impact on emissions
609531	ARLINGTON- STRATTON SCHOOL IMPROVEMENTS (SRTS)	Qualitative	0	Qualitative Decrease in Emissions
609532	CHELSEA- TARGETED SAFETY IMPROVEMENTS AND RELATED WORK	Qualitative	0	Qualitative Decrease in Emissions
610544	PEABODY- MULTI-USE PATH CONSTRUCTION OF INDEPENDENCE GRE	Quantified	24,423	Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure
610680	NATICK- LAKE COCHITUATE PATH	Quantified	2,844	Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure
610722	ACTON- BOXBOROUGH- LITTLETON- PAVEMENT PRESERVATION ROU	Qualitative	0	Qualitative Decrease in Emissions
610776	CAMBRIDGE- SUPERSTRUCTURE REPLACEMENT, C-01-031, US ROUTE	Qualitative	0	No assumed impact/negligible impact on emissions
610782	DANVERS- MIDDLETON- BRIDGE REPLACEMENT, D-03-009=M-20-005, /	Qualitative	0	No assumed impact/negligible impact on emissions
611982	MEDFORD- SHARED USE PATH CONNECTION AT THE ROUTE 28/WELL	Quantified	4,309	Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure
611997	NEWTON- HORACE MANN ELEMENTARY SCHOOL IMPROVEMENTS (SF	Qualitative	0	Qualitative Decrease in Emissions
612001	MEDFORD- MILTON FULLER ROBERTS ELEMENTARY SCHOOL (SRTS)	Qualitative	0	Qualitative Decrease in Emissions
612028	STONEHAM- DECK REPLACEMENT & SUPERSTRUCTURE REPAIRS, S-2	Qualitative	0	No assumed impact/negligible impact on emissions
612100	REVERE- IMPROVEMENTS AT BEACHMONT VETERANS ELEMENTARY	Qualitative	0	Qualitative Decrease in Emissions
612173	BELLINGHAM- BRIDGE REPLACEMENT, B-06-022, MAPLE STREET OVE	Qualitative	0	No assumed impact/negligible impact on emissions
612178	NATICK- BRIDGE REPLACEMENT, N-03-010, SPEEN STREET OVER RR	Qualitative	0	No assumed impact/negligible impact on emissions
612182	NEWTON- BRIDGE REPLACEMENT, N-12-040, BOYLSTON STREET OVE	Qualitative	0	No assumed impact/negligible impact on emissions
612184	REVERE- BRIDGE REPLACEMENT, R-05-015, REVERE BEACH PARKWA	Qualitative	0	No assumed impact/negligible impact on emissions
612196	BRAINTREE- BRIDGE REPLACEMENT, B-21-067, JW MAHER HIGHWAY	Qualitative	0	No assumed impact/negligible impact on emissions
S12113	TRANSIT MODERNIZATION PROGRAM	Qualitative	0	No assumed impact/negligible impact on emissions
S12124	COMMUNITY CONNECTIONS PROGRAM	Qualitative	0	No assumed impact/negligible impact on emissions
S12694	NEWMO MICROTRANSIT SERVICE EXPANSION	Quantified	91,800	Quantified Decrease in Emissions from New/Additional Transit Service
S12697	PLEASANT STREET SHUTTLE SERVICE EXPANSION	Quantified	183,575	Quantified Decrease in Emissions from New/Additional Transit Service
S12699	STONEHAM SHUTTLE SERVICE	Quantified	41,707	Quantified Decrease in Emissions from New/Additional Transit Service
S12700	CATA ON DEMAND MICROTRANSIT SERVICE EXPANSION	Quantified	33,400	Quantified Decrease in Emissions from New/Additional Transit Service
S12701	MWRTA CATCHCONNECT MICROTRANSIT SERVICE EXPANSION	Quantified	11,936	Quantified Decrease in Emissions from New/Additional Transit Service
S12703	MONTACHUSETT RTA MICROTRANSIT SERVICE	Quantified	24,602	Quantified Decrease in Emissions from New/Additional Transit Service
S12807	MWRTA CATCHCONNECT MICROTRANSIT EXPANSION PHASE 2	Quantified	102,845	Quantified Decrease in Emissions from New/Additional Transit Service
S12819	JACKSON SQUARE STATION ACCESSIBILITY IMPROVEMENTS	Qualitative	0	Qualitative Decrease in Emissions
S12820	BIKESHARE SUPPORT SET ASIDE	Not Applicable	0	No assumed impact/negligible impact on emissions
S12825	BOSTON MPO REGION - FFY2025 PROJECT DESIGN PILOT	Not Applicable	0	No assumed impact/negligible impact on emissions

