

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) 2021–25 TIP.

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

- 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; and
- the project must be at 25 percent design or demonstrate the level of detail of a project near this threshold. Documentation illustrating this level of design, such as Functional Design Reports, project locus maps and designs, operations analyses, and Highway Capacity Manual data sheets showing future build and no-build scenarios must be submitted.

For projects evaluated through the MPO's Community Connections Program

- the project 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 (for operational projects);

- the project 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 project must demonstrate that it will not have a negative impact on air quality, as this program is funded using federal Congestion Mitigation and Air Quality funds; and
- the project proponent must demonstrate its 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 Unprogrammed Projects (Tables A-1 and A-4) to be considered for funding. Both project lists are presented to the MPO in November and provide a snapshot of information available on projects at that stage in TIP development. For these reasons, some projects that get evaluated for funding may not appear in either Universe, as more project information may become available after this time. In addition, some projects that appear on the Universe lists may not be scored in a given year if these projects are not actively being advanced by municipal or state planners.

Once a project in either Universe provides sufficient design documentation and is an active municipal or state priority for funding, it can be evaluated by MPO staff. The evaluation criteria used to score projects are based on the MPO's goals and objectives and are outlined in Tables A-2 and A-5. After the projects are scored, 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 2021–25 TIP for programming in the MPO's Bicycle Network and Pedestrian Connections, Complete Streets, Intersection Improvements, and Major Infrastructure investment programs are summarized in Table A-3. Scoring summaries for those projects programmed through the pilot round of the MPO's Community Connections Program are detailed on those projects' respective summary pages in Chapter 3.

Table A-1: Draft FFYs 2021-25 Transportation Improvement Program (TIP) Universe of Projects

Subregion
 MPO Investment Program
 New project in TIP universe for FFYs 2021-25 cycle
 Project evaluated for FFYs 2020-24 TIP, but not funded
 Project listed in FFYs 2020-24 universe, but not evaluated

Municipality	Project Proponent	Project Name	PROJIS	MassDOT Design Status	Cost Estimate	MAPC Subregion	Highway District	MPO Investment Program	Notes	Previous Evaluation Score
Inner Core										
Complete Streets										
Boston	Boston	Reconstruction of Tremont Street, from Court Street to Boylston Street	601274	25% design (2/13/2006)	\$2,681,260	ICC	6	Complete Streets		
Boston	Boston	Reconstruction of Tremont Street, from Stuart Street to Marginal Road (1,830 feet)	601507	PRC approved (1996)	\$4,400,000	ICC	6	Complete Streets		
Boston	MassDOT	Gallivan Boulevard (Route 203) Safety Improvements, from Washington Street to Granite Avenue	610560	Pre-PRC	\$5,750,000	ICC	6	Complete Streets	Seeking PRC approval 12/19/19. New for FFYs 2021–25 TIP evaluation cycle.	
Boston	MassDOT	Improvements on (Route 203) Morton Street, from West of Gallivan Boulevard to Shea Circle	606897	PRC approved (2012)	\$11,500,000	ICC	6	Complete Streets		
Boston	MassDOT	Reconstruction on (Route 203) Gallivan Boulevard, from Neponset Circle to East of Morton Street Intersection	606896	PRC approved (2012)	\$11,500,000	ICC	6	Complete Streets		
Chelsea	Chelsea	Beacham and Williams Street Reconstruction	609083	PRC approved (2018)	\$8,281,525	ICC	6	Complete Streets		
Chelsea	Chelsea	Reconstruction of Marginal Street	N/A	Pre-PRC		ICC	6	Complete Streets	New for FFYs 2021–25 TIP evaluation cycle	
Chelsea	Chelsea	Reconstruction of Pearl Street	N/A	Pre-PRC		ICC	6	Complete Streets	New for FFYs 2021–25 TIP evaluation cycle	
Chelsea	Chelsea	Reconstruction of Spruce Street	N/A	Pre-PRC		ICC	6	Complete Streets	New for FFYs 2021–25 TIP evaluation cycle	
Chelsea	MassDOT	Targeted Safety Improvements and Related Work on Broadway, from Williams Street to City Hall Avenue	609532	PRC approved (2019)	\$5,750,000	ICC	6	Complete Streets	New for FFYs 2021–25 TIP evaluation cycle.	
Newton	Newton	Improvements of Route 128/I-95 and Grove Street	607940	PRC approved (2014)	\$10,000,055	ICC	6	Complete Streets		
Newton	Newton	Reconstruction and Signal Improvements on Walnut Street, from Homer Street to Route 9	601704	25% design (12/23/2013)	\$4,648,360	ICC	6	Complete Streets		41
Newton	Newton	Reconstruction on Route 30 (Commonwealth Avenue), from Weston Town Line to Auburn Street	600932	PRC approved (1996)	\$2,208,000	ICC	6	Complete Streets		

Table A-1: Draft FFYs 2021-25 Transportation Improvement Program (TIP) Universe of Projects
(cont., p. 2)

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Municipality	Project Proponent	Project Name	PROJIS	MassDOT Design Status	Cost Estimate	MAPC Subregion	Highway District	MPO Investment Program	Notes	Previous Evaluation Score
Newton, Brookline	MassDOT	Resurfacing and Related Work on Route 9	608821	PRC approved (2017)	\$7,337,000	ICC	6	Complete Streets		
Saugus	MassDOT	Pedestrian Improvements on Main Street/Route 1	610534	PRC approved (2019)	\$1,319,288	ICC	4	Complete Streets		
Winthrop	Winthrop	Reconstruction and Improvements on Route 145	609446	PRC approved (2019)	\$7,565,512	ICC	6	Complete Streets	New for FFYs 2021–25 TIP evaluation cycle	
Intersection Improvements										
Boston	Boston	Traffic Signal Improvements at Eight Locations	606556	PRC approved	\$3,603,960	ICC	6	Intersection Improvements		
Boston, Brookline	Boston, Brookline	Mountfort Street and Commonwealth Avenue Connection	608956	PRC approved (2017)	\$916,883	ICC	6	Intersection Improvements		
Cambridge	DCR	Intersection Improvements at Fresh Pond Parkway/Gerry's Landing Road, from Brattle Street to Memorial Drive	609290	PRC approved (2019)	\$7,000,000	ICC	6	Intersection Improvements	New for FFYs 2021–25 TIP evaluation cycle	
Medford	Medford	Intersection Improvements at South Street and Main Street	N/A	Pre-PRC	\$6,000,000	ICC	4	Intersection Improvements	New for FFYs 2021–25 TIP evaluation cycle. Project location studied by CTPS.	
Newton	MassDOT	Traffic Signal and Safety Improvements at Interchange 17 (Newton Corner)	609288	PRC approved (2019)	\$14,000,000	ICC	6	Intersection Improvements	New for FFYs 2021–25 TIP evaluation cycle	
Bicycle and Pedestrian										
Belmont	Belmont	Community Path, Belmont Component of the Mass Central Rail Trail (Phase 1)	609204	PRC approved (2018)	\$16,703,600	ICC	4	Bicycle and Pedestrian		
Boston	Boston	South Bay Harbor Trail, from Albany Street to Melnea Cass Boulevard	N/A	Pre-PRC		ICC	6	Bicycle and Pedestrian	New for FFYs 2021–25 TIP evaluation cycle.	
Boston	MassDOT	Leverett Circle Pedestrian Bridge over Route 28, I-93 Ramps and Storrow Drive	606703	PRC approved (2012)	\$11,040,000	ICC	6	Bicycle and Pedestrian		
Major Infrastructure										
Boston	Boston	Roadway Improvements along Commonwealth Avenue (Route 30), from Alcorn Street to Warren/Kelton Streets (Phase 3 and Phase 4)	608449	25% design (2017)	\$31,036,006	ICC	4	Major Infrastructure	Project not programmed in LRTP.	56

**Table A-1: Draft FFYs 2021-25 Transportation Improvement Program (TIP) Universe of Projects
(cont., p. 3)**

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Municipality	Project Proponent	Project Name	PROJIS	MassDOT Design Status	Cost Estimate	MAPC Subregion	Highway District	MPO Investment Program	Notes	Previous Evaluation Score
Lynn	Lynn	Reconstruction of Western Avenue (Route 107)	609246	PRC approved (2018)	\$36,205,000	ICC	4	Major Infrastructure	L RTP project (FFYs 2025–29)	64
Revere, Malden	MassDOT	Improvements on Route 1 (NB) Add-A-Lane	610543	PRC approved (2019)	\$7,210,000	ICC	4	Major Infrastructure	New for FFYs 2021–25 TIP evaluation cycle. Project not programmed in LRTP.	
Saugus	Saugus	Interchange Reconstruction at Walnut Street and Route 1 (Phase II)	601513	75% design (3/8/2016)	\$19,581,123	ICC	4	Major Infrastructure	Project not programmed in LRTP.	43
Somerville	Somerville	McGrath Boulevard Project	607981	PRC approved	\$88,250,000	ICC	4	Major Infrastructure	L RTP project (FFYs 2025–29)	76
Minuteman Advisory Group on Interlocal Coordination										
Major Infrastructure										
Concord	Concord	Reconstruction and Widening on Route 2, from Sandy Pond Road to Bridge over MBTA/B&M Railroad	608015	PRC approved (2014)	\$8,000,000	MAGIC	4	Major Infrastructure	New for FFYs 2021–25 TIP evaluation cycle. Project not programmed in LRTP.	
Lexington	Lexington	Route 4/225 (Bedford Street) and Hartwell Avenue	N/A	Pre-PRC	\$30,557,000	MAGIC	4	Major Infrastructure	L RTP project (FFYs 2030–34). New for FFYs 2021–25 TIP evaluation cycle.	
MetroWest Regional Collaborative										
Complete Streets										
Wellesley	MassDOT	Resurfacing and Related Work on Route 9, from Dearborn Street to Natick Town Line	607340	PRC approved (2012)	\$16,462,400	MWRC	6	Complete Streets		
Weston	Weston	Reconstruction on Route 30	608954	PRC approved (2017)	\$8,117,562	MWRC	6	Complete Streets		
Intersection Improvements										
Framingham	MassDOT	Roundabout Construction at Salem End Road, Badger Road and Gates Street	609280	PRC approved (2018)	\$2,520,000	MWRC	3	Intersection Improvements	New for FFYs 2021–25 TIP evaluation cycle	
Weston	Weston	Intersection Improvements—Boston Post Road (Route 20) at Wellesley Street	608940	PRC approved (2017)	\$1,219,250	MWRC	6	Intersection Improvements		

Table A-1: Draft FFYs 2021-25 Transportation Improvement Program (TIP) Universe of Projects
(cont., p. 4)

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Municipality	Project Proponent	Project Name	PROJIS	MassDOT Design Status	Cost Estimate	MAPC Subregion	Highway District	MPO Investment Program	Notes	Previous Evaluation Score
Major Infrastructure										
Framingham	Framingham	Intersection Improvements at Route 126 and Route 135/MBTA and CSX Railroad	606109	PRC approved (5/13/2010)	\$115,000,000	MWRC	3	Major Infrastructure	L RTP project (FFYs 2030–34). New for FFYs 2021–25 TIP evaluation cycle.	
Natick	Natick	Bridge Replacement, Route 27 (North Main Street) over Route 9 (Worcester Street) and Interchange Improvements	605313	25% design (1/12/2015)	\$25,897,370	MWRC	3	Major Infrastructure	L RTP project (FFYs 2025–29)	57
Wellesley	Wellesley	Roundabout Construction at Wellesley Avenue/ Great Plains Avenue (Route 135) and Seaver Street	N/A	Pre-PRC		MWRC	6	Major Infrastructure	New for FFYs 2021–25 TIP evaluation cycle. Project not programmed in LRTP.	
North Suburban Planning Council										
Complete Streets										
Lynnfield	Lynnfield	Reconstruction of Summer Street	609381	PRC approved (2019)	\$21,521,921	NSPC	4	Complete Streets	New for FFYs 2021–25 TIP evaluation cycle	
Intersection Improvements										
Burlington	MassDOT	Improvements at I-95 (Route 128)/Route 3 Interchange	609516	PRC approved (2019)	\$3,001,500	NSPC	4	Intersection Improvements	New for FFYs 2021–25 TIP evaluation cycle	
Woburn	MassDOT	Intersection Reconstruction at Route 3 (Cambridge Road) and Bedford Road and South Bedford Street	608067	PRC approved (2014)	\$1,440,000	NSPC	4	Intersection Improvements		
Bicycle and Pedestrian										
Woburn	Woburn	Middlesex Canal Park Improvements, from Alfred Street to School Street (Phase II–Segment 5)	606304	PRC approved (2010)	\$799,820	NSPC	4	Bicycle and Pedestrian		
Major Infrastructure										
Reading	MassDOT	Improvements on I-95	609527	PRC approved (2019)	\$14,980,000	NSPC	4	Major Infrastructure	New for FFYs 2021–25 TIP evaluation cycle. Project not programmed in LRTP.	
North Shore Task Force										
Complete Streets										
Beverly, Manchester-by-the-Sea	MassDOT	Resurfacing and Related Work on Route 127	607707	PRC approved (2013)	\$2,300,000	NSTF	4	Complete Streets		

**Table A-1: Draft FFYs 2021-25 Transportation Improvement Program (TIP) Universe of Projects
(cont., p. 5)**

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Municipality	Project Proponent	Project Name	PROJIS	MassDOT Design Status	Cost Estimate	MAPC Subregion	Highway District	MPO Investment Program	Notes	Previous Evaluation Score
Danvers	Danvers	Reconstruction on Collins Street, from Sylvan Street to Centre and Holten Streets	602310	75% design (3/5/2010)	\$5,183,121	NSTF	4	Complete Streets		46
Manchester-by-the-Sea	Manchester-by-the-Sea	Pine Street—Central Street (Route 127) to Rockwood Heights Road	N/A	Pre-PRC; PNF submitted 12/27/16		NSTF	4	Complete Streets		
Manchester-by-the-Sea	Manchester-by-the-Sea	Route 127 (Bridge Street) Roadway Reconstruction (including flood gate and culvert repairs)	N/A	Pre-PRC	\$3,500,000-\$4,000,000	NSTF	4	Complete Streets	Seeking PRC approval 12/19/19. New for FFYs 2021–25 TIP evaluation cycle	
Salem, Peabody	Salem, Peabody	Boston Street Improvements	609437	PRC approved (2019)	\$12,480,000	NSTF	4	Complete Streets	New for FFYs 2021–25 TIP evaluation cycle	
Wenham	Wenham	Roadway Reconstruction on Larch Row and Dodges Row	N/A	Pre-PRC	\$800,000	NSTF	4	Complete Streets	New for FFYs 2021–25 TIP evaluation cycle	
Wenham	Wenham	Safety Improvements on Route 1A	609388	PRC approved (2019)	\$5,075,000	NSTF	4	Complete Streets	New for FFYs 2021–25 TIP evaluation cycle	
Intersection Improvements										
Essex	Essex	Targeted Safety Improvements on Route 133 (John Wise Avenue)	609315	PRC approved (2019)	\$2,135,440	NSTF	4	Intersection Improvements	New for FFYs 2021–25 TIP evaluation cycle	
Bicycle and Pedestrian										
Peabody	Peabody	Route 1 Bikeway Connector	N/A	Pre-PRC		NSTF	4	Bicycle and Pedestrian	Seeking PRC approval 12/19/19. New for FFYs 2021–25 TIP evaluation cycle.	
Swampscott	Swampscott	Swampscott Rail Trail, from Stetson Avenue to Marblehead Rail Trail	N/A	Pre-PRC		NSTF	4	Bicycle and Pedestrian	Seeking PRC approval 12/19/19. New for FFYs 2021–25 TIP evaluation cycle	
Major Infrastructure										
Danvers, Peabody	MassDOT	Mainline Improvements on Route 128 (Phase II)	604638	100% design (12/30/2010)	\$24,031,419	NSTF	4	Major Infrastructure	Project not programmed in L RTP.	32
Marblehead	Marblehead	Bridge Replacement, M-04-001, Village Street over Marblehead Rail Trail (Harold B. Breare Bridge)	N/A	Pre-PRC		NSTF	4	Major Infrastructure	Seeking PRC approval 12/19/19. New for FFYs 2021–25 TIP evaluation cycle. Project not programmed in L RTP.	

**Table A-1: Draft FFYs 2021-25 Transportation Improvement Program (TIP) Universe of Projects
(cont., p. 6)**

Subregion
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 Project listed in FFYs 2020-24 universe, but not evaluated

Municipality	Project Proponent	Project Name	PROJIS	MassDOT Design Status	Cost Estimate	MAPC Subregion	Highway District	MPO Investment Program	Notes	Previous Evaluation Score
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)	\$4,000,200	SSC	5	Complete Streets		
Hull	Hull	Corridor Improvements along Nantasket Avenue from Mountford Road to A Street	N/A	Pre-PRC; PNF submitted 6/30/16		SSC	5	Complete Streets		
Rockland	MassDOT	Pedestrian and Bicycle Improvements on Market Street (Route 123)	609533	PRC approved (2019)	\$1,407,600	SSC	5	Complete Streets	New for FFYs 2021–25 TIP evaluation cycle	
Weymouth	MassDOT	Reconstruction on Route 3A, including Pedestrian and Traffic Signal Improvements	608231	PRC approved (2016)	\$10,780,100	SSC	6	Complete Streets		
Weymouth	MassDOT	Resurfacing and Related Work on Route 3A	608483	PRC approved (2016)	\$2,400,000	SCC	6	Complete Streets		
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		SWAP	3	Complete Streets		
Franklin	MassDOT	Resurfacing and Intersection Improvements on Route 140, from Beaver Street to I-495 Ramps	607774	PRC approved (2014)	\$4,025,000	SWAP	3	Complete Streets		
Major Infrastructure										
Bellingham	MassDOT	Ramp Construction and Relocation, I-495 at Route 127 (Hartford Avenue)	604862	PRC approved (2006)	\$13,543,400	SWAP	3	Major Infrastructure		
Three Rivers Interlocal Council										
Complete Streets										
Milton	MassDOT	Reconstruction on Granite Avenue, from Neponset River to Squantum Street	608406	25% design (2/10/17)	\$3,665,146	TRIC	6	Complete Streets		

**Table A-1: Draft FFYs 2021-25 Transportation Improvement Program (TIP) Universe of Projects
(cont., p. 7)**

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 Project listed in FFYs 2020-24 universe, but not evaluated

Municipality	Project Proponent	Project Name	PROJIS	MassDOT Design Status	Cost Estimate	MAPC Subregion	Highway District	MPO Investment Program	Notes	Previous Evaluation Score
Westwood	Westwood	Reconstruction of Canton Street and Everett Street	608158	PRC approved (2015)	\$2,880,000	TRIC	6	Complete Streets		
Intersection Improvements										
Milton	Milton	Intersection Improvements—Squantum Street at Adams Street	608955	PRC approved (2017)	\$979,763	TRIC	6	Intersection Improvements		
Westwood	Westwood	Traffic Signal Improvements on Route 109	608947	25% design (6/5/19)	\$929,280	TRIC	6	Intersection Improvements		
Major Infrastructure										
Canton, Westwood	MassDOT	Interchange Improvements at I-95/I-93/ University Avenue and I-95 Widening	87790	25% design (7/25/2014)	\$202,205,994	TRIC	6	Major Infrastructure	Project not programmed in L RTP.	47