Federal Fiscal Year 2026

605321	NORWOOD- BRIDGE PRESERVATION, N-25-026, PROVIDENCE HIGHWA	Qualitative	0	No assumed impact/negligible impact on emissions
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605743	IPSWICH- RESURFACING & RELATED WORK ON CENTRAL & SOUTH M/	Quantified	4,356	Quantified Decrease in Emissions from Complete Streets Project
605857	NORWOOD- INTERSECTION IMPROVEMENTS @ ROUTE 1 & UNIVERSIT	Quantified	1,092,131	Quantified Decrease in Emissions from Traffic Operational Improvement
606449	CAMBRIDGE- BRIDGE REPLACEMENT, C-01-008, FIRST STREET BRIDG	Qualitative	0	No assumed impact/negligible impact on emissions
607977	HOPKINTON- WESTBOROUGH- RECONSTRUCTION OF I-90/I-495 INTER	Quantified	0	RTP project included in the statewide model
608045	MILFORD- REHABILITATION ON ROUTE 16, FROM ROUTE 109 TO BEAV	Quantified	-38,500	Quantified Increase in Emissions
608564	WATERTOWN- INTERSECTION IMPROVEMENTS AT ROUTE 16 AND GAL	Qualitative	0	Qualitative Decrease in Emissions
608940	WESTON- INTERSECTION IMPROVEMENTS BOSTON POST ROAD (ROU	Quantified	102,453	Quantified Decrease in Emissions from Traffic Operational Improvement
608954	WESTON- RECONSTRUCTION ON ROUTE 30	Quantified	357,681	Quantified Decrease in Emissions from Complete Streets Project
609204	BELMONT- COMMUNITY PATH, BELMONT COMPONENT OF THE MCRT (Quantified	26,347	Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure
609437	SALEM- PEABODY- BOSTON STREET IMPROVEMENTS	Quantified	58,773	Quantified Decrease in Emissions from Complete Streets Project
610537	BOSTON- ELLIS ELEMENTARY TRAFFIC CALMING (SRTS)	Qualitative	0	Qualitative Decrease in Emissions
610662	WOBURN- ROADWAY AND INTERSECTION IMPROVEMENTS AT WOBUR	Quantified	736,275	Quantified Decrease in Emissions from Traffic Operational Improvement
610665	STONEHAM- INTERSECTION IMPROVEMENTS AT ROUTE 28 (MAIN STR	Qualitative	0	Qualitative Decrease in Emissions
610675	CHELSEA- RECONSTRUCTION OF SPRUCE STREET, FROM EVERETT AVENUE TO W	Qualitative	0	No assumed impact/negligible impact on emissions
611954	BOSTON- GUIDE AND TRAFFIC SIGN REPLACEMENT ON I-90/I-93 WITH	Qualitative	0	No assumed impact/negligible impact on emissions
611974	MEDFORD- INTERSECTION IMPROVEMENTS AT MAIN STREET/SOUTH S	Qualitative	0	No assumed impact/negligible impact on emissions
612049	RANDOLPH- RESURFACING AND RELATED WORK ON ROUTE 24	Qualitative	0	Qualitative Decrease in Emissions
612050	BRAINTREE- WEYMOUTH- RESURFACING AND RELATED WORK ON RO	Qualitative	0	Qualitative Decrease in Emissions
612051	CANTON- MILTON- RANDOLPH- INTERSTATE MAINTENANCE AND RELA	Qualitative	0	Qualitative Decrease in Emissions
612075	SALEM- BRIDGE REPLACEMENT, S-01-024, JEFFERSON AVENUE OVEI	Qualitative	0	No assumed impact/negligible impact on emissions
612076	TOPSFIELD- BRIDGE REPLACEMENT, T-06-013, PERKINS ROW OVER I	Qualitative	0	No assumed impact/negligible impact on emissions
612099	ASHLAND- BRIDGE REPLACEMENT, A-14-006, CORDAVILLE ROAD OVE	Qualitative	0	No assumed impact/negligible impact on emissions
612496	SOMERVILLE- BRIDGE PRESERVATION, S-17-031, I-93 (NB & SB) FROM	Qualitative	0	No assumed impact/negligible impact on emissions
612523	REVERE- STATE ROAD BEACHMONT CONNECTOR	Qualitative	0	Qualitative Decrease in Emissions
612599	LYNN- TARGETED SAFETY AND MULTIMODAL IMPROVEMENTS (PLAYE	Qualitative	0	Qualitative Decrease in Emissions
612804	DEDHAM- IMPROVEMENTS AT AVERY ELEMENTARY (SRTS)	Qualitative	0	Qualitative Decrease in Emissions
612816	BROOKLINE- IMPROVEMENTS AT WILLIAM H. LINCOLN SCHOOL (SRTS	Qualitative	0	Qualitative Decrease in Emissions
612884	CHELSEA- IMPROVEMENTS AT MARY C. BURKE ELEMENTARY (SRTS)	Qualitative	0	Qualitative Decrease in Emissions
612889	SHARON- COTTAGE STREET SCHOOL IMPROVEMENTS (SRTS)	Qualitative	0	Qualitative Decrease in Emissions
612894	FRAMINGHAM- IMPROVEMENTS AT HARMONY GROVE ELEMENTARY S	Qualitative	0	Qualitative Decrease in Emissions
612989	BOSTON- BRIDGE PRESERVATION, B-16-066 (38D), CAMBRIDGE STREI	Quantified	5,400	Quantified Decrease in Emissions from Traffic Operational Improvement
S12113	TRANSIT MODERNIZATION PROGRAM	Qualitative	0	No assumed impact/negligible impact on emissions
S12124	COMMUNITY CONNECTIONS PROGRAM	Qualitative	0	No assumed impact/negligible impact on emissions
S12807	MWRTA CATCHCONNECT MICROTRANSIT EXPANSION PHASE 2	Quantified	102,845	Quantified Decrease in Emissions from New/Additional Transit Service
S12820	BIKESHARE SUPPORT SET ASIDE	Not Applicable	0	No assumed impact/negligible impact on emissions
Federal Fiscal Year 2027				
605276	BEVERLY- SALEM- DRAWBRIDGE REPLACEMENT/REHABILITATION OF	Qualitative	0	No assumed impact/negligible impact on emissions
605743	IPSWICH- RESURFACING & RELATED WORK ON CENTRAL & SOUTH M/	Quantified	4356	Quantified Decrease in Emissions from Complete Streets Project
605857	NORWOOD- INTERSECTION IMPROVEMENTS @ ROUTE 1 & UNIVERSIT	Quantified	1092131	Quantified Decrease in Emissions from Traffic Operational Improvement
606226	BOSTON- RECONSTRUCTION OF RUTHERFORD AVENUE, FROM CITY S	Qualitative	0	RTP project included in the statewide model
606728	BOSTON- BRIDGE REPLACEMENT B-16-365, STORROW DRIVE OVER B	Qualitative	0	No assumed impact/negligible impact on emissions
607329	WAKEFIELD- LYNNFIELD- RAIL TRAIL EXTENSION, FROM THE GALVIN	Qualitative	0	No assumed impact/negligible impact on emissions
607420	NATICK- SUPERSTRUCTURE REPLACEMENT, N-03-012, BODEN LANE C	Qualitative	0	No assumed impact/negligible impact on emissions
607977	HOPKINTON- WESTBOROUGH- RECONSTRUCTION OF I-90/I-495 INTER	Quantified	0	RTP project included in the statewide model
607981	SOMERVILLE- MCGRATH BOULEVARD CONSTRUCTION	Quantified	136345	Quantified Decrease in Emissions from Complete Streets Project
608514	BEVERLY- BRIDGE REPLACEMENT, B-11-001, BRIDGE STREET OVER I	Qualitative	0	No assumed impact/negligible impact on emissions
609246	LYNN- REHABILITATION OF WESTERN AVENUE (ROUTE 107)	Quantified	902708	Quantified Decrease in Emissions from Complete Streets Project
610650	BOSTON- GALLIVAN BOULEVARD (ROUTE 203) SAFETY IMPROVEMEN	Qualitative	0	Qualitative Decrease in Emissions
610660	SUDBURY- WAYLAND- MASS CENTRAL RAIL TRAIL (MCRT)	Qualitative	0	No assumed impact/negligible impact on emissions
610932	BROOKLINE- REHABILITATION OF WASHINGTON STREET	Quantified	36431	Quantified Decrease in Emissions from Complete Streets Project
611983	CHELSEA- PARK STREET & PEARL STREET RECONSTRUCTION	Quantified	10214	Quantified Decrease in Emissions from Complete Streets Project
611987	CAMBRIDGE- BRIDGE REPLACEMENT, C-01-026, MEMORIAL DRIVE OV	Qualitative	0	No assumed impact/negligible impact on emissions

612499	MEDFORD- SOUTH MEDFORD CONNECTOR BIKE PATH	Qualitative	0	Qualitative Decrease in Emissions
612519	BOSTON- BRIDGE REPLACEMENT, B-16-165, BLUE HILL AVENUE OVER	Qualitative	0	No assumed impact/negligible impact on emissions
612613	NEWTON- INTERSECTION IMPROVEMENTS AT ROUTE 16 AND QUINOB	Qualitative	0	Qualitative Decrease in Emissions
612615	CANTON- MILTON- ROADWAY RECONSTRUCTION ON ROUTE 138, FRO	Qualitative	0	Qualitative Decrease in Emissions
612616	MILTON- INTERSECTION IMPROVEMENTS AT ROUTE 138 AND BRADLE	Qualitative	0	Qualitative Decrease in Emissions
613088	MALDEN- SPOT POND BROOK GREENWAY	Quantified	77012	Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure
613121	EVERETT- TARGETED MULTI-MODAL AND SAFETY IMPROVEMENTS OF	Qualitative	0	Qualitative Decrease in Emissions
S12113	TRANSIT MODERNIZATION PROGRAM	Qualitative	0	No assumed impact/negligible impact on emissions
S12124	COMMUNITY CONNECTIONS PROGRAM	Qualitative	0	No assumed impact/negligible impact on emissions
S12820	BIKESHARE SUPPORT SET ASIDE	Not Applicable	0	No assumed impact/negligible impact on emissions

**Table B-2
Greenhouse Gas Regional Transit Project Tracking: FFYs 2024-28 Programmed Projects**

Regional Transit Authority	Project Name	GHG Analysis Type	GHG CO2 Impact (kg/yr)	GHG Impact Description
Federal Fiscal Year 2024				
Cape Ann Transportation Authority				
RTD0010579	CATA - -Preventive Maintenance	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0010583	CATA - -buy misc small capital	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0010584	CATA - -acquire shop equip/small capital	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0010587	CATA - -repave admin/ops facility parking lot	Qualitative	0	No assumed impact/negligible impact on emissions
T00073	CATA-Rehab/Renovation Administration & Operations Facility	Qualitative	0	No assumed impact/negligible impact on emissions
MetroWest Regional Transit Authority				
RTD0011103	MetroWest RTA - Operating Assistance - Non Fixed Route ADA Paratransit	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0011104	MetroWest RTA - Acquisition of Bus Support / Facilities Equipment	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0011105	MetroWest RTA - Technology Support/Capital Outreach	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0011106	MetroWest RTA - Blandin Intermodal	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0011107	MetroWest RTA - FCRS Intermodal - Framingham Commuter Rail Station (F	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0011114	MetroWest RTA - 5339 STATEWIDE - Vehicle Replacements (16 cutaways)	Quantified	0	Quantified Decrease in Emissions from Bus Replacement
RTD0011123	MetroWest RTA - 5339 STATEWIDE - 2024 EV (Electric Vehicle) Migration	Qualitative	0	Qualitative Decrease in Emissions
RTD0011130	MetroWest RTA - 5339 DISCRETIONARY - Blandin Hub Projects	Qualitative	0	No assumed impact/negligible impact on emissions
T00037	MetroWest RTA - CNG Dispensers (2) at the Compressed Natural Gas Fueli	Qualitative	0	No assumed impact/negligible impact on emissions
T00038	MetroWest RTA - Electronic Sign Board	Qualitative	0	No assumed impact/negligible impact on emissions
Federal Fiscal Year 2025				
Cape Ann Transportation Authority				
RTD0010579	CATA - -Preventive Maintenance	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0010583	CATA - -buy misc small capital	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0010584	CATA - -acquire shop equip/small capital	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0010591	CATA - -Revenue Vehicle Replacement.	Quantified	0	Quantified Decrease in Emissions from Bus Replacement
T00073	CATA-Rehab/Renovation Administration & Operations Facility	Qualitative	0	No assumed impact/negligible impact on emissions
MetroWest Regional Transit Authority				
RTD0011109	MetroWest RTA - ACQUISITION OF BUS SUPPORT EQUIP/FACILITIES	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0011110	MetroWest RTA - TECHNOLOGY SUPPORT/CAPITAL OUTREACH	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0011111	MetroWest RTA - TERMINAL, INTERMODAL (TRANSIT) - BLANDIN	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0011112	MetroWest RTA - OPERATING ASSISTANCE NON FIXED ROUTE ADA PA	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0011115	MetroWest RTA - 5339 COMPETITIVE REVENUE VEHICLE REPLACEMENT	Quantified	0	Quantified Decrease in Emissions from Bus Replacement
RTD0011121	MetroWest RTA - TERMINAL, INTERMODAL (TRANSIT) - Framingham Com	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0011124	MetroWest RTA - 5339 COMPETITIVE 2025 ELECTRIC VEHICLE (EV) ADI	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0011133	MetroWest RTA - AFC TRANSITION - MOBILE FARE COLL EQUIP	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0011134	MetroWest RTA - PUBLIC RESTROOMS AT BLANDIN & FCRS HUBS - DIS	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0011137	MetroWest RTA - VEHICLE REPLACEMENT - CUTAWAYS (8) #2 of 2	Quantified	0	Quantified Decrease in Emissions from Bus Replacement
Federal Fiscal Year 2026				

Cape Ann Transportation Authority				
RTD0010579	CATA - -Preventive Maintenance	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0010583	CATA - -buy misc small capital	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0010584	CATA - -acquire shop equip/small capital	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0010591	CATA - -Revenue Vehicle Replacement.	Quantified	0	Quantified Decrease in Emissions from Bus Replacement
T00073	CATA-Rehab/Renovation Administration & Operations Facility	Qualitative	0	No assumed impact/negligible impact on emissions
MetroWest Regional Transit Authority				
RTD0011116	MetroWest RTA - OPERATING ASSISTANCE NON FIXED ROUTE ADA PA	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0011117	MetroWest RTA - TERMINAL, INTERMODAL (TRANSIT) - BLANDIN	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0011118	MetroWest RTA - TECHNOLOGY SUPPORT/CAPITAL OUTREACH	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0011119	MetroWest RTA - ACQUISITION OF BUS SUPPORT EQUIP/FACILITIES	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0011120	MetroWest RTA - TERMINAL, INTERMODAL (TRANSIT) - Framingham Com	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0011125	MetroWest RTA - 2026 ELECTRIC VEHICLE (EV) ADDTL ELECTRIFICATIC	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0011126	MetroWest RTA - 5339 COMPETITIVE REVENUE VEHICLE REPLACEMENT	Quantified	0	Quantified Decrease in Emissions from Bus Replacement
RTD0011138	MetroWest RTA - VEHICLE REPLACEMENT - CUTAWAYS (8) #2 of 2	Quantified	0	Quantified Decrease in Emissions from Bus Replacement
Federal Fiscal Year 2027				
Cape Ann Transportation Authority				
RTD0010579	CATA - -Preventive Maintenance	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0010583	CATA - -buy misc small capital	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0010584	CATA - -acquire shop equip/small capital	Qualitative	0	No assumed impact/negligible impact on emissions
T00073	CATA-Rehab/Renovation Administration & Operations Facility	Qualitative	0	No assumed impact/negligible impact on emissions
MetroWest Regional Transit Authority				
RTD0011195	MetroWest RTA - OPERATING ASSISTANCE NON FIXED ROUTE ADA PA	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0011196	MetroWest RTA - TERMINAL, INTERMODAL (TRANSIT) - BLANDIN	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0011197	MetroWest RTA - TECHNOLOGY SUPPORT/CAPITAL OUTREACH	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0011198	MetroWest RTA - ACQUISITION OF BUS SUPPORT EQUIP/FACILITIES	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0011199	MetroWest RTA - TERMINAL, INTERMODAL (TRANSIT) - Framingham Com	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0011200	MetroWest RTA - 5339 COMPETITIVE REVENUE VEHICLE REPLACEMENT	Quantified	0	Quantified Decrease in Emissions from Bus Replacement
RTD0011201	MetroWest Regional Transit Authority - ELECTRIC VEHICLE (EV) ADDTL E	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0011202	MetroWest RTA - VEHICLE REPLACEMENT - Cutaways #2 of 2	Quantified	0	Quantified Decrease in Emissions from Bus Replacement
RTD0011267	MetroWest RTA - EV - Additional Electrification for Vehicles	Qualitative	0	No assumed impact/negligible impact on emissions
Federal Fiscal Year 2028				
Cape Ann Transportation Authority				
RTD0010579	CATA - -Preventive Maintenance	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0010583	CATA - -buy misc small capital	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0010584	CATA - -acquire shop equip/small capital	Qualitative	0	No assumed impact/negligible impact on emissions
T00073	CATA-Rehab/Renovation Administration & Operations Facility	Qualitative	0	No assumed impact/negligible impact on emissions
MetroWest Regional Transit Authority				
RTD0011195	MetroWest RTA - OPERATING ASSISTANCE NON FIXED ROUTE ADA PA	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0011196	MetroWest RTA - TERMINAL, INTERMODAL (TRANSIT) - BLANDIN	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0011197	MetroWest RTA - TECHNOLOGY SUPPORT/CAPITAL OUTREACH	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0011198	MetroWest RTA - ACQUISITION OF BUS SUPPORT EQUIP/FACILITIES	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0011199	MetroWest RTA - TERMINAL, INTERMODAL (TRANSIT) - Framingham Com	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0011200	MetroWest RTA - 5339 COMPETITIVE REVENUE VEHICLE REPLACEMENT	Quantified	0	Quantified Decrease in Emissions from Bus Replacement
RTD0011201	MetroWest Regional Transit Authority - ELECTRIC VEHICLE (EV) ADDTL E	Qualitative	0	No assumed impact/negligible impact on emissions
RTD0011202	MetroWest RTA - VEHICLE REPLACEMENT - Cutaways #2 of 2	Quantified	0	Quantified Decrease in Emissions from Bus Replacement
RTD0011267	MetroWest RTA - EV - Additional Electrification for Vehicles	Qualitative	0	No assumed impact/negligible impact on emissions