Table A-2: Evaluation Criteria for FFYs 2021-25 TIP Development

OBJECTIVE	CRITERIA	SUBCRITERIA/SCORING																																																
SAFETY: Transportation by all modes will be safe.																																																		
<p>Reduce the number and severity of crashes, for all modes</p> <p>Reduce serious injuries and fatalities from transportation</p> <p>Make investments and support initiatives that help protect transportation customers, employees, and the public from safety and security threats</p>	<p>Crash Severity Value: EPDO index (0–5 points)</p>	<p>+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</p>																																																
	<p>Crash Rate (intersections and corridors) (0–5 points)</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3" style="text-align: left;">Intersection:</th> </tr> <tr> <th style="text-align: left;">Evaluation Score</th> <th style="text-align: left;">Signalized</th> <th style="text-align: left;">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> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3" style="text-align: left;">Corridor:</th> </tr> <tr> <th style="text-align: left;">Evaluation Score</th> <th style="text-align: left;">Interstate Other Freeways Expressways</th> <th style="text-align: left;">Principal Arterials-Other 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>	Intersection:			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	Corridor:			Evaluation Score	Interstate Other Freeways Expressways	Principal Arterials-Other 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
	Intersection:																																																	
Evaluation Score	Signalized	Unsignalized																																																
+5	≥ 1.69	≥ 1.36																																																
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+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																																																
<p>Improves truck-related safety issue (0–5 points)</p>	<p>+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</p> <p>If project scores points above, then it is eligible for additional points below: +2 Improves truck safety at HSIP Cluster</p>																																																	

Table A-2: Evaluation Criteria for FFYs 2021-25 TIP Development (cont., 2)

OBJECTIVE	CRITERIA	SUBCRITERIA/SCORING
SAFETY (30 possible points)	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

Table A-2: Evaluation Criteria for FFYs 2021-25 TIP Development (cont., 3)

OBJECTIVE	CRITERIA	SUBCRITERIA/SCORING
SYSTEM PRESERVATION: 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	Improves substandard pavement (up to 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
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 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 +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 (29 possible points)		

Table A-2: Evaluation Criteria for FFYs 2021-25 TIP Development (cont., 4)

OBJECTIVE	CRITERIA	SUBCRITERIA/SCORING
CAPACITY MANAGEMENT/MOBILITY: Use existing facility capacity more efficiently and increase healthy transportation options.		
<p>Improve access to and accessibility of all modes, especially transit and active transportation</p> <p>Support roadway management and operations strategies to improve travel reliability, mitigate congestion, and support non-single-occupant-vehicle travel</p>	<p>Reduces transit vehicle delay (0–4 points)</p>	<p>+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</p> <p>If project scores points above, then it is eligible for additional points below: +1 Improves one or more key bus route(s)</p>
<p>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</p> <p>Improve reliability of transit</p>	<p>Improves pedestrian network and ADA accessibility (0–5 points)</p>	<p>+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</p>
<p>Increase percentage of population and employment within one-quarter mile of transit stations and stops</p> <p>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</p>	<p>Improves bicycle network (0–4 points)</p>	<p>+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</p>
<p>Support strategies to better manage automobile and bicycle parking capacity and usage at transit stations</p> <p>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</p>	<p>Improves intermodal accommodations/ connections to transit (0–6 points)</p>	<p>+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</p>
<p>Increase percentage of population and places of employment with access to facilities on the bicycle network</p> <p>Eliminate bottlenecks on the freight network, improve freight reliability, and enhance freight intermodal connections</p>	<p>Improves truck movement (0–4 points)</p>	<p>+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</p> <p>If project scores points above, then it is eligible for additional points below: +1 Addresses MPO-identified bottleneck location</p>
	<p>Reduces vehicle congestion (0–6 points)</p>	<p>+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</p>
CAPACITY MANAGEMENT/MOBILITY (29 possible points)		

Table A-2: Evaluation Criteria for FFYs 2021-25 TIP Development (cont., 5)

OBJECTIVE	CRITERIA	SUBCRITERIA/SCORING
CLEAN AIR/SUSTAINABLE COMMUNITIES: Create an environmentally friendly transportation system.		
<p>Reduce GHGs generated in the Boston region by all transportation modes as outlined in the Global Warming Solutions Act</p> <p>Reduce other transportation-related pollutants</p> <p>Minimize negative environmental impacts of the transportation system, when possible</p> <p>Support land-use policies consistent with smart and healthy 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 1,000-1,999 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 1,000-1,999 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>
CLEAN AIR/SUSTAINABLE COMMUNITIES (16 possible points)		

Table A-2: Evaluation Criteria for FFYs 2021-25 TIP Development (cont., 6)

OBJECTIVE	CRITERIA	SUBCRITERIA/SCORING
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>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> <hr/> <p>+2 Serves low-income (high concentration) population (> 2,000 people)</p> <p>+1 Serves low-income (low concentration) population (≤ 2,000 people)</p> <hr/> <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> <hr/> <p>+2 Serves elderly (high concentration) population (> 2,000 people)</p> <p>+1 Serves elderly (low concentration) population (≤ 2,000 people)</p> <hr/> <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> <hr/> <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> <hr/> <p>+0 Does not serve Title VI or non-discrimination populations</p> <p>-10 Creates a burden for Title VI or non-discrimination populations</p>
TRANSPORTATION EQUITY (12 possible points)		

Table A-2: Evaluation Criteria for FFYs 2021-25 TIP Development (cont., 7)

OBJECTIVE	CRITERIA	SUBCRITERIA/SCORING
ECONOMIC VITALITY: Ensure our transportation network provides a strong foundation for economic vitality.		
Respond to mobility needs of the workforce population Minimize the burden of housing and transportation costs for residents in the region Prioritize transportation investments that serve residential, commercial, and logistics targeted development sites and “Priority Places” identified in the MBTA’s Focus 40 plan	Serves targeted development site (0–6 points)	+2 Provides new transit access to or within site +1 Improves transit access to or within site +1 Provides for bicycle access to or within site +1 Provides for pedestrian access to or within site +1 Provides for improved road access to or within site +0 Does not provide any of the above measures
Prioritize transportation investments consistent with compact-growth strategies of the regional transportation plan	Provides for development consistent with the compact growth strategies of MetroFuture (0–5 points)	+2 Mostly serves an existing area of concentrated development +1 Partly serves an existing area of concentrated development +1 Supports local zoning or other regulations that are supportive of smart growth development +2 Complements other local financial or regulatory support that fosters economic revitalization in a manner consistent with smart growth development principles +0 Does not provide any of the above measures
	Provides multimodal access to an activity center (0–4 points)	+1 Provides transit access (within a quarter mile) to an activity center +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% of the project cost) +2 Meets or addresses criteria to a medium degree (10-30% of the project cost) +1 Meets or addresses criteria to a low degree (<10% of the project cost) +0 Does not meet or address criteria
ECONOMIC VITALITY (18 possible points)		
TOTAL SCORE (134 possible points)		

Table A-3: FFYs 2021-25 TIP Scoring Summary

TIP ID	Municipality	Proponent	Project Name	Project Cost	TOTAL SCORE (134 Possible Points)	Safety Score (30 Possible Points)	Crash Severity Value: Equivalent Property Damage Only (EPDO) Index (Up to 5 Points)	Crash Rate (Up to 5 Points)	Improves Truck Safety (Up to 5 Points)	Improves Bike Safety (Up to 5 Points)	Improves Pedestrian Safety (Up to 5 Points)	Improves Railroad Crossing Safety (Up to 5 Points)	System Preservation Score (29 Possible Points)	Improves Substandard Roadway Bridge(s) (Up to 3 Points)	Improves Substandard Pavement (Up to 6 Points)	Improves Substandard Traffic Signals (Up to 6 Points)	Improves Transit Asset(s) (Up to 3 Points)	Improves Substandard Sidewalk(s) (Up to 3 Points)	Improves Emergency Response (Up to 2 Points)	Improves Ability to Respond to Extreme Conditions (Up to 6 Points)	Capacity Management/Mobility Score (29 Possible Points)	Reduces Transit Vehicle Delay (Up to 4 Points)	Improves Pedestrian Network and ADA Accessibility (Up to 5 Points)	Improves Bike Network (Up to 4 Points)	Improves Intermodal Connections to Transit (Up to 6 Points)	Improves Truck Movement (Up to 4 Points)	Reduces Vehicle Congestion (Up to 6 Points)	Clean Air/Sustainable Communities Score (16 Possible Points)	Reduces CO2 Emissions (Up to 5 Points)	Reduces Other Transportation-Related Emissions (Up to 5 Points)	Addresses Environmental Impacts (Up to 4 Points)	Is Located in an EOECA-Certified Green Community (Up to 2 Points)	Transportation Equity Score (12 Possible Points)	Economic Vitality Score (18 Possible Points)	Serves Targeted Development Site (Up to 6 Points)	Provides for Development that is Consistent with MetroFuture (Up to 5 Points)	Provides Intermodal Access to Activity Center (Up to 4 Points)	Leverages Other Investments (Non-TIP Funding) (Up to 3 Points)	
(Projects grouped by MPO Investment Category)																																							
Bicycle/Pedestrian																																							
610544	Peabody	Peabody	Multi-Use Path Construction of Independence Greenway at I-95 and Route 1	\$5,865,000	53	15	3	5	1	3	3	0	13	0	4	6	0	3	0	0	11	0	5	4	0	0	2	4	1	2	1	0	4	6	0	4	2	0	
609204	Belmont	Belmont	Community Path, Belmont Component of the MCRT (Phase I)	\$16,703,600	42	12	1	0	0	3	3	5	2	0	0	0	0	0	1	1	15	0	5	4	6	0	0	4	1	1	0	2	1	8	4	2	2	0	
610666	Swampscott	Swampscott	Rail Trail Construction	\$7,700,000	34	6	0	0	0	3	3	0	0	0	0	0	0	0	0	0	13	0	5	4	4	0	0	8	2	3	1	2	1	6	0	3	2	1	
Complete Streets																																							
609532	Chelsea	Chelsea	Targeted Safety Improvements and Related Work on Broadway, from Williams Street to City Hall Avenue	\$5,750,000	83	23	5	5	3	5	5	0	18	0	4	6	1	2	2	3	14	4	2	4	4	0	0	4	-1	1	2	2	10	14	4	3	4	3	
610662	Woburn	Woburn	Roadway and Intersection Improvements at Woburn Common, Route 38 (Main Street), Winn Street, Pleasant Street, and Montvale Avenue	\$14,380,000	75	22	4	5	5	3	5	0	15	0	4	6	2	2	1	0	16	1	2	2	2	3	6	10	4	3	1	2	4	8	2	3	3	0	
609437	Salem	Salem	Boston Street Improvements	\$12,480,000	69	18	3	4	3	4	4	0	17	0	6	6	1	2	2	0	15	1	2	4	2	0	6	1	-2	-1	2	2	6	12	3	5	3	1	
608954	Weston	Weston	Reconstruction on Route 30	\$8,117,562	57	16	3	0	5	4	4	0	13	0	2	4	0	3	1	3	17	0	5	4	0	2	6	10	3	3	2	2	1	0	0	0	0		
610674	Newton	Newton	Reconstruction of Commonwealth Avenue (Route 30), from East of Auburn Street to Ash Street	\$5,098,755	51	7	1	0	0	3	3	0	16	0	4	6	3	3	0	0	13	0	5	4	4	0	0	6	1	1	2	2	1	8	3	2	3	0	
610671	Manchester-by-the-Sea	Manchester-by-the-Sea	Bridge Replacement, M-02-001 (8AM), Central Street (Route 127) Over Saw Mill Brook	\$4,350,000	46	11	1	5	1	1	3	0	16	3	4	0	0	2	2	5	5	0	2	0	2	1	0	5	0	0	3	2	1	8	2	3	1	2	
Intersection Improvements																																							
608067	Burlington, Woburn	Burlington, Woburn	Intersection Reconstruction at Route 3 (Cambridge Road) & Bedford Road and South Bedford Street	\$1,440,000	52	9	1	3	0	2	3	0	11	0	2	6	1	2	0	0	19	2	5	3	2	1	6	7	2	1	2	2	2	4	0	2	2	0	
608940	Weston	Weston	Intersection Improvements Boston Post Road (Route 20) at Wellesley Street	\$1,219,250	40	17	2	5	3	3	4	0	5	0	2	0	0	3	0	0	11	0	5	2	0	2	2	5	2	1	0	2	1	1	0	0	1	0	

Table A-3: FFYs 2021-25 TIP Scoring Summary (cont., 2)

TIP ID	Municipality	Proponent	Project Name	Project Cost	TOTAL SCORE (134 Possible Points)	Safety Score (30 Possible Points)	Crash Severity Value: Equivalent Property Damage Only (EPDO) Index (Up to 5 Points)	Crash Rate (Up to 5 Points)	Improves Truck Safety (Up to 5 Points)	Improves Bike Safety (Up to 5 Points)	Improves Pedestrian Safety (Up to 5 Points)	Improves Railroad Crossing Safety (Up to 5 Points)	System Preservation Score (29 Possible Points)	Improves Substandard Roadway Bridge(s) (Up to 3 Points)	Improves Substandard Pavement (Up to 6 Points)	Improves Substandard Traffic Signals (Up to 6 Points)	Improves Transit Asset(s) (Up to 3 Points)	Improves Substandard Sidewalk(s) (Up to 3 Points)	Improves Emergency Response (Up to 2 Points)	Improves Ability to Respond to Extreme Conditions (Up to 6 Points)	Capacity Management/Mobility Score (29 Possible Points)	Reduces Transit Vehicle Delay (Up to 4 Points)	Improves Pedestrian Network and ADA Accessibility (Up to 5 Points)	Improves Bike Network (Up to 4 Points)	Improves Intermodal Connections to Transit (Up to 6 Points)	Improves Truck Movement (Up to 4 Points)	Reduces Vehicle Congestion (Up to 6 Points)	Clean Air/Sustainable Communities Score (16 Possible Points)	Reduces CO2 Emissions (Up to 5 Points)	Reduces Other Transportation-Related Emissions (Up to 5 Points)	Addresses Environmental Impacts (Up to 4 Points)	Is Located in an EOEAA-Certified Green Community (Up to 2 Points)	Transportation Equity Score (12 Possible Points)	Economic Vitality Score (18 Possible Points)	Serves Targeted Development Site (Up to 6 Points)	Provides for Development that is Consistent with MetroFuture (Up to 5 Points)	Provides Intermodal Access to Activity Center (Up to 4 Points)	Leverages Other Investments (Non-TIP Funding) (Up to 3 Points)		
608955	Milton	Milton	Intersection Improvements Squantum Street at Adams Street	\$979,762	33	8	1	1	0	3	3	0	8	0	4	0	1	2	1	0	7	0	2	3	2	0	0	5	2	1	0	2	2	3	0	3	0	0		
608947	Westwood	Westwood	Traffic Signal Improvements on Route 109	\$929,280	31	10	3	3	0	1	3	0	7	0	0	6	0	0	1	0	6	0	0	0	0	2	4	4	1	1	0	2	1	3	0	2	1	0		
Major Infrastructure																																								
609246	Lynn	Lynn	Reconstruction of Western Avenue (Route 107)*	\$36,205,000	76	20	5	5	3	2	5	0	15	0	4	6	0	3	2	0	15	2	2	2	2	1	6	11	4	5	0	2	10	5	0	3	2	0		
607981	Somerville	MassDOT	McGrath Boulevard Project*	\$88,250,000	74	15	3	2	0	5	5	0	15	0	4	6	0	2	2	1	15	0	5	4	6	0	0	8	2	3	1	2	10	11	3	5	3	0		
605313	Natick	MassDOT	Bridge Replacement, Route 27 (North Main Street) over Route 9 (Worcester Street) and Interchange Improvements*	\$25,897,370	66	17	5	5	1	3	3	0	13	3	2	4	0	3	0	1	20	2	5	4	4	1	4	9	4	3	0	2	1	6	0	3	3	0		
610545	Wakefield	Wakefield	Main Street Reconstruction	\$26,382,000	59	22	5	5	3	4	5	0	11	0	4	4	1	0	1	1	12	1	3	4	2	0	2	1	-1	-1	3	0	1	12	4	5	2	1		

Projects highlighted in BLUE were evaluated for the first time in FFY 2020

All other projects were re-evaluated in FFY 2020 with updated data and project information, where available.

*Programmed in LRTP 2025-2029

Table A-4: FFY 2021 Community Connections Program Universe of Projects

Municipality	Project Type	Project Concept	Potential Project Sponsor/Proponent*
ICC			
Boston	Bicycle and Pedestrian Improvements	Implement some of the recommendations contained in the Fairmount Line Station Access Analysis, http://www.ctps.org/fairmount-station-access	City of Boston
Boston	Transit Operations and Improvements; Education and Wayfinding	Implement signage for commuter and intercity buses stopping curbside in downtown Boston, in accordance with recommendations in Chapter 4 of the Massachusetts Regional Bus Study, http://www.ctps.org/2013_mass_bus_study	City of Boston, MassDOT, bus carriers
Boston	Transit Operations and Improvements	Improve the waiting area for EZRide shuttle buses on Nashua Street outside of North Station with weather-resistant shelters and seating	City of Boston, Charles River TMA
Cambridge	Transit Operations and Improvements; Bicycle and Pedestrian Improvements	1) Pilot or permanent implementation of two bus lanes on access roads connecting the Alewife T with Route 2, to benefit MBTA, TMA, and shuttle buses. 2) Safer crossing of Alewife Brook Parkway near Rindge Towers (public housing project), better access between Rindge Ave. housing, Fresh Pond Mall, and Alewife train station 3) Pedestrian bridge from Alewife to Fresh Pond	City of Cambridge, Route 128 BC, Alewife TMA
Cambridge, Somerville	Bicycle and Pedestrian Improvements	1) Linking the Community Path Extension with the partially built Grand Junction Path (and the People's Pike near the I-90 project), the proposed Mystic to Charles Connector Friends of the Mystic to Charles Connector, and the GLX Project. 2) Link the Rose Kennedy Greenway with the Charles River Paths. Fix the Charles River path near the Museum of Science, including a dedicated bike lane in both directions.	City of Cambridge, City of Somerville, DCR
Everett, Somerville	Bicycle and Pedestrian Improvements	Extension of Northern Strand Community Trail from Everett to Assembly Square.	City of Everett, City of Somerville, MBTA
Everett, Chelsea	Bicycle and Pedestrian Improvements	Improve sidewalks, crosswalks, and other routes to transit along the route of the 112 and other local buses.	City of Everett, City of Chelsea
Malden	Transit Operations and Improvements; Bicycle and Pedestrian Improvements	Implement more dedicated space for bicyclists, pedestrians, buses, and pickup/drop-off near Malden Center Station.	City of Malden
Melrose	Bicycle and Pedestrian Improvements	Improving bike and pedestrian access between neighborhoods, transit stations, commercial districts, and schools and parks.	Town of Melrose
Waltham, Newton	Transit Operations and Improvements	Shuttle from Riverside MBTA station to Brandeis campus	Route 128 Business Council, Brandeis University
Watertown	Transit Operations and Improvements	The Pleasant Street corridor, which has five new residential rental developments and an existing redeveloped office park, is completely unserved by public transportation. The WTMA is currently studying establishing shuttle service along the Pleasant Street corridor, to connect residents and employees to Watertown Square, where they can access buses to the Red Line and downtown. (More details available in documentation from Laura Wiener.)	Town of Watertown , Watertown TMA
MWRC			
Ashland	Transit Operations and Improvements; Bicycle and Pedestrian Improvements	1) First-mile/last-mile connections to commuter rail 2) Improve transit access to Ashland Commuter Rail station (shuttle to downtown/MWRTA Route 5)	Town of Ashland, MWRTA

Table A-4: FFY 2021 Community Connections Program Universe of Projects (cont.)

Municipality	Project Type	Project Concept	Potential Project Sponsor/Proponent*
Framingham	Transit Operations and Improvements	1) Shuttle connection from Golden Triangle to downtown 2) Shuttle to Dennison Facilities	City of Framingham
Framingham	Parking Management	Expand park-and-ride in downtown Framingham	City of Framingham
Natick	Parking Management	Parking expansion at Natick Center commuter rail station	Town of Natick
Natick	Bicycle and Pedestrian Improvements	Connect Cochituate Rail Trail to Natick Center commuter rail station	Town of Natick
Wellesley	Parking Management	Expanded parking at all three Wellesley commuter rail stations	Town of Wellesley
Weston, Wayland	Parking Management; Transit Operations and Improvements	Shuttle from downtown Wayland to Weston commuter rail stations	Town of Weston, Town of Wayland
MAGIC			
Concord	Bicycle and Pedestrian Improvements; Transit Operations and Improvements; Education and Wayfinding	1) Improve pedestrian, bicycle, and transit connections to West Concord station 2) Implement wayfinding strategies and signage along the Bruce Freeman Rail Trail 3) Recommendations pursuant to 2016 CTPS technical assistance memos	Town of Concord
Lexington	Transit Operations and Improvements	Consolidate multiple shuttles operating on Hayden Ave. in Lexington	Town of Lexington, Route 128 Business Council
NSTF			
Beverly	Transit Operations and Improvements	1) Make Beverly Depot a mobility hub. Connect to bikeshare, uber, car-sharing in an organized way. 2) Connections for Cherry Hill manufacturing employees from Lynn, Beverly Depot	City of Beverly
NSPC			
Reading	Transit Operations and Improvements; Bicycle and Pedestrian Improvements	1) Better connectivity from Walkers Brook to downtown, including possibly establishing a multimodal path next to the MBTA tracks to accommodate the many people who already walk along the tracks because it's the shortest way to get from the Walker's Brook area to downtown. 2) Creation of remote parking with a shuttle service to open up prime parking spaces by the commuter rail, which are currently occupied all day by commuters and thus aren't available to patrons of downtown businesses 3) More bike lanes and sidewalks. Road diet on South Main (Rte. 28) as a start.	Town of Reading
Winchester	Parking Management	Parking will be lost at Winchester Center during (and after?) reconstruction. Provide a shuttle from off-site parking to compensate.	Town of Winchester
SSC			
Cohasset	Bicycle and Pedestrian Improvements	Bicycle and pedestrian approaches to station are dangerous, especially on Sohier St.	Town of Cohasset
Hingham	Bicycle and Pedestrian Improvements	Bicycle and pedestrian approaches to station are dangerous, especially intersection of Kilby St./Route 3A	Town of Hingham
Hull	Transit Operations and Improvements	Better (shuttle?) connections from town to Hull commuter rail station	Town of Hull

Table A-4: FFY 2021 Community Connections Program Universe of Projects

Municipality	Project Type	Project Concept	Potential Project Sponsor/Proponent*
TRIC			
Canton	Transit Operations and Improvements; Bicycle and Pedestrian Improvements	"1) Improve pedestrian, cyclist, or transit accommodations for the many senior living and low-income multifamily developments along Rte. 138 in Canton. 2) The 716 bus doesn't run frequently enough and has no sheltered bus stop locations along the Washington Street corridor. 3) Implement the recommendations made in the Boston MPO study of the Route 138 corridor 4) Reestablish first and last mile connections for Royall St. Once served by the RaiLink Shuttle (NVTMA) to the Route 128 Commuter Rail, Quincy Adam, Mattapan, and Ashmont Red Line Stations. Originally, two shuttles were funded with CMAQ funds and contributions from several employer partners. Once funding ended many businesses dropped out. One shuttle remained in service, which was privately funded by Reebok and Computershare. Reebok added an Express shuttle to the commuter rail from March 2016–October 2017. Due to Reebok's move to the Seaport and a significant workforce reduction at Computershare, service was suspended in April 2018. "	Town of Canton, Neponset Valley TMA
Dedham, Norwood, Foxborough, Walpole	Transit Operations and Improvements; Bicycle and Pedestrian Improvements	1) Legacy Place fixed-route and shuttle improvements 2) Patriot Place shuttles 3) Employee access to Route 1 from MBTA 34E and other transit stops, especially safe pedestrian/bicycle environment 4) Shuttle from Norwood commuter rail stations to Moderna and/or new 40B developments in the same area	Towns of Dedham, Norwood, Foxborough, Walpole; Neponset Valley TMA
Sharon	Parking Management	Shuttle or innovative carpooling/ridesharing arrangement from off-site parking to Sharon train station. Town is considering building a parking structure.	Town of Sharon, Neponset Valley TMA

*Bold red text indicates a project proponent or sponsor with whom MPO staff have had advanced conversations about the relevant project

Table A-5: Evaluation Criteria for FFY 2021 Community Connections Program

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		
<p>Each project funded through this program must show an air quality benefit when analyzed through the MPO's air quality analysis process.</p> <p>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.</p>	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)		
<p>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.</p>	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.

Table A-5: Evaluation Criteria for FFY 2021 Community Connections Program (cont.)

OBJECTIVE	CRITERIA	FACTORS
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)		
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.

Table A-5: Evaluation Criteria for FFY 2021 Community Connections Program (cont.)

OBJECTIVE	CRITERIA	FACTORS
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)		
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.

Table A-5: Evaluation Criteria for FFY 2021 Community Connections Program (cont.)

OBJECTIVE	CRITERIA	FACTORS
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.

APPENDIX B

GREENHOUSE GAS MONITORING AND EVALUATION

BACKGROUND

The Global Warming Solutions Act of 2008 (GWSA) requires 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 outlines programs to attain the 25 percent reduction by 2020—including a 7.6 percent reduction to be 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 to demonstrate that its GHG emissions reduction commitments and targets are being achieved
- Each MPO to 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, to develop and use procedures to prioritize and select projects for its LRTP and TIP based on factors that account for GHG emissions and impacts

The Commonwealth's MPOs are meeting the requirements of this regulation through the transportation goals and policies contained in their 2020 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 information about 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, 2019, and 2020, and for the TIPs produced for federal fiscal years (FFYs) 2016–19, 2017–21, 2018–22, 2019–23, 2020–24, and 2021–25. Working together, MassDOT and the MPOs have attained the following milestones:

- As a supplement to the 2020 LRTPs, 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 as a measure of 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 statewide travel demand model. 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 when projects are 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 2021–25 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: Technology that 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

Projects that cannot be analyzed using the travel demand model or the spreadsheets described above are categorized either as projects with assumed decreases or increases in CO₂ emissions or as projects assumed to have no CO₂ emissions at all. These types of projects are described below.

QUALITATIVE DECREASE OR INCREASE IN CO₂ 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 CO₂ 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.

SUMMARY OF CO₂ EMISSIONS FROM PROJECTS IN THE TRANSPORTATION IMPROVEMENT PROGRAM

Tables B-1 through B-4 display the CO₂ impact analyses of projects funded in the FFYs 2021–25 Highway Program (Table B-1) and Transit Program (Table B-2). Table B-3 summarizes the GHG impact analyses of highway projects completed in FFY 2020. Table B-4 summarizes the GHG impact analyses of transit projects completed in FFY 2020. A project is considered completed when the construction contract has been awarded or the transit vehicles have been purchased. More details about these projects are discussed in Chapter 3.

Table B-1: Greenhouse Gas Regional Highway Project Tracking

MassDOT Project ID	MassDOT Project Description	GHG Analysis Type	GHG CO2 Impact (kg/yr)	GHG Impact Description
608229	Acton - Intersection and signal improvements at Kelley's Corner	Quantified	111,958	Quantified decrease in emissions from Complete Streets project
607748	Acton - Intersection and signal improvements on Route 2 and Route 111 (Massachusetts Ave) at Piper Rd and Taylor Rd	Qualitative		Qualitative decrease in emissions
610722	Acton, Boxborough, Littleton - Pavement Preservation Route 2	Qualitative		No assumed impact/negligible impact on emissions
609222	Arlington - Spy Pond Sediment Removal	Qualitative		No assumed impact/negligible impact on emissions
609531	Arlington - Stratton School Improvements (SRTS)	Qualitative		Qualitative decrease in emissions
604123	Ashland - Reconstruction on Route 126 (Pond St) from Framingham town line to Holliston town line	Quantified	148,097	Quantified decrease in emissions from Complete Streets project
607738	Bedford - Minuteman Bikeway extension from Loomis St to the Concord town line	Quantified	21,098	Quantified decrease in emissions from bicycle and pedestrian infrastructure
608948	Bellingham-Franklin – Southern New England Trunk Trail (SNETT) Construction	Quantified	TBD	TBD
608887	Bellingham - South Main St (Route 126) - Douglas Dr to Mechanic St reconstruction (Route 140)	Quantified	24,363	Quantified decrease in emissions from Complete Streets project
608911	Belmont - Improvements at Wellington Elementary School (SRTS)	Qualitative		Qualitative decrease in emissions
608347	Beverly - Intersection improvements at 3 locations: Cabot St (Route 1A/97) at Dodge St (Route 1A), County Way, Longmeadow Rd and Scott St, McKay St at Balch St and Veterans Memorial Bridge (Route 1A) at Rantoul, Cabot, Water, and Front Sts	Quantified	582,422	Quantified decrease in emissions from traffic operational improvement
608348	Beverly - Rehabilitation of Bridge St	Quantified	387,153	Quantified decrease in emissions from Complete Streets project
606902	Boston - Bridge Reconstruction/Rehab, B-16-181, West Roxbury Parkway over MBTA	Qualitative		No assumed impact/negligible impact on emissions
606728	Boston - Bridge Replacement, B-16-365, Bowker Overpass over Storrow Drive (eastbound)	Qualitative		No assumed impact/negligible impact on emissions
608614	Boston - Bridge Substructure repairs, B-16-179, Austin St over I-93 ramps, MBTA commuter rail and Orange Line	Qualitative		No assumed impact/negligible impact on emissions
610537	Boston - Ellis Elementary Traffic Calming (SRTS)	Qualitative		Qualitative decrease in emissions
606453	Boston - Improvements on Boylston St, from Intersection of Brookline Ave and Park Dr to Ipswich St	Quantified	1,920,790	Quantified decrease in emissions from Complete Streets project
S10682	Boston - Inner Harbor Stormwater Improvements	Qualitative		No assumed impact/negligible impact on emissions

Table B-1: Greenhouse Gas Regional Highway Project Tracking (cont., 2

MassDOT Project ID	MassDOT Project Description	GHG Analysis Type	GHG CO2 Impact (kg/yr)	GHG Impact Description
607759	Boston - Intersection Improvements at the VFW Parkway and Spring St	Qualitative		Qualitative decrease in emissions
608943	Boston - Neponset River Greenway (Phase 3)	Quantified	239,055	Quantified decrease in emissions from bicycle and pedestrian infrastructure
606226	Boston - Reconstruction of Rutherford Ave, from City Square to Sullivan Square	Quantified		L RTP project included in the statewide model
608197	Boston - Superstructure Replacement, B-16-107, Canterbury St over Amtrak/MBTA	Qualitative		No assumed impact/negligible impact on emissions
607888	Boston-Brookline - Multi-use path construction on New Fenway	Quantified	54,724	Quantified decrease in emissions from bicycle and pedestrian infrastructure
609090	Boston-Milton-Quincy - Highway lighting system replacement on Interstate 93, from Neponset Ave to the Braintree split	Qualitative		No assumed impact/negligible impact on emissions
608067	Burlington, Woburn - Intersection Reconstruction at Route 3 (Cambridge Road) and Bedford Road and South Bedford Street	Quantified		Quantified decrease in emissions from traffic operational improvement
BN1800	Cambridge - Concord Avenue Transit Signal Priority (Community Connections Program)	Quantified	645,520	Quantified decrease in emissions from traffic operational improvement
S10767	Cambridge - US Rte 3 Over Rte 2 & Rte 16 over Alewife	Qualitative		No assumed impact/negligible impact on emissions
608482	Cambridge-Somerville - Resurfacing and related work on Route 28	Qualitative		No assumed impact/negligible impact on emissions
609438	Canton - Bridge Replacement, C-02-042, Revere Court over West Branch Neponset River	Qualitative		No assumed impact/negligible impact on emissions
609053	Canton-Dedham-Norwood - Highway lighting improvements at Interstate 93 and Interstate 95/Route 128	Qualitative		No assumed impact/negligible impact on emissions
608484	Canton-Milton - Resurfacing and related work on Route 138	Qualitative		No assumed impact/negligible impact on emissions
608611	Canton-Milton-Randolph - Replacement and rehabilitation of the highway lighting system at the Route 24 and Interstate 93 interchange	Qualitative		No assumed impact/negligible impact on emissions
608599	Canton-Sharon-Foxborough-Norwood-Walpole - Storm water improvements along Route 1, Route 1A, and Interstate 95	Qualitative		No assumed impact/negligible impact on emissions
608078	Chelsea - Reconstruction on Broadway (Route 107) from City Hall to Revere city line	Quantified	93,278	Quantified decrease in emissions from Complete Streets project
609532	Chelsea - Targeted Safety Improvements and Related Work on Broadway, from Williams Street to City Hall Avenue	Quantified	-25,503	Quantified increase in emissions

Table B-1: Greenhouse Gas Regional Highway Project Tracking (cont., 3)

MassDOT Project ID	MassDOT Project Description	GHG Analysis Type	GHG CO2 Impact (kg/yr)	GHG Impact Description
608007	Cohasset - Corridor improvements and related work on Justice Cushing Highway (Route 3A) from Beechwood St to Henry Turner Bailey Rd	Quantified	5,849	Quantified decrease in emissions from Complete Streets project
BN1800	Concord - Bruce Freeman Rail Trail Bike Shelters (Community Connections Program)	Quantified	2,707	Quantified decrease in emissions from bicycle and pedestrian infrastructure
608495	Concord-Lexington-Lincoln - Resurfacing and related work on Route 2A	Qualitative		No assumed impact/negligible impact on emissions
S10766	Danvers - Andover Street (D-03-009) over Ipswich River	Qualitative		No assumed impact/negligible impact on emissions
608818	Danvers - Resurfacing and related work on Route 114	Qualitative		No assumed impact/negligible impact on emissions
608378	Danvers-Topsfield-Boxford-Rowley - Interstate maintenance and related work on Interstate 95	Qualitative		No assumed impact/negligible impact on emissions
607899	Dedham - Pedestrian improvements along Bussey St	Quantified	3,331	Quantified decrease in emissions from bicycle and pedestrian infrastructure
607901	Dedham - Pedestrian improvements along Elm St and Rustcraft Rd corridors	Quantified	14,046	Quantified decrease in emissions from bicycle and pedestrian infrastructure
608596	Essex - Superstructure replacement, E-11-001 (2TV), Route 133\Main St over Essex River	Qualitative		No assumed impact/negligible impact on emissions
607652	Everett - Reconstruction of Ferry St, South Ferry St and a portion of Elm St	Quantified	435,976	Quantified decrease in emissions from Complete Streets project
609257	Everett - Rehabilitation of Beacham Street, from Route 99 to Chelsea City Line	Quantified	4,038	Quantified decrease in emissions from Complete Streets project
608210	Foxborough-Plainville-Wrentham-Franklin - Interstate maintenance resurfacing work on Interstate 495	Qualitative		No assumed impact/negligible impact on emissions
608480	Foxborough-Walpole - Resurfacing and related work on Route 1	Qualitative		No assumed impact/negligible impact on emissions
608228	Framingham - Reconstruction of Union Ave, from Proctor St to Main St	Quantified	-217,978	Quantified increase in emissions
608889	Framingham - Traffic Signal Installation at Edgell Rd and Central St	Quantified	233,257	Quantified decrease in emissions from Complete Streets project
609402	Framingham-Natick - Resurfacing and Related Work on Route 9	Qualitative		No assumed impact/negligible impact on emissions
609467	Hamilton - Bridge Replacement, Winthrop St over Ipswich River	Qualitative		No assumed impact/negligible impact on emissions
605168	Hingham - Intersection Improvements at Route 3A/ Summer St Rotary	Quantified	284,736	Quantified decrease in emissions from Complete Streets project
608498	Hingham-Weymouth-Braintree - Resurfacing and related work on Route 53	Qualitative		No assumed impact/negligible impact on emissions
606501	Holbrook - Reconstruction of Union St (Route 139), from Linfield St to Centre St and Water St	Quantified	4,097	Quantified decrease in emissions from Complete Streets project

Table B-1: Greenhouse Gas Regional Highway Project Tracking (cont., 4

MassDOT Project ID	MassDOT Project Description	GHG Analysis Type	GHG CO2 Impact (kg/yr)	GHG Impact Description
606043	Hopkinton - Signal and intersection improvements on Route 135	Quantified	1,298,625	Quantified decrease in emissions from Complete Streets project
607977	Hopkinton-Westborough - Reconstruction of Interstate 90/Interstate 495 interchange	Quantified		LRTP project included in the statewide model
601607	Hull - Reconstruction of Atlantic Ave and related work	Quantified	6,586	Quantified decrease in emissions from Complete Streets project
605743	Ipswich - Resurfacing and related work on Central and South Main Sts	Quantified	4,356	Quantified decrease in emissions from Complete Streets project
609054	Littleton - Reconstruction of Foster Street	Quantified	1,140	Quantified decrease in emissions from Complete Streets project
608443	Littleton/Ayer - Intersection improvements on Route 2A at Willow Rd and Bruce St	Quantified	52,102	Quantified decrease in emissions from traffic operational improvement
609254	Lynn - Intersection Improvements at Two Intersections on Broadway	Quantified	73,291	Quantified decrease in emissions from traffic operational improvement
602077	Lynn - Reconstruction on Route 129 (Lynnfield Street), from Great Woods Rd to Wyoma Square	Quantified	12,761	Quantified decrease in emissions from Complete Streets project
609252	Lynn - Rehabilitation of Essex St	Quantified	411,394	Quantified decrease in emissions from Complete Streets project
607477	Lynnfield-Peabody - Resurfacing and related work on Route 1	Qualitative		No assumed impact/negligible impact on emissions
609060	Lynnfield-Peabody-Danvers - Guide and traffic sign replacement on Interstate 95/Route 128 (Task 'A' interchange)	Qualitative		No assumed impact/negligible impact on emissions
608275	Malden - Exchange St Downtown Improvement Project	Quantified	13,519	Quantified decrease in emissions from Complete Streets project
608146	Marblehead - Intersection improvements at Pleasant St and Village, Vine, and Cross St	Quantified	531	Quantified decrease in emissions from traffic operational improvement
608566	Marlborough - Improvements at Route 20 (East Main St) at Curtis Ave	Qualitative		Qualitative decrease in emissions
608467	Marlborough - Resurfacing and related work on Route 20	Qualitative		No assumed impact/negligible impact on emissions
608637	Maynard - Bridge replacement, M-10-006, carrying Florida Rd over the Assabet River	Qualitative		No assumed impact/negligible impact on emissions
608835	Medford - Improvements at Brook Elementary School	Qualitative		Qualitative decrease in emissions
610724	Medford-Somerville-Stoneham - Interstate Pavement Preservation	Qualitative		No assumed impact/negligible impact on emissions
610726	Medford-Winchester-Stoneham - Interstate Pavement Preservation on I-93	Qualitative		No assumed impact/negligible impact on emissions
609530	Medway - Holliston Street and Cassidy Lane Improvements (SRTS)	Qualitative		Qualitative decrease in emissions

Table B-1: Greenhouse Gas Regional Highway Project Tracking (cont., 5

MassDOT Project ID	MassDOT Project Description	GHG Analysis Type	GHG CO2 Impact (kg/yr)	GHG Impact Description
608522	Middleton - Bridge Replacement, M-20-003, Route 62 (Maple St) over Ipswich River	Qualitative		No assumed impact/negligible impact on emissions
608045	Milford - Rehabilitation on Route 16, from Route 109 to Beaver St	Quantified	-38,500	Quantified increase in emissions
607342	Milton - Intersection and signal improvements at Route 28 (Randolph Ave and Chickatawbut Rd)	Qualitative		Qualitative decrease in emissions
606635	Needham-Newton - Reconstruction of Highland Ave, Needham St and Charles River Bridge, N-04-002, from Webster St (Needham) to Route 9 (Newton)	Quantified	1,186,210	Quantified decrease in emissions from Complete Streets project
BN1800	Newton - Newton Intra-city Microtransit	Quantified	24,809	Quantified decrease in emissions from new/additional transit service
608610	Newton - Steel superstructure cleaning (full removal) and painting of N-12-055	Qualitative		No assumed impact/negligible impact on emissions
609066	Newton-Weston - Multi-Use Trail Connection, from Recreation Rd to Upper Charles River Greenway including Reconstruction of Ped Bridge N-12-078=W-29-062	Quantified	378	Quantified decrease in emissions from bicycle and pedestrian infrastructure
608866	Newton-Weston - Steel superstructure cleaning (full removal) and painting of 3 bridges: N-12-051, W-29-011, and W-29-028	Qualitative		No assumed impact/negligible impact on emissions
608609	Newton-Westwood - Steel superstructure cleaning (full removal) and painting of 2 bridges: N-12-056 and W-31-006	Qualitative		No assumed impact/negligible impact on emissions
608052	Norwood - Intersection and signal improvements at Route 1 (Providence Highway) and Morse St	Qualitative		Qualitative decrease in emissions
605857	Norwood - Intersection improvements at Route 1 and University Ave/Everett St	Quantified	1,092,131	Quantified decrease in emissions from traffic operational improvement
606130	Norwood - Intersection improvements at Route 1A and Upland Rd	Quantified	72,964	Quantified decrease in emissions from traffic operational improvement
608567	Peabody - Improvements at Route 114 at Sylvan St, Cross St, Northshore Mall, Loris Rd, Route 128 interchange, and Esquire Dr	Qualitative		Qualitative decrease in emissions
609211	Peabody - Independence Greenway Extension	Quantified	36,651	Quantified decrease in emissions from bicycle and pedestrian infrastructure
610544	Peabody - Multi-Use Path Construction of Independence Greenway at I-95 and Route 1	Quantified		Quantified decrease in emissions from bicycle and pedestrian infrastructure
608933	Peabody - Rehabilitation of Central St	Quantified	150,913	Quantified decrease in emissions from Complete Streets project