Table B-3

Greenhouse Gas Regional Highway Project Tracking: Completed Projects

Project ID Number	Project Name	GHG Analysis Type	GHG CO2 Impact (kg/yr)	GHG Impact Description	FFY of Contract Award
Federal Fiscal Year 2023					
603722	LEXINGTON- BRIDGE REPLACEMENT, L-10-010, ROUTE 2A (MARRETT	Qualitative	0	No assumed impact/negligible impact on emissions	
606130	NORWOOD- INTERSECTION IMPROVEMENTS AT ROUTE 1A & UPLAND	Quantified	131,840	Quantified Decrease in Emissions from Traffic Operational Improvement	
606476	BOSTON- ROADWAY, CEILING, ARCH & WALL RECONSTRUCTION AND	Qualitative	0	No assumed impact/negligible impact on emissions	
607244	WINTHROP- RECONSTRUCTION & RELATED WORK ALONG WINTHROP	Quantified	252,816	Quantified Decrease in Emissions from Complete Streets Project	
607327	WILMINGTON- BRIDGE REPLACEMENT, W-38-002, ROUTE 38 (MAIN STF	Qualitative	0	No assumed impact/negligible impact on emissions	
607342	MILTON- INTERSECTION IMPROVEMENTS AT ROUTE 28 (RANDOLPH A'	Qualitative	0	Qualitative Decrease in Emissions	
607777	WATERTOWN- REHABILITATION OF MOUNT AUBURN STREET (ROUTE	Quantified	536,769	Quantified Decrease in Emissions from Complete Streets Project	
607899	DEDHAM- PEDESTRIAN IMPROVEMENTS ALONG BUSSEY STREET, INC	Quantified	3,331	Quantified Decrease in Emissions from Complete Streets Project	
607977	HOPKINTON- WESTBOROUGH- RECONSTRUCTION OF I-90/I-495 INTER	Quantified	0	RTP project included in the statewide model	
608009	BOXBOROUGH- BRIDGE REPLACEMENT, B-18-002, ROUTE 111 OVER I	Qualitative	0	No assumed impact/negligible impact on emissions	
608208	QUINCY- MILTON- BOSTON- INTERSTATE MAINTENANCE & RELATED V	Qualitative	0	No assumed impact/negligible impact on emissions	
608255	STOW- BRIDGE REPLACEMENT, S-29-011, BOX MILL ROAD OVER ELIZ	Qualitative	0	No assumed impact/negligible impact on emissions	
608348	BEVERLY- RECONSTRUCTION OF BRIDGE STREET	Quantified	387,153	Quantified Decrease in Emissions from Complete Streets Project	
608480	FOXBOROUGH- RESURFACING AND RELATED WORK ON ROUTE 1	Qualitative	0	No assumed impact/negligible impact on emissions	
608609	BOSTON- WESTWOOD- STEEL SUPERSTRUCTURE CLEANING (FULL RI	Qualitative	0	No assumed impact/negligible impact on emissions	
608707	QUINCY- RECONSTRUCTION OF SEA STREET	Quantified	-30,437	Quantified Increase in Emissions	
608818	DANVERS- MIDDLETON- RESURFACING AND RELATED WORK ON ROU	Qualitative	0	No assumed impact/negligible impact on emissions	
608889	FRAMINGHAM- TRAFFIC SIGNAL INSTALLATION AT EDGELL ROAD AT	Quantified	232,860	Quantified Decrease in Emissions from Complete Streets Project	
608929	WILMINGTON- BRIDGE REPLACEMENT, W-38-003, BUTTERS ROW OVE	Qualitative	0	No assumed impact/negligible impact on emissions	
608933	PEABODY- REHABILITATION OF CENTRAL STREET	Quantified	150,913	Quantified Decrease in Emissions from Complete Streets Project	
609053	CANTON- DEDHAM- NORWOOD- HIGHWAY LIGHTING IMPROVEMENTS	Qualitative	0	No assumed impact/negligible impact on emissions	
609253	WILMINGTON- INTERSECTION IMPROVEMENTS AT LOWELL STREET (F	Quantified	494,211	Quantified Decrease in Emissions from Traffic Operational Improvement	
609254	LYNN- INTERSECTION IMPROVEMENTS AT TWO INTERSECTIONS ON E	Quantified	73,291	Quantified Decrease in Emissions from Traffic Operational Improvement	
610552	MARLBOROUGH- HUDSON- RAMP IMPROVEMENTS AND RELATED WORK AT I-495 (S		0	No assumed impact/negligible impact on emissions	
610674	NEWTON- RECONSTRUCTION OF COMMONWEALTH AVENUE (ROUTE 3	Quantified	16,846	Quantified Decrease in Emissions from Complete Streets Project	
610726	MEDFORD- READING- SOMERVILLE- STONEHAM- WINCHESTER- WOBU	Qualitative	0	No assumed impact/negligible impact on emissions	
610919	LYNN- NAHANT- NORTHERN STRAND EXTENSION	Qualitative	0	Qualitative Decrease in Emissions	
612662	BOSTON- BRIDGE PRESERVATION, B-16-235 (39T & 3A0), ROUTE 1A O	Qualitative	0	No assumed impact/negligible impact on emissions	
612663	BOSTON- BRIDGE PRESERVATION, B-16-053 (4T3), BROOKLINE AVENI	Qualitative	0	No assumed impact/negligible impact on emissions	
612664	BOSTON- BRIDGE PRESERVATION, B-16-179, AUSTIN STREET OVER I-	Qualitative	0	No assumed impact/negligible impact on emissions	
S12114	ROYALL STREET SHUTTLE	Quantified	409,583	Quantified Decrease in Emissions from New/Additional Transit Service	
S12125	NEWTON MICROTRANSIT SERVICE	Quantified	33,103	Quantified Decrease in Emissions from New/Additional Transit Service	
S12694	NEWMO MICROTRANSIT SERVICE EXPANSION	Quantified	91,800	Quantified Decrease in Emissions from New/Additional Transit Service	
S12695	BLUEBIKES STATION REPLACEMENT AND SYSTEM EXPANSION	Quantified	20,484	Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure	
S12696	BLUEBIKES SYSTEM EXPANSION	Quantified	2,637	Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure	
S12697	PLEASANT STREET SHUTTLE SERVICE EXPANSION	Quantified	183,575	Quantified Decrease in Emissions from New/Additional Transit Service	
S12698	BLUEBIKES SYSTEM EXPANSION	Quantified	460	Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure	
S12699	STONEHAM SHUTTLE SERVICE	Quantified	41,707	Quantified Decrease in Emissions from New/Additional Transit Service	

S12700	CATA ON DEMAND MICROTRANSIT SERVICE EXPANSION	Quantified	33,400	Quantified Decrease in Emissions from New/Additional Transit Service
S12701	MWRTA CATCHCONNECT MICROTRANSIT SERVICE EXPANSION	Quantified	11,936	Quantified Decrease in Emissions from New/Additional Transit Service
S12702	BICYCLE PARKING ALONG THE BRUCE FREEMAN RAIL TRAIL	Quantified	1,024	Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure
S12703	MONTACHUSETT RTA MICROTRANSIT SERVICE	Quantified	24,602	Quantified Decrease in Emissions from New/Additional Transit Service
S12704	CHENERY MIDDLE SCHOOL BICYCLE PARKING	Quantified	771	Quantified Decrease in Emissions from Bicycle and Pedestrian Infrastructure
S12705	LYNN STATION IMPROVEMENTS PHASE II	Qualitative	0	Qualitative Decrease in Emissions
S12749	STOW - ASSABET RIVER RAIL TRAIL EXTENSION ENGINEERING AND I	Qualitative	0	No assumed impact/negligible impact on emissions
S12752	DOVER-NEEDHAM - CENTRE STREET / CENTRAL AVENUE BRIDGE ENGINEERING AN	Qualitative	0	No assumed impact/negligible impact on emissions

**Table B-4
Greenhouse Gas Regional Transit Project Tracking: Completed Projects**

Regional Transit Authority	Project ID Number	Project Name	GHG Analysis Type	GHG CO2 Impact (kg/yr)	GHG Impact Description	FFY of Contract Award
Federal Fiscal Year 2023						
Cape Ann Transportation Authority						
RTD0010578	CATA - -Preventive Maintenance			0	No assumed impact/negligible impact on emissions	
RTD0010582	CATA - -buy misc small capital			0	No assumed impact/negligible impact on emissions	
RTD0010585	CATA - -acquire shop equip/small capital			0	No assumed impact/negligible impact on emissions	
RTD0010589	CATA - -Revenue Vehicle Replacement			0	No assumed impact/negligible impact on emissions	
T00072	Replacement of two replica trolleys that have reached the end of their useful life in 2011 (VIN 1C9S2HFS81W)			0	No assumed impact/negligible impact on emissions	
T00221	CATA - Van transportation to dialysis and medical appointments (5310)			0	No assumed impact/negligible impact on emissions	
MetroWest Regional Transit Authority						
RTD0011099	MWRTA - OPERATING ASSISTANCE NON FIXED ROUTE ADA PARA SERV			0	No assumed impact/negligible impact on emissions	
RTD0011100	MetroWest RTA - ACQUISITION OF BUS SUPPORT EQUIP/FACILITIES			0	No assumed impact/negligible impact on emissions	
RTD0011101	MetroWest RTA - TECHNOLOGY SUPPORT/CAPITAL OUTREACH			0	No assumed impact/negligible impact on emissions	
RTD0011102	MetroWest RTA - TERMINAL, INTERMODAL (TRANSIT) - BLANDIN			0	No assumed impact/negligible impact on emissions	
RTD0011108	MetroWest RTA - TERMINAL, INTERMODAL (TRANSIT) - Framingham Commuter Rail Station (FCRS)			0	No assumed impact/negligible impact on emissions	
RTD0011113	MetroWest Regional Transit Authority - 5339 COMPETITIVE REVENUE VEHICLE REPLACEMENT - DISCRET			0	No assumed impact/negligible impact on emissions	
RTD0011122	MetroWest RTA - 2023 ELECTRIC VEHICLE (EV) MIGRATION			0	No assumed impact/negligible impact on emissions	
RTD0011127	MetroWest Regional Transit Authority - Back Entrance Project - DISCRETIONARY			0	No assumed impact/negligible impact on emissions	
RTD0011128	MetroWest RTA - Electronic Sign Board			0	No assumed impact/negligible impact on emissions	
RTD0011129	MetroWest Regional Transit Authority - CRT North Framingham Bike/Pedestrian Connectivity - Cochituate Rail T			0	No assumed impact/negligible impact on emissions	
RTD0011135	MetroWest RTA - VEHICLE REPLACEMENTs - CUTAWAYS (4 x E2s)			0	No assumed impact/negligible impact on emissions	
T00216	MWRTA - Continued funding for MWRTA TOP (5310)			0	No assumed impact/negligible impact on emissions	
Massachusetts Bay Transportation Authority						
MBTA002	Revenue Vehicle Program 5307			0	No assumed impact/negligible impact on emissions	
MBTA003	Signals/Systems Upgrade Program 5307			0	No assumed impact/negligible impact on emissions	
MBTA004	Stations and Facilities Program 5307			0	No assumed impact/negligible impact on emissions	
MBTA005	Bridge & Tunnel Program 5337			0	No assumed impact/negligible impact on emissions	
MBTA006	Revenue Vehicle Program 5337			0	No assumed impact/negligible impact on emissions	
MBTA007	Signals/Systems Upgrade Program 5337			0	No assumed impact/negligible impact on emissions	
MBTA008	Stations and Facilities Program 5337			0	No assumed impact/negligible impact on emissions	
MBTA009	Bus Program			0	No assumed impact/negligible impact on emissions	
MBTA011	RRIF/TIFIA Financing Program			0	No assumed impact/negligible impact on emissions	
MBTA012	Lynnway Multimodal Corridor (RAISE)			0	No assumed impact/negligible impact on emissions	
T00013	North Wilmington Station - CARSI			0	No assumed impact/negligible impact on emissions	
T00020	Quincy Bus Facility Modernization (FTA)			0	No assumed impact/negligible impact on emissions	
T00021	Chelsea & Everett Route Planning (FTA)			0	No assumed impact/negligible impact on emissions	
T00022	Battery Electric Buses - Low-No (FTA)			0	No assumed impact/negligible impact on emissions	
T00023	South Elm Street Bridge Haverhill (FRA)			0	No assumed impact/negligible impact on emissions	
T00024	South Salem Comm. Rail Stop Study (FTA)			0	No assumed impact/negligible impact on emissions	
T00025	MBTA Suicide Trespass Prevention (FRA)			0	No assumed impact/negligible impact on emissions	
T00027	Bridge & Tunnel Program 5307			0	No assumed impact/negligible impact on emissions	

Appendix C—Public Engagement and Comments

[COMING SOON]