Table B-1: Greenhouse Gas Regional Highway Project Tracking (cont., 6

MassDOT Project ID	MassDOT Project Description	GHG Analysis Type	GHG CO2 Impact (kg/yr)	GHG Impact Description
609058	Peabody to Gloucester - Guide and traffic sign replacement on Route 128	Qualitative		No assumed impact/negligible impact on emissions
608569	Quincy - Intersection improvements at Route 3A (Southern Artery) and Broad St	Qualitative		Qualitative decrease in emissions
608707	Quincy - Reconstruction of Sea St	Quantified	-30,437	Quantified increase in emissions
608208	Quincy-Milton-Boston - Interstate maintenance and related work on Interstate 93	Qualitative		No assumed impact/negligible impact on emissions
609396	Randolph-Milton - Resurfacing and Related Work on Route 28	Qualitative		No assumed impact/negligible impact on emissions
609399	Randolph - Resurfacing and Related Work on Route 28	Qualitative		No assumed impact/negligible impact on emissions
607305	Reading - Intersection signalization at Route 28 and Hopkins St	Quantified	7,088	Quantified decrease in emissions from traffic operational improvement
N/A	Regionwide - Transit Modernization Program	Quantified	TBD	TBD
610662	Roadway and Intersection Improvements at Woburn Common, Route 38 (Main St), Winn St, Pleasant St, and Montvale Ave	Quantified		Quantified decrease in emissions from traffic operational improvement
608743	Salem - Improvements at Bates Elementary School	Qualitative		Qualitative decrease in emissions
608817	Salem-Lynn - Resurfacing and related work on Route 107	Qualitative		No assumed impact/negligible impact on emissions
608079	Sharon - Bridge Replacement, S-09-003 (40N), Moskwonikut St over Amtrak/MBTA	Qualitative		No assumed impact/negligible impact on emissions
BN1800	Sharon - Carpool Marketing (Community Connections Program)	Qualitative		Qualitative reduction in emissions
BN1800	Somerville - Davis Square Signal Improvements (Community Connections Program)	Quantified	4,214	Quantified decrease in emissions from Complete Streets project
608562	Somerville - Signal and Intersection Improvements on I-93 at Mystic Ave and McGrath Highway	Quantified	TBD	TBD
BN1570	Somerville-Medford - Green Line Extension Project - extension to College Ave with the Union Square spur	Quantified		LRTP project included in the statewide model
610665	Stoneham - Intersection Improvements at Route 28, North Border Rd and Pond St	Quantified	TBD	TBD
605342	Stow - Bridge replacement, Route 62 (Gleasondale Rd) over the Assabet River	Qualitative		No assumed impact/negligible impact on emissions
608255	Stow - Bridge Replacement, S-29-011, Box Mill Rd over Elizabeth Brook	Qualitative		No assumed impact/negligible impact on emissions
608164	Sudbury - Bike path construction (Bruce Freeman Rail Trail)	Quantified	49,903	Quantified decrease in emissions from bicycle and pedestrian infrastructure

Table B-1: Greenhouse Gas Regional Highway Project Tracking (cont., 8

MassDOT Project ID	MassDOT Project Description	GHG Analysis Type	GHG CO2 Impact (kg/yr)	GHG Impact Description
608895	Sudbury-Stow-Hudson – Mass Central Rail Trail Wayside	Quantified	TBD	TBD
610660	Sudbury-Wayland - Mass Central Rail Trail (MCRT)	Quantified	TBD	TBD
607761	Swampscott - Intersection and signal improvements at Route 1A (Paradise Rd) at Swampscott Mall	Qualitative		Qualitative decrease in emissions
607329	Wakefield-Lynnfield - Rail Trail Extension, from the Galvin Middle School to Lynnfield/Peabody Town Line	Quantified	158,032	Quantified decrease in emissions from bicycle and pedestrian infrastructure
602261	Walpole - Reconstruction on Route 1A (Main Street), from the Norwood town line to Route 27, includes W-03-024 over the Neponset River	Quantified	230,473	Quantified decrease in emissions from Complete Streets project
608564	Watertown - Intersection improvements at Route 16 and Galen St	Qualitative		Qualitative decrease in emissions
607777	Watertown - Rehabilitation of Mount Auburn St (Route 16)	Quantified	536,769	Quantified decrease in emissions from Complete Streets project
609102	Wenham-Manchester-Essex-Gloucester - Pavement preservation and related work on Route 128	Qualitative		No assumed impact/negligible impact on emissions
607327	Wilmington - Bridge replacement, W-38-002, Route 38 (Main St) over the B&M Railroad	Qualitative		No assumed impact/negligible impact on emissions
608929	Wilmington - Bridge replacement, W-38-003, Butters Row over MBTA	Qualitative		No assumed impact/negligible impact on emissions
608703	Wilmington - Bridge Replacement, W-38-029 (2KV), ST 129 Lowell St over I-93	Qualitative		No assumed impact/negligible impact on emissions
609253	Wilmington - Intersection Improvements at Lowell St (Route 128) and Woburn St	Quantified	494,197	Quantified decrease in emissions from Complete Streets project
608051	Wilmington - Reconstruction of Route 38 (Main Street), from Route 62 to the Woburn City Line	Quantified	492,160	Quantified decrease in emissions from Complete Streets project
608791	Winchester - Improvements at Vinson-Owen Elementary School	Qualitative		Qualitative decrease in emissions
607244	Winthrop - Revere St Roadway Improvements	Quantified	252,816	Quantified decrease in emissions from Complete Streets project
604996	Woburn - Bridge replacement, W-43-017, New Boston St over MBTA	Quantified		L RTP project included in the statewide model
603739	Wrentham - Construction of Interstate 495/Route 1A ramps	Quantified	1,233,486	Quantified decrease in emissions from traffic operational improvement

Table B-2: Greenhouse Gas Regional Transit Project Tracking

This table is under development. It will contain the GHG impact analyses of projects funded in the Transit Program.

Table B-3: Greenhouse Gas Regional Highway Project Tracking—Completed Projects

MassDOT Project ID	MassDOT Project Description	GHG Analysis Type	GHG CO2 Impact (kg/yr)	GHG Impact Description	FFY of Contract Award
604173	Boston - Bridge replacement, B-16-016, North Washington St Bridge over the Boston Inner Harbor	Qualitative		No assumed impact/negligible impact on emissions	2018
607732	Cochituate Rail Trail, Phase Two, Including Pedestrian Bridge, N-30-014, Over Route 9 and F-07-033=N-03-029 over Route 30	Quantified	62,441	Quantified decrease in emissions from bicycle and pedestrian infrastructure	2018
608013	Quincy - Intersection Improvements @ Sea St & Quincy Shore	Quantified	701,528	Quantified decrease in emissions from traffic operational improvement	2018
608352	Salem - Canal St Rail Trail construction (Phase 2)	Quantified	6,651	Quantified decrease in emissions from bicycle and pedestrian infrastructure	2018
607507	Wakefield - Bridge Deck Replacement, W-01-021 (2MF) Hopkins St over I-95 / ST 128	Qualitative		Qualitative decrease in emissions	2018
606134	Boston - Traffic Signal Improvements on Blue Hill Ave and Warren St	Qualitative		Qualitative decrease in emissions	2019
608651	Braintree - Adaptive Signal Controls on Route 37 (Granite Street)	Qualitative		Qualitative decrease in emissions	2019
605110	Brookline - Intersection and signal improvements at Route 9 and Village Square (Gateway East)	Quantified	67,056	Quantified decrease in emissions from Complete Streets project	2019
605287	Chelsea - Route 1 Viaduct rehabilitation (southbound/northbound) on C-09-007 and C-09-011	Qualitative		No assumed impact/negligible impact on emissions	2019
600518	Hingham - Intersection improvements at Derby St, Whiting St, and Gardner St	Quantified	-145,683	Quantified increase in emissions	2019
604952	Lynn-Saugus - Bridge replacement, L-18-016=S-05-008, Route 107 over the Saugus River (AKA – Belden G. Bly Bridge)	Qualitative		No assumed impact/negligible impact on emissions	2019
607133	Quincy - Superstructure Replacement, Q-01-039, Robertson Street over I-93/ US 1/SR 3	Qualified		No assumed impact/negligible impact on emissions	2019
604989	Southborough - Reconstruction of Main St (Route 30), from Sears Rd to Park St	Quantified	231,813	Quantified decrease in emissions from Complete Streets project	2019

Table B-3: Greenhouse Gas Regional Highway Project Tracking—Completed Projects (cont., 2

MassDOT Project ID	MassDOT Project Description	GHG Analysis Type	GHG CO2 Impact (kg/yr)	GHG Impact Description	FFY of Contract Award
608823	Wellesley-Newton-Weston - Pavement Resurfacing and Related Work on I-95	Qualitative		No assumed impact/negligible impact on emissions	2019
608608	Braintree - Highway Lighting Improvements at I-93/Route 3 Interchange	Qualitative		No assumed impact/negligible impact on emissions	2020
607954	Danvers - Bridge Replacement, D-03-018, ST 128 over Waters River	Qualitative		No assumed impact/negligible impact on emissions	2020
607428	Hopedale-Milford - Resurfacing and intersection improvements on Route 16 (Main St), from Water St west to approximately 120 feet west of the Milford/Hopedale town line and the intersection of Route 140	Quantified	201,148	Quantified decrease in emissions from Complete Streets project	2020
608205	Reading to Lynnfield - Guide and Traffic Sign Replacement on a Section of I-95 (SR 128)	Qualitative		No assumed impact/negligible impact on emissions	2020

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

This table is under development. It will summarize the GHG impact analyses of transit projects completed in FFY 2020.

APPENDIX C

PUBLIC OUTREACH AND COMMENTS

OVERVIEW

In the course of developing the Transportation Improvement Program (TIP), the staff of the Boston Region Metropolitan Planning Organization (MPO) regularly engages with municipalities and the general public to provide information about the milestones, deadlines, and key decision points in the development process. Staff publicly shares materials and information used by the MPO board for decision-making via the TIP development web page: www.bostonmpo.org/tip-dev. This process affords the public ongoing opportunities to provide input to the MPO board during the development of the TIP and prior to the release of the draft TIP for the official public review period. This appendix documents the input received during the development of the Federal Fiscal Years (FFYs) 2021–25 TIP and comments received during the public review period.

In addition to the outreach process for developing the annual TIP document, the results of which are included in this appendix, MPO staff engaged the public, agency partners, and other regional stakeholders in a parallel feedback process to support revisions to the MPO's TIP project selection criteria. This process occurs approximately once every four years in the wake of the release of the MPO's Long-Range Transportation Plan and this process has occurred throughout FFY 2020. A summary of the public input received through this process will be shared via alternative channels as revisions to the criteria are finalized at the end of FFY 2020.

SUMMARY OF COMMENTS RECEIVED DURING TIP DEVELOPMENT

MPO staff initiated outreach activities for the FFYs 2021–25 TIP in September 2019 and maintained communication with municipal, state agency, and public stakeholders throughout the TIP development process. The primary in-person and direct-engagement events at which staff received input were the subregional committee meetings held by the Metropolitan Area Planning Council (MAPC) and the TIP How-To conference call workshops with municipal TIP contacts and Massachusetts Department of Transportation (MassDOT) district project engineers. These events offered individuals the opportunity to directly engage with staff to ask questions, voice concerns, provide suggestions, and propose new projects for funding.

The MPO board held a series of discussions at its regularly scheduled meetings as the TIP was developed in stages that focused on project solicitation, project evaluation, and programming of funds. Staff informed the public at each stage via its standard communication channels (email, Twitter, and the MPO website). As a result, the MPO received oral and written comments while developing the draft TIP. The comments directed to the MPO board are summarized below in Table C-1.

Table C-1: Public Comments Received during Development of the FFYs 2021–25 Transportation Improvement Program

Project	Name	Support/Oppose/Request/Concern	Comment
Projects Under Consideration for TIP Funding (FFYs 2021–25)			
Intersection Reconstruction at Route 3 and Bedford Road and South Bedford Street (Burlington and Woburn)	Municipal: Mayor Scott Galvin, City of Woburn	Request	Requests inclusion of the Intersection Reconstruction at Route 3 and Bedford Road in the FFYs 2021–25 TIP. The intersection was ranked as a high crash location in a MassDOT RSA performed in 2014, and the proposed improvements would reduce vehicular crashes, in addition to reducing traffic congestion associated with substandard traffic signal equipment and inadequate geometry.
Targeted Safety Improvements and Related Work on Broadway (Chelsea)	Municipal: Tom Ambrosino, Chelsea City Manager; Alex Train, Assistant Director, Chelsea Planning and Development; Ben Cares, Chelsea Planner/Project Manager; Mayor Joe Curtatone, City of Somerville; Brad Rawson, Somerville Director of Mobility	Request	Requests inclusion of the Targeted Safety Improvements and Related Work on Broadway in the FFYs 2021–25 TIP. Safety improvements are the highest priority for the project, and the project area includes a MassDOT top 200 crash location. Proposed improvements include resignalization of all intersections within the project area and the construction of a combined bus and bicycle lane, reducing congestion and allowing for preferential movement of MBTA bus routes on Broadway. The project would provide safety and economic vitality improvements in a largely low- and moderate-income community that has not seen any investment since the 1970s.
Bluebike Expansion (Chelsea, Arlington, Watertown, Newton)	Municipal: Ben Cares, Chelsea Planner/Project Manager	Request	Requests allocation of funding from the Community Connections program toward the expansion of the Bluebike system to Arlington, Watertown, Newton, and Chelsea. The project is a regional effort to address first- and last-mile gaps in the bike network.
Rehabilitation of Western Avenue (Route 107) (Lynn)	Municipal: Mayor Joe Curtatone, City of Somerville; Brad Rawson, Somerville Director of Mobility	Request	Requests inclusion of the Rehabilitation of Western Avenue in the FFYs 2021–25 TIP.
Bridge Replacement, M-02-001 (8AM), Central Street (Route 127) over Saw Mill Brook (Manchester)	Municipal: Gregory Federspiel, Manchester Town Administrator; Nathan Desrosiers, Manchester Town Engineer; Chuck Dam, Manchester Director of Public Works	Request	Requests inclusion of the Central Street over Saw Mill Brook Bridge Replacement in the FFYs 2021–25 TIP. A 2015 inspection showed an immediate need for emergency repairs; a 2016 inspection showed that the bridge is in overall poor condition despite the repairs. Loss of the bridge would require a two-mile detour for emergency response to half of the Town and lengthen the commute of pedestrians accessing the Manchester commuter rail station. As part of the bridge replacement, the tide gate, which contributed to damage from the 2006 Mother’s Day storm, would be removed. Removal of the tide gate would make the area more resilient to 20 to 50 year storms.
Intersection Improvements at Squantum Street and Adams Street (Milton)	Municipal: Chase Berkeley, Milton Director of Public Works; John Thompson, Milton Town Engineer; Mayor Joe Curtatone, City of Somerville; Brad Rawson, Somerville Director of Mobility	Request	Requests inclusion of the Intersection Improvements at Squantum Street and Adams Street in the FFYs 2021–25 TIP. The project will provide bicycle and pedestrian accommodations and address congestion at the intersection.
Bridge Replacement, Route 27 (North Main Street) over Route 9 (Worcester Street) (Natick)	Municipal: James Freas, Natick Director of Community and Economic Development	Request	Requests inclusion of the Route 27 over Route 9 Bridge Replacement in the FFYs 2021–25 TIP. Due to its structural deficiencies and the potential impacts of closing the bridge, reconstructing the interchange is critical for the Town and surrounding communities. The project would improve safety for all roadway users, improving bicycle and pedestrian facilities and addressing a high crash location.

Project	Name	Support/Oppose/Request/Concern	Comment
Reconstruction of Commonwealth Avenue (Route 30) (Newton)	Municipal: Mayor Ruthanne Fuller, City of Newton; Nicole Freedman, Newton Director of Transportation Planning; Mayor Joe Curtatone, City of Somerville; Brad Rawson, Somerville Director of Mobility	Request	Requests inclusion of the Reconstruction of Commonwealth Avenue in the FFYs 2021–25 TIP. The segment of the Carriageway within the project area lacks bicycle facilities, and existing sidewalks are in poor condition. The proposed improvements would address a large disruption in the Carriageway, which generally features pedestrian and bicycle activity year-round in Boston, Brookline, and Newton. This project could be coordinated with the Reconstruction on Route 30 in Weston, allowing for additional extension of the Carriageway.
Multiuse Path Construction of Independence Greenway at I-95 and Route 1 (Peabody)	Municipal: Brendan Callahan, Assistant Director of Planning; Andrew Levin, Peabody City Planner	Request	Requests inclusion of the Multiuse Path Construction of Independence Greenway at I-95 and Route 1 in the FFYs 2021–25 TIP. The project is a critical link for the region's trail network, serving as a key connection for the northern and southern segments of the Boston to Border Trail, the East Coast Greenway, and the Danvers Rail Trail. The construction of a two-span bridge over Route 1 will significantly transform the region's trail network, linking communities from Salisbury to Boston.
Boston Street Improvements (Salem)	Municipal: Mayor Kimberly Driscoll, Mayor, City of Salem	Request	Requests inclusion of the Boston Street Improvements in the FFYs 2021–25 TIP. The project is the top priority for the City of Salem, as it is regionally significant serving the Cities of Salem and Peabody. Boston Street serves as an evacuation and emergency route, providing access to Route 128, I-95, Route 114, and Route 107 and containing five fire houses within the project limits. Three bus routes operate in the corridor, and the proposed improvements to bicycle and pedestrian access will expand multimodal connections to transit.
McGrath Boulevard Project (Somerville)	Municipal: Mayor Joe Curtatone, City of Somerville; Brad Rawson, Somerville Director of Mobility	Request	Requests inclusion of the McGrath Boulevard Project in the FFY 2025 TIP element, stating that the project is of regional importance for a range of stakeholders. The project is programmed in the 2025 to 2029 time band of the LRTP and received an exceptionally high score during TIP evaluations. Mayor Curtatone notes that City staff and community-based stakeholders are eager to reconvene the project working group to meet the design schedule required by the next TIP cycle.
Swampscott Rail Trail	Municipal: Sean Fitzgerald, Town Administrator; Peter Spellios, Chair, Swampscott Select Board; Marzie Galazka, Swampscott Director of Community and Economic Development; Suzanne Wright, Member, Swampscott School Committee	Request	Requests inclusion of the Swampscott Rail Trail in the FFYs 2021–25 TIP. Swampscott is the fifth most densely settled town in the Commonwealth, and congestion on local roads poses safety concerns. The trail would span the entirety of the Town, connecting to several elementary schools, Swampscott High School, and the Marblehead Rail Trail. The project will address a lack of safe pedestrian accommodations in the Town of Swampscott and provide multimodal connections to an increasingly socioeconomically diverse community.
Main Street Reconstruction (Wakefield)	Municipal: Bill Renault, Wakefield Town Engineer	Request	States that the Town of Wakefield is committed to reviewing Main Street Reconstruction project scope to reduce the cost to a level that would not require an LRTP amendment, and requests consideration for programming in a future FFYs 2021–25 TIP amendment or during FFYs 2022–26 TIP development.
Intersection Improvements, Boston Post Road (Route 20) at Wellesley Street (Weston)	Municipal: Leon Gaumond, Weston Town Manager Organization: Timothy McIntosh, VHB	Request	Requests inclusion of the Intersection Improvements at Boston Post Road and Wellesley Street in the FFY 2022 TIP element. The project is the top priority for the Town of Weston, and the proposed improvements will address significant safety and crash related incidents. The project will have minor impacts to existing private properties such that only temporary construction easements will be required, and the Town and its consultant have discussed the easements with residents on multiple occasions.