Appendix D—Geographic Distribution of TIP Funding

1.1 OVERVIEW OF CONTENTS

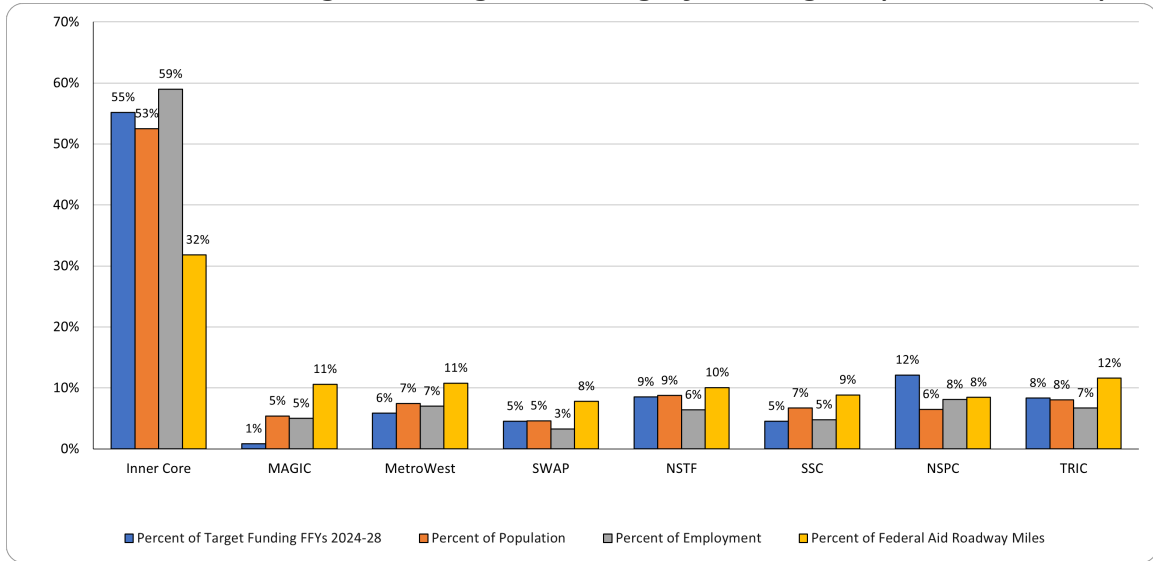
Appendix D provides information about the geographic distribution of federal highway funding in the Boston region in the federal fiscal years (FFYs) 2024–28 Transportation Improvement Program, as well as for all years since 2011. It includes the distribution of the Boston Region MPO’s Regional Target Program funding (the MPO’s discretionary funding) and funding for projects and programs prioritized by the Massachusetts Department of Transportation. Funding amounts shown include the state’s matching funds that leverage the available federal funds.

Figures D-1 through D-4 summarize the distribution of the MPO’s Regional Target Program funding and all federal highway funding by subregion. Funding is shown for the time period covered by this TIP (FFYs 2024–28) and over a longer time horizon (FFYs 2011–28). Table D-1 shows the breakdown of this data for each municipality in the Boston region for FFYs 2024–28.

1.2 PURPOSE

The analysis presented here provides details about how the MPO has allocated its federal transportation highway dollars across its geographic region by showing which municipalities and areas of the Boston region have received highway funding for the construction of transportation projects. This data was first compiled for FFYs 2008-13 in response to the Boston Region MPO’s 2014 Certification Review by the Federal Highway Administration and Federal Transit Administration.

**Figure D-1
Distribution of Regional Target Funding by Subregion (FFYs 2024–28)**

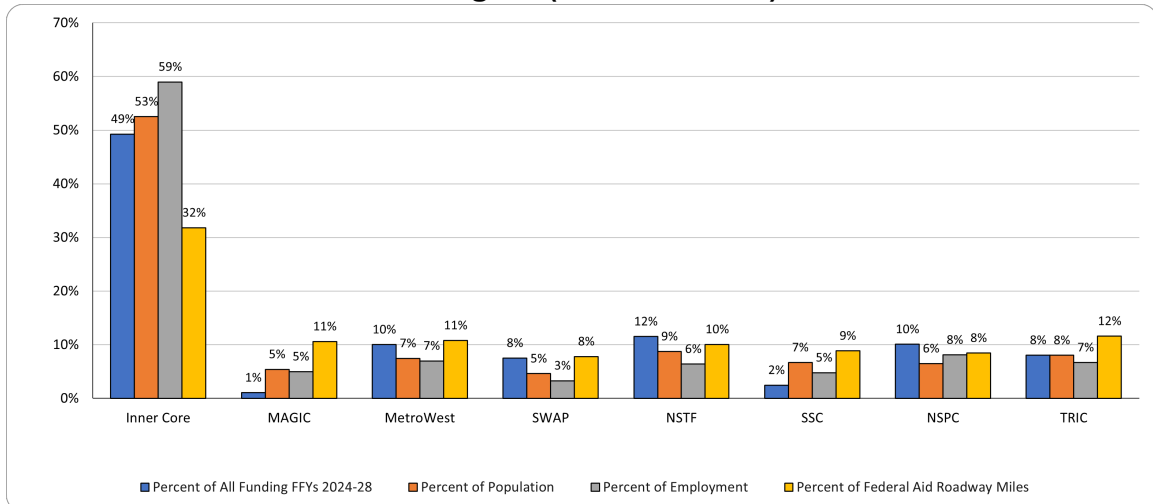


FFY = Federal Fiscal Year.

Subregions: ICC = Inner Core Committee. MAGIC = Minuteman Advisory Group on Interlocal Coordination. MWRC = MetroWest Regional Collaborative. NSPC = North Suburban Planning Council. NSTF = North Shore Task Force. SSC = South Shore Coalition. SWAP = SouthWest Advisory Planning Committee. TRIC = Three Rivers Interlocal Council.

Source: Boston Region MPO.

**Figure D-2
Distribution of All Federal Highway Funding in the Boston Region by Subregion (FFYs 2024–28)**

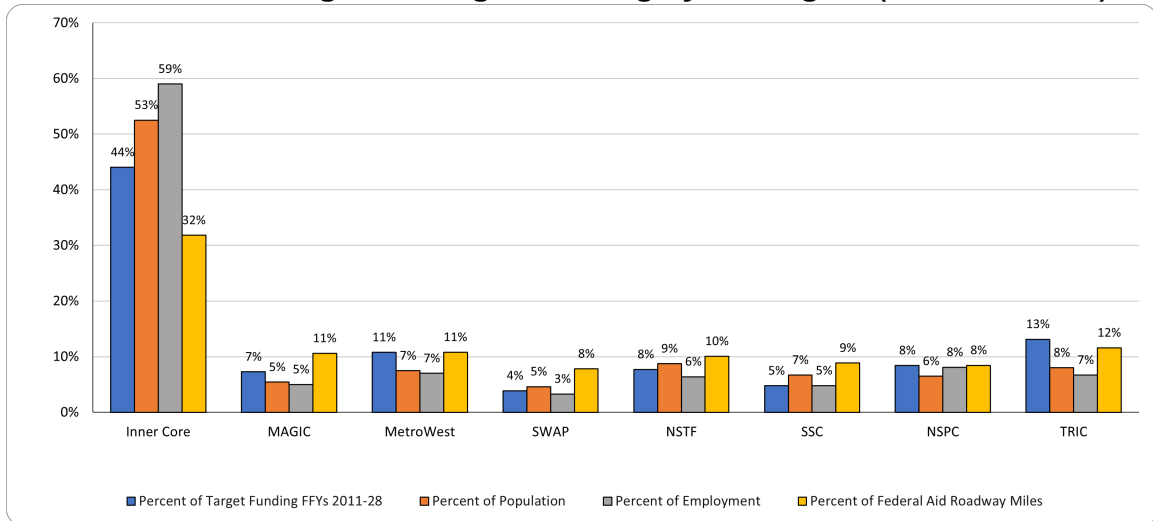


FFY = Federal Fiscal Year.

Subregions: ICC = Inner Core Committee. MAGIC = Minuteman Advisory Group on Interlocal Coordination. MWRC = MetroWest Regional Collaborative. NSPC = North Suburban Planning Council. NSTF = North Shore Task Force. SSC = South Shore Coalition. SWAP = SouthWest Advisory Planning Committee. TRIC = Three Rivers Interlocal Council.

Source: Boston Region MPO.

**Figure D-3
Distribution of Regional Target Funding by Subregion (FFYs 2011–28)**

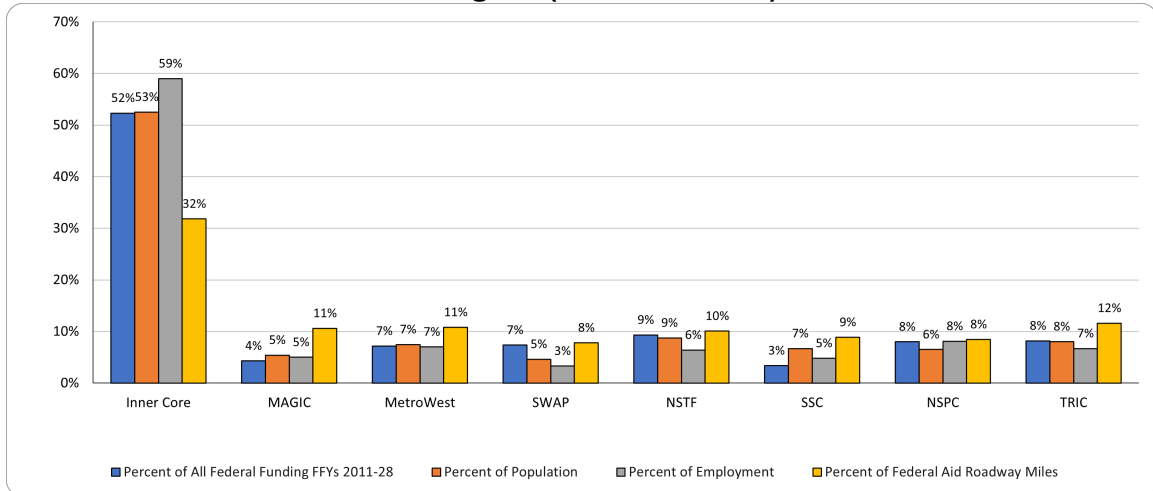


FFY = Federal Fiscal Year.

Subregions: ICC = Inner Core Committee. MAGIC = Minuteman Advisory Group on Interlocal Coordination. MWRC = MetroWest Regional Collaborative. NSPC = North Suburban Planning Council. NSTF = North Shore Task Force. SSC = South Shore Coalition. SWAP = SouthWest Advisory Planning Committee. TRIC = Three Rivers Interlocal Council.

Source: Boston Region MPO.

**Figure D-4
Distribution of All Federal Highway Funding in the Boston Region by Subregion (FFYs 2011–28)**



FFY = Federal Fiscal Year.

Subregions: ICC = Inner Core Committee. MAGIC = Minuteman Advisory Group on Interlocal Coordination. MWRC = MetroWest Regional Collaborative. NSPC = North Suburban Planning Council. NSTF = North Shore Task Force. SSC = South Shore Coalition. SWAP = SouthWest Advisory Planning Committee. TRIC = Three Rivers Interlocal Council.

Source: Boston Region MPO.

Table D-1
Federal Highway Programming for Municipalities in the Boston Region
(FFYs 2024–28)

FFY = Federal Fiscal Year.
Subregions: ICC = Inner Core Committee. MAGIC = Minuteman Advisory Group on Interlocal Coordination.
MWRC = MetroWest Regional Collaborative. NSPC = North Suburban Planning Council. NSTF = North
Shore Task Force. SSC = South Shore Coalition. SWAP = SouthWest Advisory Planning Committee. TRIC
= Three Rivers Interlocal Council.
Source: Boston Region MPO.

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 is charged with executing its planning activities in line with federal and state regulatory guidance. Maintaining compliance with these regulations allows the MPO to directly support the work of these critical partners and ensures its continued role in helping the region move closer to achieving federal, state, and regional transportation goals. 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) 2024.

Federal Regulations and Guidance

The MPO's planning processes are guided by provisions in federal transportation authorization bills, which are codified in federal statutes and supported by guidance from federal agencies. The Bipartisan Infrastructure Law (BIL), signed into law on November 15, 2021, replaced the Fixing America's Surface Transportation (FAST) Act as the nation's five-year surface transportation bill, and covers FFYs 2022–26. This section describes new provisions established in the BIL as well as items established under previous bills, such as the FAST Act.

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 by 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. 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 stormwater 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 2023 MPO studies and activities and these federal planning factors.

Table E-1
FFY 2024 3C-Funded UPWP Studies and Programs—Relationship to Federal Planning Factors

[COMING SOON]

* For ongoing FFY 2023 3C-funded studies, see FFY 2023 UPWP

** Includes Support to the MPO and its Committees, Public Participation Process, and Regional Transportation Advisory Council Support

FFY = Federal Fiscal Year. UPWP = Unified Planning Work Program.

FAST Act: Performance-Based Planning and Programming

The United States Department of Transportation (USDOT), in consultation with states, MPOs, and other stakeholders, established performance measures relevant to the national goals established in the FAST Act. 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.

Bipartisan Infrastructure Law (BIL): Planning Emphasis Areas

On December 30, 2021, the Federal Highway Administration and Federal Transit Administration jointly issued updated planning emphasis areas for use in MPOs' transportation planning process, following the enactment of the BIL. Those planning emphasis areas include the following:

1. **Tackling the Climate Crisis—Transition to a Clean Energy, Resilient Future:** Ensure that transportation plans and infrastructure investments help achieve the national greenhouse gas (GHG) reduction goals of 50–52 percent below 2005 levels by 2030, and net-zero emissions by 2050, and increase resilience to extreme weather events and other disasters resulting from the increasing effects of climate change.
2. **Equity and Justice⁴⁰ in Transportation Planning:** Ensure public involvement in the planning process and that plans and strategies reflect various perspectives, concerns, and priorities from impacted areas.
3. **Complete Streets:** Review current policies, rules, and procedures to determine their impact on safety for all road users. This effort should work to include provisions for safety in future transportation infrastructure, particularly for those outside automobiles.
4. **Public Involvement:** Increase meaningful public involvement in transportation planning by integrating virtual public involvement tools into the overall public involvement approach while ensuring continued public participation by individuals without access to computers and mobile devices.
5. **Strategic Highway Network (STRAHNET)/US Department of Defense (DOD) Coordination:** Coordinate with representatives from DOD in the transportation planning and project programming process on infrastructure needs for STRAHNET routes and other public roads that connect to DOD facilities.
6. **Federal Land Management Agency (FLMA) Coordination:** Coordinate with FLMAs in the transportation planning and project programming process on infrastructure and connectivity needs related to access routes and other public roads and transportation services that connect to Federal lands.
7. **Planning and Environment Linkages:** Use a collaborative and integrated approach to transportation decision-making that considers environmental, community, and economic goals early in the transportation planning process, and use the information, analysis, and products developed during planning to inform the environmental review process.
8. **Data in Transportation Planning:** Incorporate data sharing and consideration into the transportation planning process.

1990 Clean Air Act Amendments

The Clean Air Act, most recently amended in 1990, forms the basis of the United States' air pollution control policy. The 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 the Boston region were established in Title 40, parts 51 and 53, of the Code of Federal Regulations (40. C.F.R. 51, 40 C.F.R. 53).

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, the Commonwealth established a CO maintenance plan through the Massachusetts SIP process 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, the 20-year maintenance period for this maintenance area expired and transportation conformity is no longer required for carbon monoxide in these communities. This ruling is documented in a letter from the EPA dated May 12, 2016.

On April 22, 2002, the EPA classified the City of Waltham 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. The MPO is not required to perform a modeling

analysis for a conformity determination for carbon monoxide, but it has been required to provide a status report on the timely implementation of projects and programs that will reduce emissions from transportation sources—so-called transportation control measures—which are included in the Massachusetts SIP. In April 2022, the EPA issued a letter explaining that the carbon monoxide limited maintenance area in Waltham has expired. Therefore, the MPO is no longer required to demonstrate transportation conformity for this area, but the rest of the maintenance plan requirements, however, continue to apply, in accordance with the SIP.