Project	Name	Support/Oppose/Request/Concern	Comment
Traffic Signal Improvements on Route 109 (Westwood)	Municipal: Todd Korchin, Westwood Director of Public Works Organization: Jaklyn Centracchio and Greg Lucas, BETA Group, on behalf of the Town of Westwood	Request	Requests inclusion of the Traffic Signal Improvements on Route 109 in the FFYs TIP. The project would provide a full adaptive signal control system at seven intersections along Route 109. The Town of Westwood, as well as the Towns of Medfield, Dover, Walpole, and Mills, contribute to and experience congestion on the corridor as traffic travel toward Route 128. As such, the proposed improvements would have a regional benefit.
Currently Programmed Projects (FFYs 2020–24)			
Intersection Improvements at Massachusetts Avenue (Route 111) and Main Street (Route 27) (Kelley's Corner) (Acton)	Municipal: Austin Cyganiewicz, Acton Town Manager	Support	Supports continued inclusion of the Intersection Improvements at Kelley's Corner in the FFY 2022 TIP element. The Town of Acton will vote at an upcoming Town Meeting to authorize the Board of Selectmen to acquire the necessary right-of-way for the project, and to fund just compensation payments to property owners.
Minuteman Bikeway Extension (Bedford)	Municipal: Alyssa Sandoval, representing the Bedford Town Manager's Office; David Manugian, Bedford Director of Public Works Organization: Great Meadows Wildlife Refuge Volunteers	Support	Supports continued inclusion of the Minuteman Bikeway Extension FFY 2022 TIP element. When completed, the trail will provide uninterrupted travel from the Town of Concord to Alewife Station and strengthen connections to Concord Center and the Great Meadows National Wildlife Refuge. The proposed improvements included in the project will enhance accessibility and improve safety for pedestrians and cyclists. The Town of Bedford hopes to create a new cultural district around the extension. The project is a vital recreational, tourism, and transportation asset for the region. The Town has extended the current consent article to authorize the Select Board to approve easement acquisitions without Town Meeting approval and has contracted a MassDOT prequalified appraiser to ensure the appraisals move forward promptly. These measures will ensure that the right-of-way is secured in advance of the scheduled advertisement date.
Rehabilitation and Related Work on Route 126 (Bellingham)	Legislative: Representative Michael J. Soter Municipal: James Kupfer, Bellingham Town Planner; Dan Spencer, Chair, Bellingham Board of Selectmen	Support	Supports continued inclusion of the Rehabilitation and Related Work on Route 126 in the FFY 2022 TIP element. The corridor, which is adjacent to the Bellingham Memorial Middle School, has seen numerous accidents and lacks sidewalks. The project is currently on schedule to reach 100 percent design by the summer of 2020, and the project would be able to move into the FFY 2021 TIP element if the opportunity arises.
Reconstruction of Broadway, from City Hall to the Revere City Line (Chelsea)	Municipal: Tom Ambrosino, Chelsea City Manager; Alex Train, Assistant Director, Chelsea Planning and Development	Support	Supports continued inclusion of the Reconstruction of Broadway in the FFY 2022 TIP element. The proposed improvements will address safety issues along the corridor, improve transit reliability, and increase accessibility for all roadway users. The project represents an important step forward for transportation equity in a densely populated environmental justice community.
Corridor Improvements and Related Work on Justice Cushing Highway (Route 3A) (Cohasset and Scituate)	Legislative: Representative Paul McMurtry, Representative Joan Meschino Municipal: Leon Goodwin, Dedham Town Manager; Jason Mammone, Dedham Director of Engineering Organization: Darshan Jhaveri, BETA Group	Support	Supports continued inclusion of the Pedestrian Improvements along Bussey Street in the FFY 2023 TIP element. The proposed safety improvements are imperative in a corridor that sees heavy pedestrian traffic, including children walking to Avery Elementary School, Dedham Middle School, and Dedham High School, all of which are within one-half mile of the project area. The project would improve sidewalk accessibility, add bicycle facilities, and enhance ongoing revitalization in the neighborhood.

Project	Name	Support/Oppose/Request/Concern	Comment
Pedestrian Hybrid Beacon Installation at Route 9 and Maynard Road (Framingham)	Framingham resident: Grace O'Donnell	Support	Supports continued inclusion of the Pedestrian Hybrid Beacon Installation at Route 9 and Maynard Road in the FFY 2024 TIP element.
Traffic Signal Installation at Edgell Road at Central Street (Framingham)	Municipal: Mayor Yvonne Spicer, City of Framingham Framingham resident: Grace O'Donnell	Support	Supports continued inclusion of the Traffic Signal Installation at Edgell Road at Central Street in the FFY 2022 TIP element.
Reconstruction of Union Avenue, from Proctor Street to Main Street (Framingham)	Municipal: Mayor Yvonne Spicer, City of Framingham; Eric Johnson, Framingham City Engineer Framingham resident: Grace O'Donnell	Support	Supports continued inclusion of the Reconstruction of Union Avenue in the FFY 2021 TIP element. The City indicated that the project is ahead of schedule and continues to work with the legislative delegation to address Article 97 concerns.
Intersection Improvements at Route 3A and Summer Street Rotary (Hingham)	Legislative: Representative Joan Meschino Municipal: Tom Mayo, Hingham Town Administrator Organization: David Giangrande, DCI	Request	Requests continued inclusion of the Intersection Improvements at Route 3A and Summer Street Rotary in the FFY 2024 TIP element. The proposed improvements are critically important at an intersection with chronic accidents and multiple fatalities. The project is part of a larger public safety initiative for the Town of Hingham.
Reconstruction of Atlantic Avenue (Hull)	Municipal: Philip Lemnios, Town Manager	Support	Supports continued inclusion of the Reconstruction of Atlantic Avenue in the FFY 2022 TIP element. The Town of Hull completed the 100 percent design submission to MassDOT and is currently working to resolve the comments received. The proposed improvements will improve substandard conditions, modernize the roadway, and enhance access and mobility along the corridor. The project is essential to maintaining the safety of local residents by providing one of the Town's few points of access for emergency response and evacuation.
Rail Trail Extension, from the Galvin Middle School to Lynnfield/Peabody Town Line (Lynnfield and Wakefield)	Lynnfield resident: Alan K. Dresios	Oppose	Opposes inclusion of the Rail Trail Extension from Galvin Middle School to the Lynnfield/Peabody town line. States that the project will not connect to the Border to Boston Trail, and the proposed terminus in Wakefield would not connect to the Wakefield commuter rail station. The project does not align with the goals of the MPO, in that it does not improve transportation equity or close gaps in the bicycle network. The project would also negatively affect Reedy Meadow, a National Natural Landmark, and the planned construction on Rabbit Island will disrupt previously discovered historical artifacts.
Intersection Improvements at Route 1A and Upland Road/Washington Street and Prospect Street. (Norwood)	Municipal: Mark Ryan, Norwood Director of Public Works and Town Engineer	Support	Supports continued inclusion of the Intersection Improvements at Route 1A and Upland Road/Washington Street and Prospect Street in the FFY 2022 TIP element, rather than moving to the FFY 2023 TIP element. The project will benefit all commuters who use the corridor as they travel to and from the Greater Boston area. The Town of Norwood has advocated for this project since a 1996 CTPS study identified intersection deficiencies, and further delays in construction will continue to negatively affect the Town and commuters in the region.

Project	Name	Support/Oppose/Request/Concern	Comment
Independence Greenway Extension (Peabody)	Municipal: Brendan Callahan, Assistant Director of Planning; Andrew Levin, Peabody City Planner	Support	Supports continued inclusion of the Independence Greenway Extension in the FFY 2021. The project, along with the Multiuse Path Construction of Independence Greenway at I-95 and Route 1, will extend the Independence Greenway to 10 miles.
Bruce Freeman Rail Trail (Phase 2D) (Sudbury)	Municipal: Maryanne Bilodeau, Interim Sudbury Town Manager; Janie Dretler, Member, Sudbury Board of Selectmen; Jennifer Roberts, Member, Sudbury Board of Selectmen; Ron Brumback, Member, Sudbury Finance Committee; Charles Russo, Member, Sudbury Conservation Committee; Kay Bell, Member, Sudbury Commission on Disabilities Framingham residents: Grace O'Donnell; Jonathan Zarkower Sudbury residents: Len Simon, Peg Espinola Organization: Tom Michelman, President, Friends of the Bruce Freeman Rail Trail; Emily Teller, Secretary, Friends of the Bruce Freeman Rail Trail; Nancy Brumback, Member, League of Women Voters of Sudbury	Support	Supports continued inclusion of the Bruce Freeman Rail Trail (Phase 2D) in the FFY 2022 TIP element, rather than moving the project to the FFY 2023 TIP element. The project has significant support from residents of Sudbury and surrounding communities, and would provide safe transportation for cyclists and pedestrians, as well as provide opportunities for healthy activity and recreation.
Intersection Improvements at Lowell Street (Route 129) and Woburn Street (Wilmington)	Municipal: Jeffrey Hull, Wilmington Town Manager; Valerie Gingrich, Wilmington Director of Planning and Conservation	Support	Supports continued inclusion of the Intersection Improvements at Lowell Street and Woburn Street in the FFYs 2021–25 TIP, and requests that the project move to an earlier TIP element. The intersection is currently overburdened and unsafe. Moving the project to an earlier TIP element would better accommodate increased traffic resulting from the New Boston Street Bridge Replacement in Woburn (FFY 2021) Reconstruction on Main Street in Wilmington (FFY 2023). Project design will be finalized by April 2021.
Bridge Replacement, New Boston Street over MBTA (Woburn)	Municipal: Mayor Scott Galvin, City of Woburn Organization: Bob Penfield, VHB	Support	Supports continued inclusion of the New Boston Street Bridge Replacement in the FFY 2021 TIP element, stating that the project will bolster economic development in the area. Notes the project is on schedule to reach 100 percent design. Changes to the design, including additional retaining walls and soil excavation from an area potentially contaminated by an adjacent former superfund site, have resulted in an increased cost.

SUMMARY OF COMMENTS RECEIVED DURING PUBLIC REVIEW PERIOD

The MPO board will vote to release a draft FFYs 2021–25 TIP document for public review at its April 30, 2020, meeting. This vote will initiate an official 21-day public review period, which will begin on or around May 1, 2020, and close on or around May 22, 2020. The comments received during this public review period will be summarized in Table C-2. Draft responses from the MPO board to the commenters will be presented at the May 28, 2020, MPO meeting and will be included in this section when the final version of the document is posted to the MPO's website following a vote for endorsement.

Table C-2: Public Comments Received during the Public Review Period for the Draft FFYs 2021–25 Transportation Improvement Program

This table will be included in the final version of the document when it is posted to the MPO's website following a vote for endorsement.



APPENDIX D

GEOGRAPHIC DISTRIBUTION OF TIP FUNDING

OVERVIEW

Appendix D provides information about the geographic distribution of federal highway funding in the Boston region between federal fiscal years (FFYs) 2020 and 2024, including 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. *(Following the MPO's endorsement of this FFYs 2021–25 TIP, this funding analysis will be updated to reflect the distribution of the MPO's Regional Target Program funding, and all federal highway funding programmed from FFY 2021 through FFY 2025.)* Funding amounts shown include the state's matching funds that leverage the available federal funds.

Table D-1 shows the breakdown of the MPO's Regional Target Program funding and all federal highway funding for each municipality in the Boston region. Figures D-1 through D-4 summarize this data by subregion and municipality type.

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.

METHODOLOGY

MPO staff took the following steps to develop the dataset:

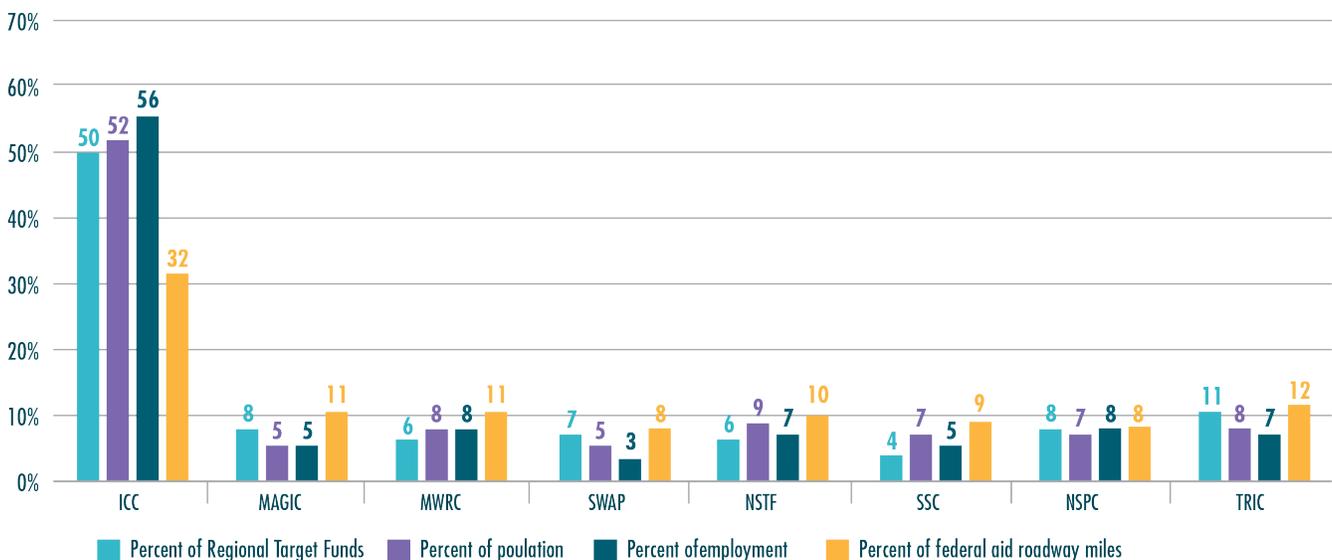
- Recorded information about TIP projects and the amount of funding programmed in each FFY
- For each FFY, calculated the amount of programmed funds associated with each municipality
- Recorded the total amount of programmed funds for each municipality for each FFY in the dataset
- For projects that spanned multiple municipalities, divided programmed funds equally by the number of municipalities located within the project area

NEXT STEPS

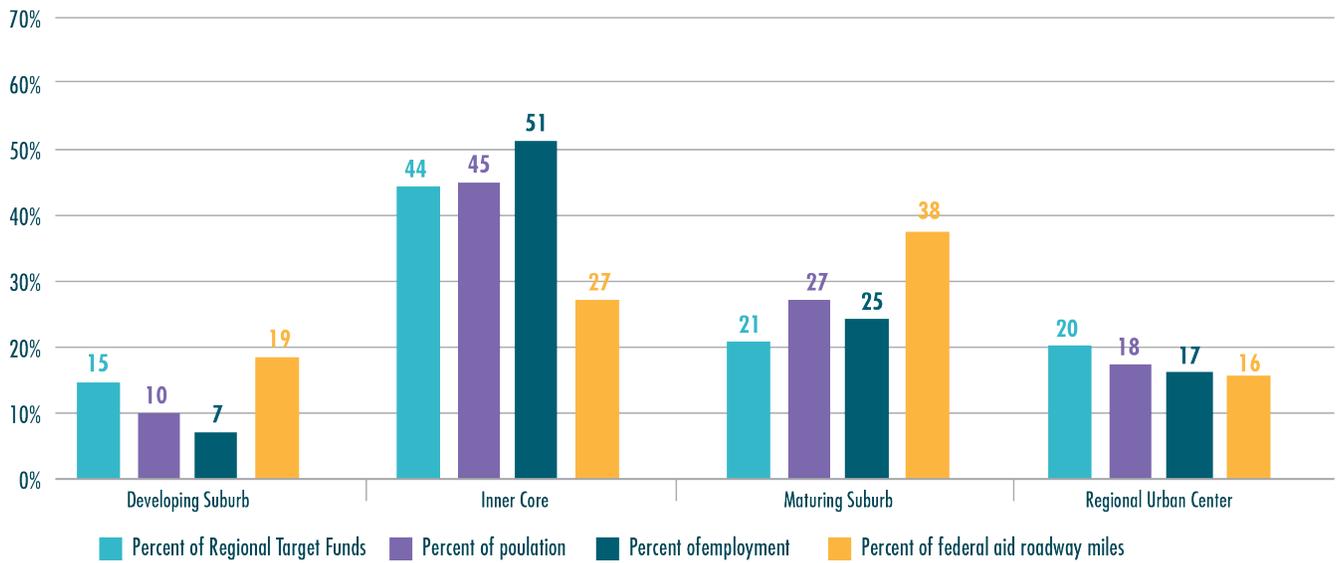
The data summarized in this appendix could be used in various ways to help guide programming decisions for future TIPs. Some analyses that the MPO could perform in the future include examining TIP funding by municipality and comparing that data to the number of road miles, the Chapter 90 apportionment, and the distribution of needs—as identified in the Needs Assessment of the Long-Range Transportation Plan—for each community.

A database that tracks the geographic distribution of TIP funding can serve as an important input into the funding decisions made each year. Along with the data described above, this data on geographic distribution of highway funding can help guide the MPO’s public outreach and decision-making to help ensure that, over time, the transportation needs of the region are met equitably.

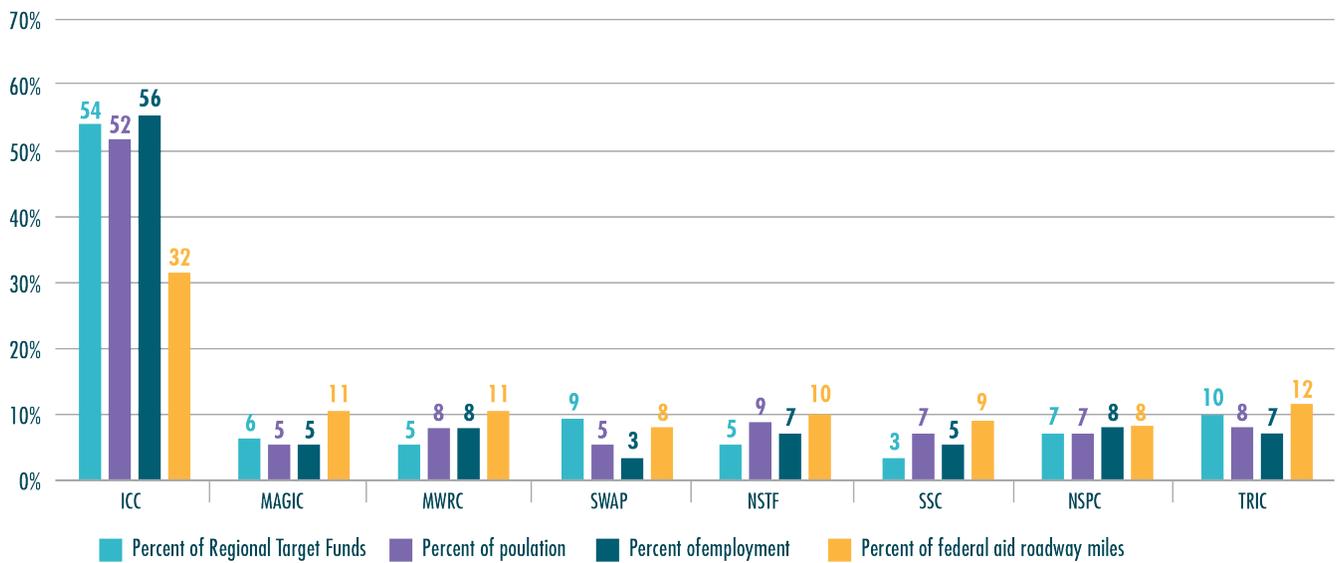
Figure D-1: Regional Distribution of Target Funding by Subregion: FFYs 2020–24



**Figure D-2 : Regional Distribution of Target Funding by Municipality Type:
FFYs 2020–24**



**Figure D-3 : All Federal Highway Funding in the Boston Region by Subregion:
FFYs 2020–24**



**Figure D-4 : All Federal Highway Funding in the Boston Region by Municipality Type:
FFYs 2020–24**

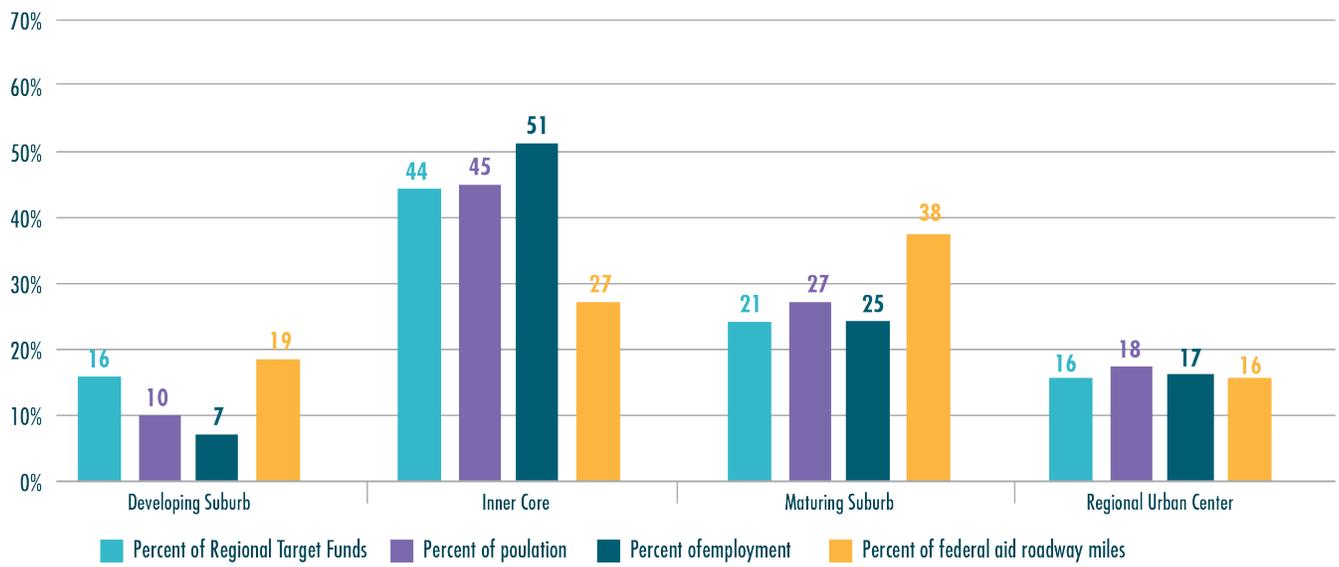


Table D-1: Federal Highway Programming for Municipalities in the Boston Region: FFYs 2020–24

Municipality	Subregion	Community Type	Percent of Population	Percent of Employment	Percent Federal-Aid Roadway Miles (2016)	Regionally Prioritized Target Funding	Percent Regionally Prioritized Target Funding	State Prioritized Funding	Percent State Prioritized Funding	Total Funding (Regionally Prioritized and State Prioritized)	Percent Total Funding (Regionally Prioritized and State Prioritized)
Boston	ICC	Inner Core	20.0%	31.2%	11.1%	\$102,901,655	19.6%	\$251,653,579	30.5%	\$354,555,234	26.2%
Hopkinton	SWAP	Developing Suburb	0.5%	0.5%	1.0%	\$11,346,584	2.2%	\$87,035,694	10.5%	\$98,382,278	7.3%
Chelsea	ICC	Inner Core	1.1%	0.8%	0.6%	\$10,278,940	2.0%	\$69,145,821	8.4%	\$79,424,761	5.9%
Lynn	ICC	Regional Urban Center	2.9%	1.3%	1.3%	\$25,440,734	4.8%	\$49,507,625	6.0%	\$74,948,359	5.5%
Wilmington	NSPC	Maturing Suburb	0.7%	1.0%	1.3%	\$24,662,898	4.7%	\$33,082,195	4.0%	\$57,745,093	4.3%
Saugus	ICC	Maturing Suburb	0.9%	0.6%	0.8%	\$0	0.0%	\$41,559,015	5.0%	\$41,559,015	3.1%
Everett	ICC	Inner Core	1.3%	0.7%	0.6%	\$24,973,000	4.7%	\$8,403,593	1.0%	\$33,376,593	2.5%
Walpole	TRIC	Developing Suburb	0.8%	0.6%	1.2%	\$25,653,571	4.9%	\$6,329,417	0.8%	\$31,982,988	2.4%
Watertown	ICC	Inner Core	1.0%	1.1%	0.6%	\$28,340,090	5.4%	\$2,688,000	0.3%	\$31,028,090	2.3%
Milton	TRIC	Maturing Suburb	0.9%	0.3%	1.3%	\$0	0.0%	\$26,528,551	3.2%	\$26,528,551	2.0%
Somerville	ICC	Inner Core	2.5%	1.2%	1.2%	\$16,623,555	3.2%	\$9,474,294	1.1%	\$26,097,849	1.9%
Framingham	MWRC	Regional Urban Center	2.2%	2.5%	2.5%	\$12,255,095	2.3%	\$12,855,700	1.6%	\$25,110,795	1.9%
Peabody	NSTF	Regional Urban Center	1.7%	1.3%	1.4%	\$13,801,480	2.6%	\$11,138,490	1.3%	\$24,939,970	1.8%
Sudbury	MAGIC	Maturing Suburb	0.6%	0.5%	1.0%	\$13,402,143	2.5%	\$9,402,453	1.1%	\$22,804,596	1.7%
Quincy	ICC	Regional Urban Center	3.0%	2.6%	2.1%	\$6,068,190	1.2%	\$15,445,156	1.9%	\$21,513,346	1.6%
Norwood	TRIC	Regional Urban Center	0.9%	1.3%	1.0%	\$17,742,268	3.4%	\$3,583,933	0.4%	\$21,326,201	1.6%
Ashland	MWRC	Maturing Suburb	0.5%	0.3%	0.5%	\$20,905,893	4.0%	\$0	0.0%	\$20,905,893	1.5%
Cambridge	ICC	Inner Core	3.4%	6.0%	1.8%	\$16,563,555	3.1%	\$4,292,681	0.5%	\$20,856,236	1.5%
Acton	MAGIC	Maturing Suburb	0.7%	0.5%	1.1%	\$14,687,418	2.8%	\$5,657,725	0.7%	\$20,345,143	1.5%
Woburn	NSPC	Regional Urban Center	1.2%	2.2%	1.5%	\$18,280,891	3.5%	\$0	0.0%	\$18,280,891	1.4%
Medford	ICC	Inner Core	1.8%	1.0%	1.5%	\$16,403,555	3.1%	\$989,895	0.1%	\$17,393,450	1.3%
Wrentham	SWAP	Developing Suburb	0.4%	0.3%	1.0%	\$16,786,952	3.2%	\$0	0.0%	\$16,786,952	1.2%
Canton	TRIC	Maturing Suburb	0.7%	1.2%	1.1%	\$0	0.0%	\$15,842,638	1.9%	\$15,842,638	1.2%
Newton	ICC	Inner Core	2.8%	3.0%	2.6%	\$9,002,969	1.7%	\$5,934,358	0.7%	\$14,937,326	1.1%
Bedford	MAGIC	Maturing Suburb	0.4%	1.1%	0.8%	\$7,331,040	1.4%	\$7,331,040	0.9%	\$14,662,080	1.1%
Beverly	NSTF	Regional Urban Center	1.3%	1.2%	1.2%	\$12,643,247	2.4%	\$271,952	0.0%	\$12,915,199	1.0%
Natick	MWRC	Maturing Suburb	1.1%	1.3%	1.2%	\$0	0.0%	\$12,855,700	1.6%	\$12,855,700	1.0%
Stow	MAGIC	Developing Suburb	0.2%	0.1%	0.6%	\$0	0.0%	\$12,542,112	1.5%	\$12,542,112	0.9%

Table D-1: Federal Highway Programming for Municipalities in the Boston Region: FFYs 2020–24 (cont., 2)

Municipality	Subregion	Community Type	Percent of Population	Percent of Employment	Percent Federal-Aid Roadway Miles (2016)	Regionally Prioritized Target Funding	Percent Regionally Prioritized Target Funding	State Prioritized Funding	Percent State Prioritized Funding	Total Funding (Regionally Prioritized and State Prioritized)	Percent Total Funding (Regionally Prioritized and State Prioritized)
Lynnfield	NSPC	Maturing Suburb	0.4%	0.3%	0.6%	\$0	0.0%	\$11,066,432	1.3%	\$11,066,432	0.8%
Dedham	TRIC	Maturing Suburb	0.8%	0.9%	1.1%	\$5,355,932	1.0%	\$4,829,746	0.6%	\$10,185,678	0.8%
Marlborough	MWRC	Regional Urban Center	1.2%	1.6%	2.0%	\$0	0.0%	\$9,867,120	1.2%	\$9,867,120	0.7%
Braintree	SSC	Maturing Suburb	1.2%	1.5%	1.4%	\$0	0.0%	\$9,552,235	1.2%	\$9,552,235	0.7%
Randolph	TRIC	Maturing Suburb	1.0%	0.5%	1.0%	\$0	0.0%	\$9,293,369	1.1%	\$9,293,369	0.7%
Needham	TRIC	Maturing Suburb	0.9%	1.0%	1.2%	\$8,702,969	1.7%	\$0	0.0%	\$8,702,969	0.6%
Essex	NSTF	Developing Suburb	0.1%	0.1%	0.2%	\$0	0.0%	\$8,506,543	1.0%	\$8,506,543	0.6%
Hull	SSC	Maturing Suburb	0.3%	0.1%	0.4%	\$8,303,865	1.6%	\$0	0.0%	\$8,303,865	0.6%
Cohasset	SSC	Developing Suburb	0.2%	0.1%	0.5%	\$8,074,472	1.5%	\$0	0.0%	\$8,074,472	0.6%
Bellingham	SWAP	Developing Suburb	0.5%	0.3%	0.9%	\$6,132,594	1.2%	\$1,600,800	0.2%	\$7,733,394	0.6%
Wakefield	NSPC	Maturing Suburb	0.8%	0.8%	0.9%	\$0	0.0%	\$7,040,375	0.9%	\$7,040,375	0.5%
Winthrop	ICC	Inner Core	0.6%	0.1%	0.3%	\$6,323,116	1.2%	\$0	0.0%	\$6,323,116	0.5%
Sharon	TRIC	Maturing Suburb	0.6%	0.2%	1.1%	\$42,000	0.0%	\$5,860,487	0.7%	\$5,902,487	0.4%
Littleton	MAGIC	Developing Suburb	0.3%	0.3%	1.0%	\$5,425,739	1.0%	\$0	0.0%	\$5,425,739	0.4%
Holbrook	SSC	Maturing Suburb	0.3%	0.1%	0.3%	\$3,036,628	0.6%	\$1,527,250	0.2%	\$4,563,878	0.3%
Middleton	NSTF	Developing Suburb	0.3%	0.3%	0.5%	\$0	0.0%	\$4,073,920	0.5%	\$4,073,920	0.3%
Gloucester	NSTF	Regional Urban Center	0.9%	0.6%	1.0%	\$0	0.0%	\$3,995,183	0.5%	\$3,995,183	0.3%
Manchester	NSTF	Developing Suburb	0.2%	0.1%	0.4%	\$0	0.0%	\$3,995,183	0.5%	\$3,995,183	0.3%
Wenham	NSTF	Developing Suburb	0.2%	0.1%	0.4%	\$0	0.0%	\$3,995,183	0.5%	\$3,995,183	0.3%
Hamilton	NSTF	Developing Suburb	0.3%	0.1%	0.4%	\$0	0.0%	\$3,698,544	0.4%	\$3,698,544	0.3%
Foxborough	TRIC	Developing Suburb	0.5%	0.7%	1.3%	\$0	0.0%	\$3,641,707	0.4%	\$3,641,707	0.3%
Reading	NSPC	Maturing Suburb	0.8%	0.4%	0.8%	\$1,683,095	0.3%	\$1,500,000	0.2%	\$3,183,095	0.2%
Ipswich	NSTF	Developing Suburb	0.4%	0.3%	0.7%	\$3,104,609	0.6%	\$0	0.0%	\$3,104,609	0.2%
Hingham	SSC	Maturing Suburb	0.7%	0.7%	1.3%	\$0	0.0%	\$2,819,413	0.3%	\$2,819,413	0.2%
Weymouth	SSC	Maturing Suburb	1.7%	1.0%	1.5%	\$0	0.0%	\$2,819,413	0.3%	\$2,819,413	0.2%
Weston	MWRC	Maturing Suburb	0.4%	0.2%	1.3%	\$0	0.0%	\$2,558,929	0.3%	\$2,558,929	0.2%
Hudson	MAGIC	Developing Suburb	0.6%	0.5%	0.7%	\$0	0.0%	\$2,223,333	0.3%	\$2,223,333	0.2%

Table D-1: Federal Highway Programming for Municipalities in the Boston Region: FFYs 2020–24 (cont., 3)

Municipality	Subregion	Community Type	Percent of Population	Percent of Employment	Percent Federal-Aid Roadway Miles (2016)	Regionally Prioritized Target Funding	Percent Regionally Prioritized Target Funding	State Prioritized Funding	Percent State Prioritized Funding	Total Funding (Regionally Prioritized and State Prioritized)	Percent Total Funding (Regionally Prioritized and State Prioritized)
Malden	ICC	Inner Core	1.9%	0.8%	1.0%	\$1,993,717	0.4%	\$0	0.0%	\$1,993,717	0.1%
Arlington	ICC	Inner Core	1.4%	0.5%	0.8%	\$0	0.0%	\$1,700,470	0.2%	\$1,700,470	0.1%
Brookline	ICC	Inner Core	1.9%	0.9%	1.3%	\$0	0.0%	\$1,672,686	0.2%	\$1,672,686	0.1%
Winchester	NSPC	Maturing Suburb	0.7%	0.5%	0.6%	\$0	0.0%	\$1,671,716	0.2%	\$1,671,716	0.1%
Maynard	MAGIC	Maturing Suburb	0.3%	0.2%	0.3%	\$0	0.0%	\$1,646,400	0.2%	\$1,646,400	0.1%
Belmont	ICC	Inner Core	0.8%	0.4%	0.6%	\$0	0.0%	\$1,614,288	0.2%	\$1,614,288	0.1%
Franklin	SWAP	Developing Suburb	1.0%	0.8%	1.2%	\$0	0.0%	\$1,600,800	0.2%	\$1,600,800	0.1%
Salem	NSTF	Regional Urban Center	1.3%	1.1%	0.7%	\$0	0.0%	\$1,523,721	0.2%	\$1,523,721	0.1%
Concord	MAGIC	Maturing Suburb	0.6%	0.7%	1.1%	\$100,000	0.0%	\$1,087,500	0.1%	\$1,187,500	0.1%
Danvers	NSTF	Maturing Suburb	0.9%	1.4%	1.5%	\$0	0.0%	\$1,168,877	0.1%	\$1,168,877	0.1%
Swampscott	NSTF	Maturing Suburb	0.4%	0.2%	0.3%	\$0	0.0%	\$1,157,036	0.1%	\$1,157,036	0.1%
Lexington	MAGIC	Maturing Suburb	1.0%	1.1%	1.9%	\$0	0.0%	\$1,087,500	0.1%	\$1,087,500	0.1%
Lincoln	MAGIC	Maturing Suburb	0.2%	0.1%	0.6%	\$0	0.0%	\$1,087,500	0.1%	\$1,087,500	0.1%
Westwood	TRIC	Maturing Suburb	0.5%	0.5%	0.7%	\$0	0.0%	\$1,071,429	0.1%	\$1,071,429	0.1%
Scituate	SSC	Maturing Suburb	0.6%	0.2%	1.0%	\$897,164	0.2%	\$0	0.0%	\$897,164	0.1%
Marblehead	NSTF	Maturing Suburb	0.6%	0.3%	0.5%	\$565,486	0.1%	\$0	0.0%	\$565,486	0.0%
Dover	SWAP	Developing Suburb	0.2%	0.0%	0.5%	\$0	0.0%	\$271,952	0.0%	\$271,952	0.0%
Bolton	MAGIC	Developing Suburb	0.2%	0.1%	0.7%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Boxborough	MAGIC	Developing Suburb	0.2%	0.2%	0.4%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Burlington	NSPC	Maturing Suburb	0.8%	2.2%	1.3%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Carlisle	MAGIC	Developing Suburb	0.2%	0.0%	0.4%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Holliston	MWRC	Developing Suburb	0.4%	0.3%	0.5%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Marshfield	SSC	Maturing Suburb	0.8%	0.3%	1.0%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Medfield	TRIC	Maturing Suburb	0.4%	0.2%	0.5%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Medway	SWAP	Developing Suburb	0.4%	0.2%	0.6%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Melrose	ICC	Inner Core	0.9%	0.3%	0.4%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Milford	SWAP	Regional Urban Center	0.9%	0.8%	1.2%	\$0	0.0%	\$0	0.0%	\$0	0.0%

Table D-1: Federal Highway Programming for Municipalities in the Boston Region: FFYs 2020–24 (cont., 4)

Municipality	Subregion	Community Type	Percent of Population	Percent of Employment	Percent Federal-Aid Roadway Miles (2016)	Regionally Prioritized Target Funding	Percent Regionally Prioritized Target Funding	State Prioritized Funding	Percent State Prioritized Funding	Total Funding (Regionally Prioritized and State Prioritized)	Percent Total Funding (Regionally Prioritized and State Prioritized)
Millis	SWAP	Developing Suburb	0.3%	0.1%	0.4%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Nahant	ICC	Maturing Suburb	0.1%	0.0%	0.2%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Norfolk	SWAP	Developing Suburb	0.4%	0.2%	0.5%	\$0	0.0%	\$0	0.0%	\$0	0.0%
North Reading	NSPC	Maturing Suburb	0.5%	0.4%	0.6%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Norwell	SSC	Developing Suburb	0.3%	0.5%	0.8%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Revere	ICC	Inner Core	1.7%	0.5%	1.3%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Rockland	SSC	Developing Suburb	0.6%	0.4%	0.6%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Rockport	NSTF	Developing Suburb	0.2%	0.1%	0.2%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Sherborn	SWAP	Developing Suburb	0.1%	0.0%	0.4%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Southborough	MWRC	Maturing Suburb	0.3%	0.4%	1.2%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Stoneham	NSPC	Maturing Suburb	0.7%	0.4%	0.8%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Topsfield	NSTF	Developing Suburb	0.2%	0.1%	0.6%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Waltham	ICC	Inner Core	2.0%	3.0%	1.6%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Wayland	MWRC	Maturing Suburb	0.4%	0.2%	0.7%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Wellesley	MWRC	Maturing Suburb	0.9%	0.9%	0.9%	\$0	0.0%	\$0	0.0%	\$0	0.0%

APPENDIX D

GEOGRAPHIC DISTRIBUTION OF TIP FUNDING

OVERVIEW

Appendix D provides information about the geographic distribution of federal highway funding in the Boston region between federal fiscal years (FFYs) 2020 and 2024, including the distribution of the Boston Region Metropolitan Planning Organization's (MPO) Regional Target Program funding (the MPO's discretionary funding) and funding for projects and programs prioritized by the Massachusetts Department of Transportation. *(Following the MPO's endorsement of this FFYs 2021–25 TIP, this funding analysis will be updated to reflect the distribution of the MPO's Regional Target Program funding, and all federal highway funding programmed from FFY 2021 through FFY 2025.)* Funding amounts shown include the state's matching funds that leverage the available federal funds.