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 the EPA's revocation of the 1997 ozone NAAQS. Massachusetts was designated as an attainment area in accord with the 2008 ozone NAAQS but as a nonattainment or maintenance area as relates to the 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 (TCM) 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. SIP-identified TCMs 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 programs (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 (HOV) 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 (GWSA) (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), 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 assesses the likely benefits and adverse effects of transportation projects on equity populations (populations covered by federal regulations, as identified in the MPO's Transportation Equity program) when deciding which projects to fund. This is done through the MPO's project selection criteria. MPO staff also evaluate the projects that are selected for funding, in the aggregate, to determine their overall impacts and whether they improve transportation outcomes for equity populations. 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 people who, as a result of their nationality, have limited English proficiency. Specifically, it calls for improved access to federally assisted programs and activities, and it requires MPOs to develop and implement a system through which people with limited English proficiency 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 language access to people with limited English proficiency who access their services and programs.

Environmental Justice Executive Order

Executive Order 12898, dated February 11, 1994, requires each federal agency to advance 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, the 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 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 venues 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. In addition, 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 MPO’s work focuses on encouraging mode shift and diminishing 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.

Beyond Mobility

Beyond Mobility, the Massachusetts 2050 Transportation Plan, is a planning process that will result in a blueprint for guiding transportation decision-making and investments in Massachusetts in a way that advances MassDOT's goals and maximizes the equity and resiliency of the transportation system. MPO staff continue to coordinate with MassDOT staff so that Destination 2050, the MPO's next Long-Range Transportation Plan, is aligned with the Beyond Mobility plan.

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's 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 GHG 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

Beyond Mobility will build upon the Commission report's recommendations. 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 region.

Massachusetts Strategic Highway Safety Plan

The *Massachusetts 2023 Strategic Highway Safety Plan* (SHSP) identifies the state'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 state's safety challenges collectively. The Boston Region MPO considers SHSP goals, emphasis areas, and strategies when developing its plans, programs, and activities.

Massachusetts Transportation Asset Management Plan

The Massachusetts Transportation Asset Management Plan (TAMP) is a risk-based asset management plan for the bridges and pavement that are in the NHS inventory. The plan describes the condition of these assets, identifies assets that are particularly vulnerable following declared emergencies such as extreme weather, and discusses MassDOT's financial plan and risk management strategy for these assets. The Boston Region MPO considers MassDOT TAMP goals, targets, and strategies when developing its plans, programs, and activities.

MassDOT 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 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. These plans were updated in 2021 to reflect new investments in bicycle and pedestrian projects made by MassDOT since their release. 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 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 (EEA), 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

In 2018, EEA published its GWSA 10-year Progress Report and the GHG Inventory estimated that 2018 GHG emissions were 22 percent below the 1990 baseline level.

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 current LRTP, *Destination 2040*, the Boston Region MPO has continued to use investment programs—particularly its Complete Streets and Bicycle Network and Pedestrian Connections programs—that support the implementation of Complete Streets projects. The next LRTP, *Destination 2050*, is being developed in tandem with the FFY 2024–28 TIP and will continue to provide similar support. In the Unified Planning Work Program, the MPO budgets to support 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 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, 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 Rail Vision plan, which will inform the vision for the future of the MBTA's commuter rail system; the Bus Network Redesign (formerly the Better Bus Project), the plan to re-envision and 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.

MetroCommon 2050

MetroCommon 2050, which was developed by the Metropolitan Area Planning Council (MAPC) and adopted in 2021, is Greater Boston's regional land use and policy plan. MetroCommon 2050 builds off of MAPC's previous plan, MetroFuture (adopted in 2008), and includes an updated set of strategies for achieving sustainable growth and equitable prosperity in the region. The MPO considers MetroCommon 2050's goals, objectives, and strategies in its planning and activities. See Chapter 7 for more information about MetroCommon 2050 development activities.

MetroCommon 2050 will serve as the foundation for land use projections in the MPO's next LRTP, *Destination 2050*. The MPO's next LRTP is currently in development and is anticipated to be adopted by the MPO board in the summer of 2023

The Boston Region MPO's Congestion Management Process

The purpose of the Congestion Management Process (CMP) is to monitor and analyze the mobility of people using transportation 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, transit, 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.

Coordinated Public Transit-Human Services Transportation Plan

Every four years, the Boston Region MPO completes a Coordinated Public Transit-Human Services Transportation Plan (CPT-HST), in coordination with the development of the LRTP. The CPT-HST supports improved coordination of transportation for seniors and people with disabilities in the Boston region. This plan also guides transportation providers in the Boston region who are developing proposals to request funding from the Federal Transit Administration's Section 5310 Program. To be eligible for funding, a proposal must meet a need identified in the CPT-HST. The CPT-HST contains information about

- current transportation providers in the Boston region;
- unmet transportation needs for seniors and people with disabilities;
- strategies and actions to meet the unmet needs; and
- priorities for implementing those needs.

The MPO adopted its current CPT-HST in 2019 and is currently developing its next CPT-HST, which is expected to be adopted in 2023.

MBTA and Regional Transit Authority Transit (RTA) Asset Management Plans

The MBTA and the region's RTAs—the Cape Ann Transportation Authority (CATA) and the MetroWest Regional Transit Authority (MWRTA)—are responsible for producing transit asset management plans that describe their asset inventories and the condition of these assets, strategies, and priorities for improving the state of good repair of these assets. The Boston Region MPO considers goals and priorities established in these plans when developing its plans, programs, and activities.

MBTA and RTA Public Transit Agency Safety Plans

The MBTA, CATA, and MWRTA are required to create and annually update Public Transit Agency Safety Plans that describe their approaches for implementing Safety Management Systems on their transit systems. The Boston Region MPO considers goals, targets, and priorities established in these plans when developing its plans, programs, and activities.

State and Regional COVID-19 Adaptations

The COVID-19 pandemic has radically shifted the way many people in the Boston region interact with the regional transportation system. The pandemic's effect on everyday life has had short-term impacts on the system and how people travel, and it may have lasting effects. State and regional partners have

advanced immediate changes in the transportation network in response to the situation brought about by the pandemic. Some of the changes may become permanent, such as the expansion of bicycle, bus, sidewalk, and plaza networks, and a reduced emphasis on traditional work trips. As the region recovers from the impacts of the COVID-19 pandemic and the long-term effects become apparent, state and regional partners' guidance and priorities are likely to be adjusted.

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, composed of 11 members appointed by the governor, oversees all four divisions and MassDOT operations and works closely with the Massachusetts Bay Transportation Authority (MBTA) Board of Directors. The MassDOT Board of Directors was expanded to 11 members by the Legislature in 2015, 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.

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 **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, it has the statutory responsibility within its district of operating the public transportation system in the Boston region, 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. In 2020, the FMCB's mandate was extended a second time for an additional period of one year, through June 30, 2021.

Following the expiration of the FMCB's extended mandate, the MBTA Board of Directors was formed as a permanent replacement to provide oversight for the agency. By statute, the board consists of seven members, including the Secretary of Transportation as an ex-officio member. The MBTA Advisory Board appoints one member who has municipal government experience in the MBTA's service area and experience in transportation operations, transportation planning, housing policy, urban planning, or public or private finance. The Governor appoints the remaining five board members, which include an MBTA rider and member of an environmental justice population, and a person recommended by the President of the American Federation of Labor and Congress of Industrial Organizations.

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, Flynn 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 Massachusetts General Laws. 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 Burlington**), and six elected towns (currently **Acton, Arlington, Brookline, Hull, Medway, and Norwood**), 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 Bipartisan Infrastructure Law (BIL).

APPENDIX G: Operations and Maintenance Summary

[COMING SOON]