Table D-1 shows the breakdown of the MPO's Regional Target Program funding and all federal highway funding for each municipality in the Boston region. Figures D-1 through D-4 summarize these data by subregion and municipality type.

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. These data were 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.

METHODOLOGY

MPO staff took the following steps to develop the dataset:

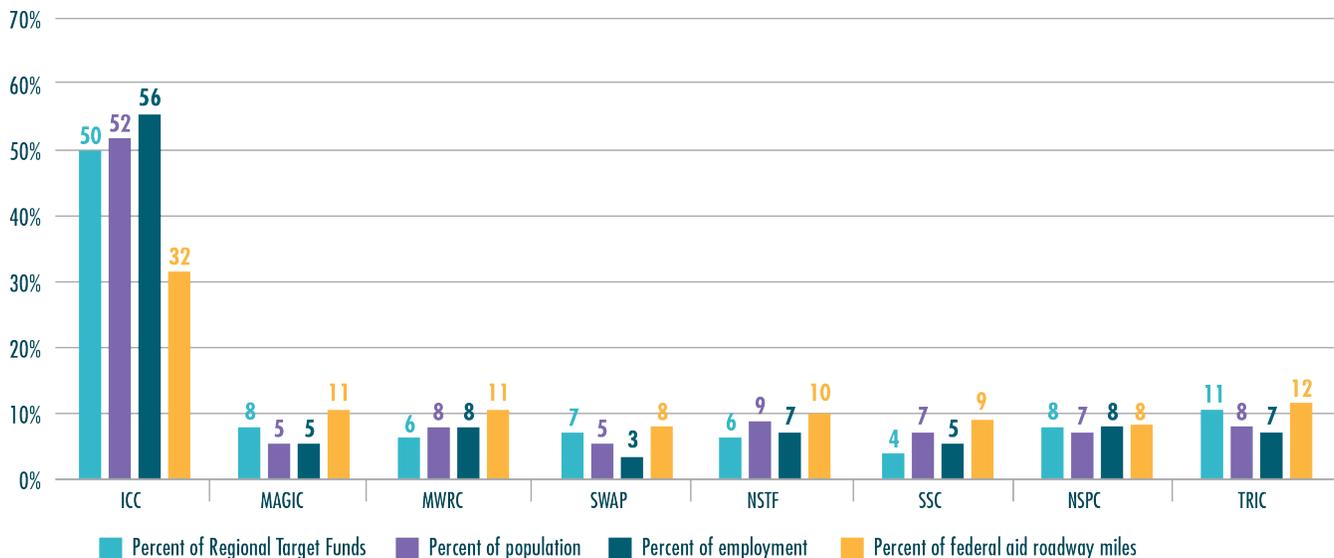
- recorded information about TIP projects and the amount of funding programmed in each FFY
- for each FFY, calculated the amount of programmed funds associated with each municipality
- recorded the total amount of programmed funds for each municipality for each FFY in the dataset
- for projects that spanned multiple municipalities, divided programmed funds equally by the number of municipalities located within the project area

NEXT STEPS

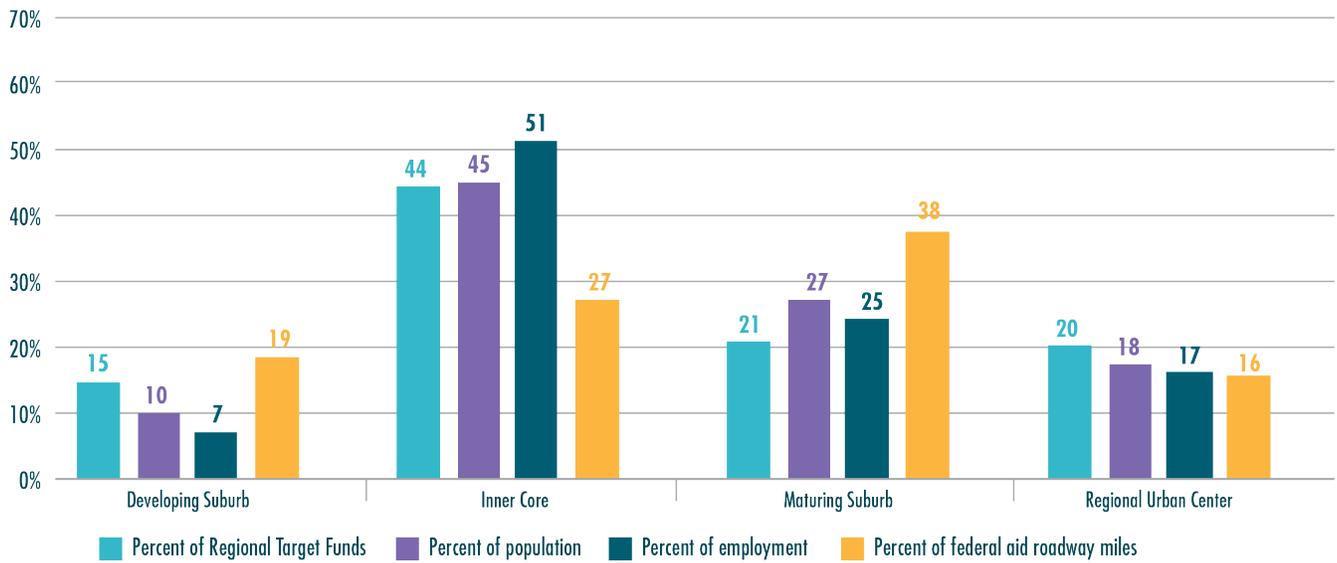
The data summarized in this appendix could be used in various ways to help guide programming decisions for future TIPs. Some analyses that the MPO could perform in the future include examining TIP funding by municipality and comparing that data to the number of road miles, the Chapter 90 apportionment, and the distribution of needs—as identified in the Needs Assessment of the Long-Range Transportation Plan—for each community.

A database that tracks the geographic distribution of TIP funding can serve as an important input into the funding decisions made each year. Along with the data described above, these data on geographic distribution of highway funding can help guide the MPO’s public outreach and decision-making to help ensure that, over time, the transportation needs of the region are met equitably.

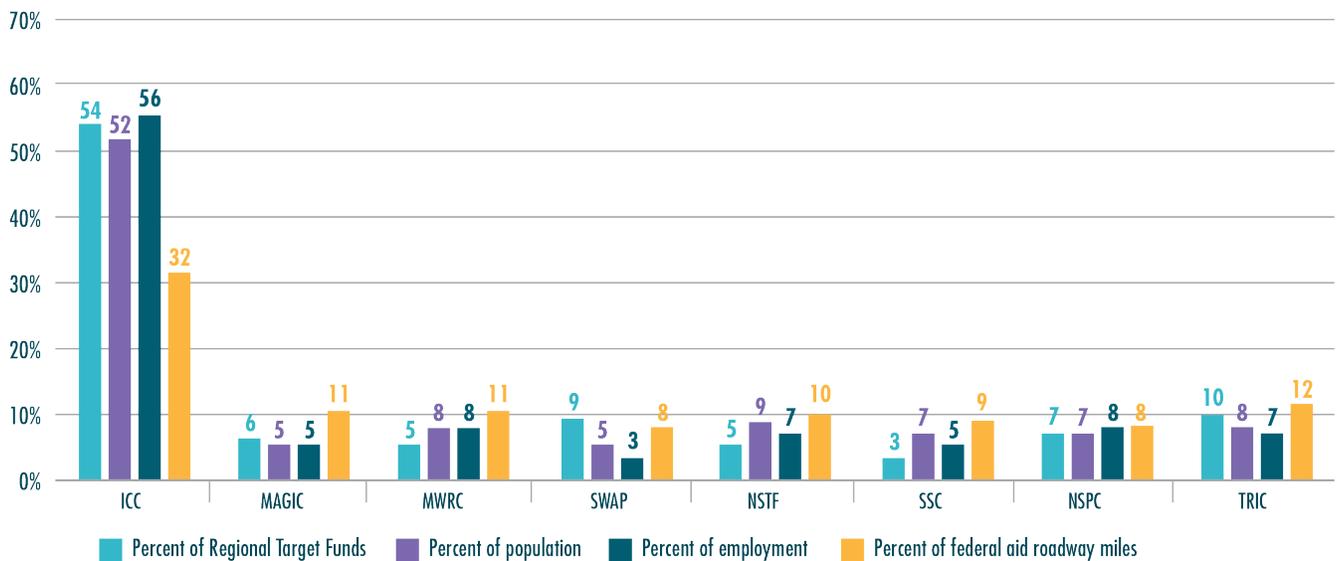
**Figure D-1: Regional Distribution of Target Funding by Subregion—
FFYs 2020–24**



**Figure D-2: Regional Distribution of Target Funding by Municipality Type—
FFYs 2020–24**



**Figure D-3: All Federal Highway Funding in the Boston Region by Subregion—
FFYs 2020–24**



**Figure D-4 : All Federal Highway Funding in the Boston Region by Municipality Type:
FFYs 2020–24**



Table D-1: Federal Highway Programming for Municipalities in the Boston Region—FFYs 2020–24

Municipality	Subregion	Community Type	Percent of Population	Percent of Employment	Percent Federal-Aid Roadway Miles (2016)	Regionally Prioritized Target Funding	Percent Regionally Prioritized Target Funding	State Prioritized Funding	Percent State Prioritized Funding	Total Funding (Regionally Prioritized and State Prioritized)	Percent Total Funding (Regionally Prioritized and State Prioritized)
Boston	ICC	Inner Core	20.0%	31.2%	11.1%	\$102,901,655	19.6%	\$251,653,579	30.5%	\$354,555,234	26.2%
Hopkinton	SWAP	Developing Suburb	0.5%	0.5%	1.0%	\$11,346,584	2.2%	\$87,035,694	10.5%	\$98,382,278	7.3%
Chelsea	ICC	Inner Core	1.1%	0.8%	0.6%	\$10,278,940	2.0%	\$69,145,821	8.4%	\$79,424,761	5.9%
Lynn	ICC	Regional Urban Center	2.9%	1.3%	1.3%	\$25,440,734	4.8%	\$49,507,625	6.0%	\$74,948,359	5.5%
Wilmington	NSPC	Maturing Suburb	0.7%	1.0%	1.3%	\$24,662,898	4.7%	\$33,082,195	4.0%	\$57,745,093	4.3%
Saugus	ICC	Maturing Suburb	0.9%	0.6%	0.8%	\$0	0.0%	\$41,559,015	5.0%	\$41,559,015	3.1%
Everett	ICC	Inner Core	1.3%	0.7%	0.6%	\$24,973,000	4.7%	\$8,403,593	1.0%	\$33,376,593	2.5%
Walpole	TRIC	Developing Suburb	0.8%	0.6%	1.2%	\$25,653,571	4.9%	\$6,329,417	0.8%	\$31,982,988	2.4%
Watertown	ICC	Inner Core	1.0%	1.1%	0.6%	\$28,340,090	5.4%	\$2,688,000	0.3%	\$31,028,090	2.3%
Milton	TRIC	Maturing Suburb	0.9%	0.3%	1.3%	\$0	0.0%	\$26,528,551	3.2%	\$26,528,551	2.0%
Somerville	ICC	Inner Core	2.5%	1.2%	1.2%	\$16,623,555	3.2%	\$9,474,294	1.1%	\$26,097,849	1.9%
Framingham	MWRC	Regional Urban Center	2.2%	2.5%	2.5%	\$12,255,095	2.3%	\$12,855,700	1.6%	\$25,110,795	1.9%
Peabody	NSTF	Regional Urban Center	1.7%	1.3%	1.4%	\$13,801,480	2.6%	\$11,138,490	1.3%	\$24,939,970	1.8%
Sudbury	MAGIC	Maturing Suburb	0.6%	0.5%	1.0%	\$13,402,143	2.5%	\$9,402,453	1.1%	\$22,804,596	1.7%
Quincy	ICC	Regional Urban Center	3.0%	2.6%	2.1%	\$6,068,190	1.2%	\$15,445,156	1.9%	\$21,513,346	1.6%
Norwood	TRIC	Regional Urban Center	0.9%	1.3%	1.0%	\$17,742,268	3.4%	\$3,583,933	0.4%	\$21,326,201	1.6%
Ashland	MWRC	Maturing Suburb	0.5%	0.3%	0.5%	\$20,905,893	4.0%	\$0	0.0%	\$20,905,893	1.5%
Cambridge	ICC	Inner Core	3.4%	6.0%	1.8%	\$16,563,555	3.1%	\$4,292,681	0.5%	\$20,856,236	1.5%
Acton	MAGIC	Maturing Suburb	0.7%	0.5%	1.1%	\$14,687,418	2.8%	\$5,657,725	0.7%	\$20,345,143	1.5%
Woburn	NSPC	Regional Urban Center	1.2%	2.2%	1.5%	\$18,280,891	3.5%	\$0	0.0%	\$18,280,891	1.4%
Medford	ICC	Inner Core	1.8%	1.0%	1.5%	\$16,403,555	3.1%	\$989,895	0.1%	\$17,393,450	1.3%
Wrentham	SWAP	Developing Suburb	0.4%	0.3%	1.0%	\$16,786,952	3.2%	\$0	0.0%	\$16,786,952	1.2%
Canton	TRIC	Maturing Suburb	0.7%	1.2%	1.1%	\$0	0.0%	\$15,842,638	1.9%	\$15,842,638	1.2%
Newton	ICC	Inner Core	2.8%	3.0%	2.6%	\$9,002,969	1.7%	\$5,934,358	0.7%	\$14,937,326	1.1%
Bedford	MAGIC	Maturing Suburb	0.4%	1.1%	0.8%	\$7,331,040	1.4%	\$7,331,040	0.9%	\$14,662,080	1.1%
Beverly	NSTF	Regional Urban Center	1.3%	1.2%	1.2%	\$12,643,247	2.4%	\$271,952	0.0%	\$12,915,199	1.0%
Natick	MWRC	Maturing Suburb	1.1%	1.3%	1.2%	\$0	0.0%	\$12,855,700	1.6%	\$12,855,700	1.0%
Stow	MAGIC	Developing Suburb	0.2%	0.1%	0.6%	\$0	0.0%	\$12,542,112	1.5%	\$12,542,112	0.9%

Table D-1: Federal Highway Programming for Municipalities in the Boston Region—FFYs 2020–24 (cont., 2)

Municipality	Subregion	Community Type	Percent of Population	Percent of Employment	Percent Federal-Aid Roadway Miles (2016)	Regionally Prioritized Target Funding	Percent Regionally Prioritized Target Funding	State Prioritized Funding	Percent State Prioritized Funding	Total Funding (Regionally Prioritized and State Prioritized)	Percent Total Funding (Regionally Prioritized and State Prioritized)
Lynnfield	NSPC	Maturing Suburb	0.4%	0.3%	0.6%	\$0	0.0%	\$11,066,432	1.3%	\$11,066,432	0.8%
Dedham	TRIC	Maturing Suburb	0.8%	0.9%	1.1%	\$5,355,932	1.0%	\$4,829,746	0.6%	\$10,185,678	0.8%
Marlborough	MWRC	Regional Urban Center	1.2%	1.6%	2.0%	\$0	0.0%	\$9,867,120	1.2%	\$9,867,120	0.7%
Braintree	SSC	Maturing Suburb	1.2%	1.5%	1.4%	\$0	0.0%	\$9,552,235	1.2%	\$9,552,235	0.7%
Randolph	TRIC	Maturing Suburb	1.0%	0.5%	1.0%	\$0	0.0%	\$9,293,369	1.1%	\$9,293,369	0.7%
Needham	TRIC	Maturing Suburb	0.9%	1.0%	1.2%	\$8,702,969	1.7%	\$0	0.0%	\$8,702,969	0.6%
Essex	NSTF	Developing Suburb	0.1%	0.1%	0.2%	\$0	0.0%	\$8,506,543	1.0%	\$8,506,543	0.6%
Hull	SSC	Maturing Suburb	0.3%	0.1%	0.4%	\$8,303,865	1.6%	\$0	0.0%	\$8,303,865	0.6%
Cohasset	SSC	Developing Suburb	0.2%	0.1%	0.5%	\$8,074,472	1.5%	\$0	0.0%	\$8,074,472	0.6%
Bellingham	SWAP	Developing Suburb	0.5%	0.3%	0.9%	\$6,132,594	1.2%	\$1,600,800	0.2%	\$7,733,394	0.6%
Wakefield	NSPC	Maturing Suburb	0.8%	0.8%	0.9%	\$0	0.0%	\$7,040,375	0.9%	\$7,040,375	0.5%
Winthrop	ICC	Inner Core	0.6%	0.1%	0.3%	\$6,323,116	1.2%	\$0	0.0%	\$6,323,116	0.5%
Sharon	TRIC	Maturing Suburb	0.6%	0.2%	1.1%	\$42,000	0.0%	\$5,860,487	0.7%	\$5,902,487	0.4%
Littleton	MAGIC	Developing Suburb	0.3%	0.3%	1.0%	\$5,425,739	1.0%	\$0	0.0%	\$5,425,739	0.4%
Holbrook	SSC	Maturing Suburb	0.3%	0.1%	0.3%	\$3,036,628	0.6%	\$1,527,250	0.2%	\$4,563,878	0.3%
Middleton	NSTF	Developing Suburb	0.3%	0.3%	0.5%	\$0	0.0%	\$4,073,920	0.5%	\$4,073,920	0.3%
Gloucester	NSTF	Regional Urban Center	0.9%	0.6%	1.0%	\$0	0.0%	\$3,995,183	0.5%	\$3,995,183	0.3%
Manchester	NSTF	Developing Suburb	0.2%	0.1%	0.4%	\$0	0.0%	\$3,995,183	0.5%	\$3,995,183	0.3%
Wenham	NSTF	Developing Suburb	0.2%	0.1%	0.4%	\$0	0.0%	\$3,995,183	0.5%	\$3,995,183	0.3%
Hamilton	NSTF	Developing Suburb	0.3%	0.1%	0.4%	\$0	0.0%	\$3,698,544	0.4%	\$3,698,544	0.3%
Foxborough	TRIC	Developing Suburb	0.5%	0.7%	1.3%	\$0	0.0%	\$3,641,707	0.4%	\$3,641,707	0.3%
Reading	NSPC	Maturing Suburb	0.8%	0.4%	0.8%	\$1,683,095	0.3%	\$1,500,000	0.2%	\$3,183,095	0.2%
Ipswich	NSTF	Developing Suburb	0.4%	0.3%	0.7%	\$3,104,609	0.6%	\$0	0.0%	\$3,104,609	0.2%
Hingham	SSC	Maturing Suburb	0.7%	0.7%	1.3%	\$0	0.0%	\$2,819,413	0.3%	\$2,819,413	0.2%
Weymouth	SSC	Maturing Suburb	1.7%	1.0%	1.5%	\$0	0.0%	\$2,819,413	0.3%	\$2,819,413	0.2%
Weston	MWRC	Maturing Suburb	0.4%	0.2%	1.3%	\$0	0.0%	\$2,558,929	0.3%	\$2,558,929	0.2%
Hudson	MAGIC	Developing Suburb	0.6%	0.5%	0.7%	\$0	0.0%	\$2,223,333	0.3%	\$2,223,333	0.2%

Table D-1: Federal Highway Programming for Municipalities in the Boston Region—FFYs 2020–24 (cont., 3)

Municipality	Subregion	Community Type	Percent of Population	Percent of Employment	Percent Federal-Aid Roadway Miles (2016)	Regionally Prioritized Target Funding	Percent Regionally Prioritized Target Funding	State Prioritized Funding	Percent State Prioritized Funding	Total Funding (Regionally Prioritized and State Prioritized)	Percent Total Funding (Regionally Prioritized and State Prioritized)
Malden	ICC	Inner Core	1.9%	0.8%	1.0%	\$1,993,717	0.4%	\$0	0.0%	\$1,993,717	0.1%
Arlington	ICC	Inner Core	1.4%	0.5%	0.8%	\$0	0.0%	\$1,700,470	0.2%	\$1,700,470	0.1%
Brookline	ICC	Inner Core	1.9%	0.9%	1.3%	\$0	0.0%	\$1,672,686	0.2%	\$1,672,686	0.1%
Winchester	NSPC	Maturing Suburb	0.7%	0.5%	0.6%	\$0	0.0%	\$1,671,716	0.2%	\$1,671,716	0.1%
Maynard	MAGIC	Maturing Suburb	0.3%	0.2%	0.3%	\$0	0.0%	\$1,646,400	0.2%	\$1,646,400	0.1%
Belmont	ICC	Inner Core	0.8%	0.4%	0.6%	\$0	0.0%	\$1,614,288	0.2%	\$1,614,288	0.1%
Franklin	SWAP	Developing Suburb	1.0%	0.8%	1.2%	\$0	0.0%	\$1,600,800	0.2%	\$1,600,800	0.1%
Salem	NSTF	Regional Urban Center	1.3%	1.1%	0.7%	\$0	0.0%	\$1,523,721	0.2%	\$1,523,721	0.1%
Concord	MAGIC	Maturing Suburb	0.6%	0.7%	1.1%	\$100,000	0.0%	\$1,087,500	0.1%	\$1,187,500	0.1%
Danvers	NSTF	Maturing Suburb	0.9%	1.4%	1.5%	\$0	0.0%	\$1,168,877	0.1%	\$1,168,877	0.1%
Swampscott	NSTF	Maturing Suburb	0.4%	0.2%	0.3%	\$0	0.0%	\$1,157,036	0.1%	\$1,157,036	0.1%
Lexington	MAGIC	Maturing Suburb	1.0%	1.1%	1.9%	\$0	0.0%	\$1,087,500	0.1%	\$1,087,500	0.1%
Lincoln	MAGIC	Maturing Suburb	0.2%	0.1%	0.6%	\$0	0.0%	\$1,087,500	0.1%	\$1,087,500	0.1%
Westwood	TRIC	Maturing Suburb	0.5%	0.5%	0.7%	\$0	0.0%	\$1,071,429	0.1%	\$1,071,429	0.1%
Scituate	SSC	Maturing Suburb	0.6%	0.2%	1.0%	\$897,164	0.2%	\$0	0.0%	\$897,164	0.1%
Marblehead	NSTF	Maturing Suburb	0.6%	0.3%	0.5%	\$565,486	0.1%	\$0	0.0%	\$565,486	0.0%
Dover	SWAP	Developing Suburb	0.2%	0.0%	0.5%	\$0	0.0%	\$271,952	0.0%	\$271,952	0.0%
Bolton	MAGIC	Developing Suburb	0.2%	0.1%	0.7%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Boxborough	MAGIC	Developing Suburb	0.2%	0.2%	0.4%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Burlington	NSPC	Maturing Suburb	0.8%	2.2%	1.3%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Carlisle	MAGIC	Developing Suburb	0.2%	0.0%	0.4%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Holliston	MWRC	Developing Suburb	0.4%	0.3%	0.5%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Marshfield	SSC	Maturing Suburb	0.8%	0.3%	1.0%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Medfield	TRIC	Maturing Suburb	0.4%	0.2%	0.5%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Medway	SWAP	Developing Suburb	0.4%	0.2%	0.6%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Melrose	ICC	Inner Core	0.9%	0.3%	0.4%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Milford	SWAP	Regional Urban Center	0.9%	0.8%	1.2%	\$0	0.0%	\$0	0.0%	\$0	0.0%

Table D-1: Federal Highway Programming for Municipalities in the Boston Region—FFYs 2020–24 (cont., 4)

Municipality	Subregion	Community Type	Percent of Population	Percent of Employment	Percent Federal-Aid Roadway Miles (2016)	Regionally Prioritized Target Funding	Percent Regionally Prioritized Target Funding	State Prioritized Funding	Percent State Prioritized Funding	Total Funding (Regionally Prioritized and State Prioritized)	Percent Total Funding (Regionally Prioritized and State Prioritized)
Millis	SWAP	Developing Suburb	0.3%	0.1%	0.4%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Nahant	ICC	Maturing Suburb	0.1%	0.0%	0.2%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Norfolk	SWAP	Developing Suburb	0.4%	0.2%	0.5%	\$0	0.0%	\$0	0.0%	\$0	0.0%
North Reading	NSPC	Maturing Suburb	0.5%	0.4%	0.6%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Norwell	SSC	Developing Suburb	0.3%	0.5%	0.8%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Revere	ICC	Inner Core	1.7%	0.5%	1.3%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Rockland	SSC	Developing Suburb	0.6%	0.4%	0.6%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Rockport	NSTF	Developing Suburb	0.2%	0.1%	0.2%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Sherborn	SWAP	Developing Suburb	0.1%	0.0%	0.4%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Southborough	MWRC	Maturing Suburb	0.3%	0.4%	1.2%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Stoneham	NSPC	Maturing Suburb	0.7%	0.4%	0.8%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Topsfield	NSTF	Developing Suburb	0.2%	0.1%	0.6%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Waltham	ICC	Inner Core	2.0%	3.0%	1.6%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Wayland	MWRC	Maturing Suburb	0.4%	0.2%	0.7%	\$0	0.0%	\$0	0.0%	\$0	0.0%
Wellesley	MWRC	Maturing Suburb	0.9%	0.9%	0.9%	\$0	0.0%	\$0	0.0%	\$0	0.0%

APPENDIX E

REGULATORY AND POLICY FRAMEWORK

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

REGULATORY FRAMEWORK

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

FEDERAL REGULATIONS AND GUIDANCE

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

The purpose of the national transportation goals, outlined in Title 23, section 150, of the United States Code (23 USC § 150), is to increase the accountability and transparency of the Federal-Aid

Highway Program and to improve decision-making through performance-based planning and programming. The national transportation goals include the following:

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

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

FAST Act: Planning Factors

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

1. Support the economic vitality of the metropolitan area, especially by enabling global competition, productivity, and efficiency
2. Increase the safety of the transportation system for all motorized and nonmotorized users
3. Increase the ability of the transportation system to support homeland security and to safeguard the personal security of all motorized and nonmotorized users
4. Increase accessibility and mobility of people and freight
5. Protect and enhance the environment, promote energy conservation, improve quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns

6. Enhance integration and connectivity of the transportation system, across and between modes, for people and freight
7. Promote efficient system management and operation
8. Emphasize preservation of the existing transportation system
9. Improve the resiliency and reliability of the transportation system and reduce or mitigate storm water impacts of surface transportation
10. Enhance travel and tourism

The Boston Region MPO has also incorporated these federal planning factors into its vision, goals, and objectives.

FAST Act: Performance-based Planning and Programming

The United States Department of Transportation (USDOT), in consultation with states, MPOs, and other stakeholders, has established performance measures relevant to these national goals. These performance topic areas include roadway safety, transit system safety, National Highway System (NHS) bridge and pavement condition, transit asset condition, NHS reliability for both passenger and freight travel, traffic congestion, and on-road mobile source emissions. The FAST Act and related federal rulemakings require states, MPOs, and public transportation operators to follow performance-based planning and programming practices—such as setting targets—to ensure that transportation investments support progress towards these goals. See Chapter 4 for more information about these federally required performance measures and the MPO's targets, and how these measures and targets relate to the projects programmed in this TIP.

1990 Clean Air Act Amendments

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

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

Air quality conformity determinations must be performed for capital improvement projects that receive federal funding and for those that are considered regionally significant, regardless of the funding source. These determinations must show that projects in the MPO's Long-Range Transportation Plan (LRTP) and Transportation Improvement Program (TIP) will not cause or

contribute to any new air quality violations; will not increase the frequency or severity of any existing air quality violations in any area; and will not delay the timely attainment of air quality standards in any area. The policy, criteria, and procedures for demonstrating air quality conformity in MPO regions were established in Title 40, parts 51 and 53, of the Code of Federal Regulations.

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

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

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

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

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

Nondiscrimination Mandates

The Boston Region MPO complies with Title VI of the Civil Rights Act of 1964, the American with Disabilities Act of 1990 (ADA), the Executive Order 12898—*Federal Actions to Address Environmental*

Justice in Minority Populations and Low-income Populations (EJ EO), and other federal and state nondiscrimination statutes and regulations in all programs and activities it conducts. Per federal and state law, the MPO does not discriminate on the basis of race, color, national origin (including limited English proficiency), religion, creed, gender, ancestry, ethnicity, disability, age, sex, sexual orientation, gender identity or expression, veteran's status, or background. The MPO strives to provide meaningful opportunities for participation of all persons in the region, including those protected by Title VI, the ADA, the EJ EO, and other nondiscrimination mandates.

The MPO also considers distribution of the potential beneficial and adverse effects to populations covered by these mandates when making project programming decisions. The MPO conducts activities as part of its Transportation Equity Program to ensure that the MPO meets these requirements. The MPO's TIP development process accounts for transportation equity when developing project selection criteria, evaluating and selecting projects, and analyzing their impacts. The MPO staff also supports the Massachusetts Department of Transportation (MassDOT) as it conducts its Title VI Program. The major federal requirements pertaining to nondiscrimination are discussed below.

Title VI of the Civil Rights Act of 1964

Title VI of the Civil Rights Act of 1964 requires that no person be excluded from participation in, be denied the benefits of, or be subjected to discrimination on the basis of race, color, or national origin, under any program or activity provided by an agency receiving federal financial assistance. Executive Order 13166—*Improving Access to Services for Persons with Limited English Proficiency*, dated August 11, 2000, extends Title VI protections to persons who, as a result of national origin, have limited English proficiency (LEP). Specifically, it calls for improved access to federally assisted programs and activities, and requires MPOs to develop and implement a system through which people with LEP can meaningfully participate in the transportation planning process. This requirement includes the development of a Language Assistance Plan that documents the organization's process for providing meaningful ways for people with LEP to access services and programs.

Environmental Justice Executive Order

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

On April 15, 1997, USDOT issued its *Final Order to Address Environmental Justice in Minority Populations and Low-Income Populations*. Among other provisions, this order requires programming and planning activities to

- explicitly consider the effects of transportation decisions on minority and low-income populations;
- provide meaningful opportunities for public involvement by members of minority and low-income populations;

- gather (where relevant, appropriate, and practical) demographic information such as race, color, national origin, and income level of populations affected by transportation decisions; and
- minimize or mitigate any adverse impact on minority or low-income populations.

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

Americans with Disabilities Act

Title III of the Americans with Disabilities Act (ADA) “prohibits states, MPOs, and other public entities from discriminating on the basis of disability in the entities’ services, programs, or activities,” and requires all transportation projects, plans, and programs to be accessible to people with disabilities. Therefore, MPOs must consider the mobility needs of people with disabilities when programming federal funding for studies and capital projects. MPO-sponsored meetings must also be held in accessible buildings and be conducted in a manner that provides for accessibility. Also, MPO materials must be made available in accessible formats.

Other Nondiscrimination Mandates

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

STATE GUIDANCE AND PRIORITIES

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

We Move Massachusetts and Planning for Performance

We Move Massachusetts (WMM) is MassDOT’s statewide strategic multimodal plan. The initiative is a product of the transportation reform legislation of 2009, the You Move Massachusetts civic engagement process, outreach to populations protected by environmental justice and Title VI mandates, and other outreach activities. In May 2014, MassDOT released *We Move Massachusetts: Planning for Performance, the Commonwealth of Massachusetts’ 2040 LRTP*. WMM also incorporates performance management in investment decision-making to calculate the differences in performance outcomes resulting from different funding levels available to MassDOT.

MassDOT has expanded upon the incorporation of performance management in WMM by developing a Planning for Performance (PfP) tool to influence investments. The PfP tool is a scenario-

planning tool, custom built for MassDOT, which forecasts asset conditions and allows capital planners within the divisions to consider the tradeoffs between investment strategies. The tool reports future conditions in comparison to the desired performance targets.

Choices for Stewardship: Recommendations to Meet the Transportation Future

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

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

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

Massachusetts Strategic Highway Safety Plan (SHSP)

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

MassDOT's Modal Plans

In 2017, MassDOT finalized the *Massachusetts Freight Plan*, which defines the short- and long-term vision for the Commonwealth's freight transportation system. In 2018, MassDOT released the related *Commonwealth of Massachusetts State Rail Plan*, which outlines short- and long-term investment strategies for Massachusetts' freight and passenger rail systems (excluding the commuter rail system). In 2019, MassDOT also released the *Massachusetts Bicycle Transportation Plan* and the *Massachusetts Pedestrian Transportation Plan*, both of which define roadmaps, initiatives, and action plans to improve bicycle and pedestrian transportation in the Commonwealth. The MPO seeks to support the goals of MassDOT's modal plans when making funding decisions in the TIP through its investment

programs, specifically through its Bicycle Network and Pedestrian Connections Program and its new Transit Modernization Program.

Global Warming Solutions Act

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

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

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

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

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

The Commonwealth's 10 MPOs (and three non-metropolitan planning regions) are integrally involved in supporting the GHG reductions mandated under the GWSA. The MPOs seek to realize these objectives by prioritizing projects in the LRTP and TIP that will help reduce emissions from the transportation sector. The Boston Region MPO uses its TIP project evaluation criteria to score projects based on their GHG emissions impacts, multimodal Complete Streets accommodations, and ability to support smart growth development. Tracking and evaluating GHG emissions by project will enable the MPOs to anticipate GHG impacts of planned and programmed projects. See Appendix A for more information about the MPO's project selection criteria and Appendix B for more details about the MPO's GHG monitoring and evaluation activities.

Healthy Transportation Policy Initiatives

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

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

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

Congestion in the Commonwealth 2019

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

REGIONAL GUIDANCE AND PRIORITIES

Focus40, The MBTA’s Program for Mass Transportation

On March 18, 2019, MassDOT and the MBTA released *Focus40*, the MBTA’s Program for Mass Transportation (PMT), which is the 25-year investment plan that aims to position the MBTA to meet the transit needs of the Greater Boston region through 2040. Complemented by the MBTA’s Strategic Plan and other internal and external policy and planning initiatives, *Focus40* serves as a comprehensive plan guiding all capital planning initiatives at the MBTA. These initiatives include the *RailVision* plan, which will inform the vision for the future of the MBTA’s commuter rail system; the Better Bus Project, the plan to improve the MBTA’s bus network; and other plans. The Boston Region MPO continues to monitor the status of *Focus40* and related MBTA modal plans to inform its decision making about transit capital investments, which are incorporated to the TIP and LRTP.

MetroFuture

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

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

The Boston Region MPO's Congestion Management Process

The purpose of the Congestion Management Process (CMP) is to monitor and analyze performance of highway facilities and services, develop strategies for managing congestion based on the results of traffic monitoring, and move those strategies into the implementation stage by providing decision makers in the region with information and recommendations for improving the transportation system's performance. The CMP monitors roadways and park-and-ride facilities in the Boston region for safety, congestion, and mobility, and identifies problem locations. The CMP is described in more detail in the UPWP. Studies undertaken through the CMP are often the inspiration for discrete studies funded through the UPWP. Needs identified through the MPO's CMP can also be addressed by projects funded in the TIP.

APPENDIX F

BOSTON REGION METROPOLITAN PLANNING ORGANIZATION MEMBERSHIP

VOTING MEMBERS

The Boston Region Metropolitan Planning Organization (MPO) includes both permanent members and municipal members who are elected for three-year terms. Details about the MPO's members are listed below.

The **Massachusetts Department of Transportation (MassDOT)** was established under Chapter 25 (*An Act Modernizing the Transportation Systems of the Commonwealth of Massachusetts*) of the Acts of 2009. MassDOT has four divisions: Highway, Rail and Transit, Aeronautics, and the Registry of Motor Vehicles. The MassDOT Board of Directors, comprised of 11 members appointed by the Governor, oversees all four divisions and MassDOT operations, including the MBTA. The board was expanded to 11 members by the legislature in 2015 based on a recommendation by Governor Baker's Special Panel, a group of transportation leaders assembled to review structural problems with the MBTA and deliver recommendations for improvements. MassDOT has three seats on the MPO board, including seats for the Highway Division and the Rail and Transit Division.

- The **MassDOT Highway Division** has jurisdiction over the roadways, bridges, and tunnels that were overseen by the former Massachusetts Highway Department and Massachusetts Turnpike Authority. The Highway Division also has jurisdiction over many bridges and parkways that previously were under the authority of the Department of Conservation and Recreation. The Highway Division is responsible for the design, construction, and maintenance of the Commonwealth's state highways and bridges. It is also responsible for overseeing traffic safety and engineering activities for the state highway system. These activities include operating the Highway Operations Control Center to ensure safe road and travel conditions.

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

The **MBTA**, created in 1964, is a body politic and corporate, and a political subdivision of the Commonwealth. Under the provisions of Chapter 161A of the Massachusetts General Laws (MGL), it has the statutory responsibility within its district of operating the public transportation system, preparing the engineering and architectural designs for transit development projects, and constructing and operating transit development projects. The MBTA district comprises 175 communities, including all of the 97 cities and towns of the Boston Region MPO area.

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

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

The **MBTA Advisory Board** was created by the Massachusetts Legislature in 1964 through the same legislation that created the MBTA. The Advisory Board consists of representatives of the 175 cities and towns that compose the MBTA's service area. Cities are represented by either the city manager or mayor, and towns are represented by the chairperson of the board of selectmen. Specific responsibilities of the Advisory Board include reviewing and commenting on the MBTA's long-range plan, the Program for Mass Transportation; proposed fare increases; the annual MBTA Capital Investment Program; the MBTA's documentation of net operating investment per passenger; and the MBTA's operating budget. The MBTA Advisory Board advocates for the transit needs of its member communities and the riding public.

The **Massachusetts Port Authority (Massport)** has the statutory responsibility under Chapter 465 of the Acts of 1956, as amended, for planning, constructing, owning, and operating such transportation and related facilities as may be necessary for developing and improving commerce in Boston and the surrounding metropolitan area. Massport owns and operates Boston Logan International Airport, the Port of Boston's Conley Terminal, Cruiseport Boston, Hanscom Field, Worcester Regional Airport, and various maritime and waterfront properties, including parks in the Boston neighborhoods of East Boston, South Boston, and Charlestown.

The **Metropolitan Area Planning Council (MAPC)** is the regional planning agency for the Boston region. It is composed of the chief executive officer (or a designee) of each of the cities and towns in the MAPC's planning region, 21 gubernatorial appointees, and 12 ex-officio members. It has statutory responsibility for comprehensive regional planning in its region under Chapter 40B of the MGL. It is the Boston Metropolitan Clearinghouse under Section 204 of the Demonstration Cities and Metropolitan Development Act of 1966 and Title VI of the Intergovernmental Cooperation Act of 1968. Also, its region has been designated an economic development district under Title IV of the Public Works and Economic Development Act of 1965, as amended. MAPC's responsibilities for comprehensive planning encompass the areas of technical assistance to communities, transportation planning, and development of zoning, land use, demographic, and environmental studies. MAPC activities that are funded with federal metropolitan transportation planning dollars are documented in the Boston Region MPO's Unified Planning Work Program.

The **City of Boston**, six elected cities (currently **Beverly, Everett, Framingham, Newton, Somerville, and Woburn**), and six elected towns (currently **Acton, Arlington, Lexington, Medway, Norwood, and Rockland**) represent the 97 municipalities in the Boston Region MPO area. The City of Boston is a permanent MPO member and has two seats. There is one elected municipal seat for each of the eight MAPC subregions and four seats for at-large elected municipalities (two cities and two towns). The elected at-large municipalities serve staggered three-year terms, as do the eight municipalities representing the MAPC subregions.

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

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

