

appendix A

Universe of Investment Programs and Projects

INTRODUCTION

One of the primary outcomes of the Long-Range Transportation Plan (LRTP) process is a set of investment programs and a list of major infrastructure projects for implementation during the next 20 years. Thus, the Metropolitan Planning Organization (MPO) created the Universe of Investment Programs and Projects lists to identify all potential investment programs and projects that could be considered for *Destination 2040*. This appendix contains these lists for both highway and transit investment programs and projects. Each project is associated with one of the six established MPO investment programs:

- Intersection Improvements
- Complete Streets
- Bicycle Network and Pedestrian Connections
- Community Connections (formerly known as Community Transportation/Parking/Clean Air and Mobility)
- Transit Modernization
- Major Infrastructure

The MPO drew from the Universe lists to develop its draft list of recommended projects and investment programs for public review and the final list to include in this LRTP. During implementation of the LRTP and development of subsequent Transportation Improvement Programs (TIP) and Unified Planning Work Programs, the MPO and MPO staff will use the investment programs and project types when communicating with municipalities, the Massachusetts Department of Transportation (MassDOT), or other entities that can advance projects for funding consideration in the TIP.

UNIVERSE OF INVESTMENT PROGRAMS

Lower Cost Investment Programs

The investment programs in the Universe of Programs list are presented in five categories (the Major Infrastructure program is presented in the next section) with detailed descriptions of which types of projects should be included in each category. The investment programs listed in Table A-1 support projects that cost less than \$20 million and do not add capacity to the existing transportation network. For each program, MPO staff has listed the types of projects that the MPO is already funding through these programs (existing) and other types of projects that the MPO could fund through these programs (new). As part of LRTP development, MPO staff also proposed a new investment program for transit projects that were not accommodated under existing programs.

Overall, MPO staff identified these investment programs and related project types based on data analysis and public outreach conducted as part of the LRTP Needs Assessment.

Table A-1
Existing and Proposed Lower Cost Investment Programs for Consideration in
Destination 2040

Investment Program	Existing/ New	Types of Projects*	Safety	System Preservation	Capacity Management and Mobility	Clean Air/ Sustainable Communities	Transportation Equity	Economic Vitality
Intersection Improvements	Existing	Signal improvements (modernize existing signals, add new signals, or implement transit signal priority)	X	X	X	X	X	X
	Existing	Intersection geometry improvements (addition of turning lanes, shortened crossing distances for pedestrians, sidewalk improvements and curb cuts, and striping and lighting for bicyclists)	X	X	X	X	X	X
Complete Streets	Existing	Modernize roadway corridors (continuous sidewalks and bicycle lanes, cycle tracks, and other bicycle facilities, updated signals at multiple intersections along a corridor, or improvements to bridges, drainage, pavement, and roadway geometry)	X	X	X	X	X	X

Investment Program	Existing/ New	Types of Projects*	Safety	System Preservation	Capacity Management and Mobility	Clean Air/ Sustainable Communities	Transportation Equity	Economic Vitality
	New	Construction of dedicated bus lanes and associated roadway improvements			X	X	X	X
	New	Climate resiliency improvements, including storm water management improvements		X			X	X
Bicycle Network and Pedestrian Connections	Existing	Expansion of bicycle and pedestrian networks, including new off-road bicycle or multi-use paths, improved bicycle and pedestrian crossings, new sidewalks, traffic calming improvements, sidewalk network expansion, and enhanced signage and lighting	X	X	X	X	X	X
Community Connections (formerly Community Transportation/ Parking/ Clean Air and Mobility)	Existing	Transit Operations: Projects that close gaps in the transit network (first-mile/last-mile shuttles, partnerships with transportation network companies, transit enhancements, and technology updates)			X	X	X	X
	Existing	Parking Management: Additional parking for automobiles and bicycles, and leasing off-site parking near transit stations with shuttles connections			X	X	X	X
	Existing	Bicycle and Pedestrian Improvements: Bicycle and pedestrian improvements for transit access, improvements to nonautomotive transportation infrastructure for travelers with mobility impairments, and training and equipment for bicycles on transit			X	X	X	X
	Existing	Education and Wayfinding: Projects include travel instruction, training on new technologies, signage, and pilot or demonstration projects			X	X	X	X

Investment Program	Existing/ New	Types of Projects*	Safety	System Preservation	Capacity Management and Mobility	Clean Air/ Sustainable Communities	Transportation Equity	Economic Vitality
	New	Connect Elderly Adults with Transportation: Connect elderly adults with transportation options, such as transportation network companies			X	X	X	
Transit Modernization Program	New	Flex MPO discretionary funding to transit modernization projects such as station or facility improvements or climate resiliency projects to improve transit infrastructure	X	X	X	X	X	X

* The MPO will encourage municipalities, MassDOT, and other entities to incorporate climate resiliency into the design of any project submitted to the MPO for consideration, and the MPO will consider climate resiliency as part of project evaluation and selection.

MassDOT = Massachusetts Department of Transportation. MPO = Metropolitan Planning Organization. NA = not applicable. Source: Boston Region MPO.

Major Infrastructure Investment Program

Table A-2 outlines project types within the MPO's Major Infrastructure investment program, which includes any project that costs more than \$20 million and/or adds capacity to the transportation network. Projects that meet one or both of these criteria must be identified specifically in an LRTP before they can be programmed in the TIP. MPO staff has listed types of Major Infrastructure projects that the MPO has recently programmed using its Regional Target Funds (existing) and other types of projects that the MPO could fund (new). MPO staff has included the new category for Major Infrastructure project types—interchange modernization—that is not currently being funded because of the MPO's policy of not funding the high-cost projects. As part of LRTP development, MPO staff identified these Major Infrastructure project types based on data analysis and public outreach conducted as part of the Needs Assessment.

Table A-2
Major Infrastructure Project Type Categories for Consideration in *Destination 2040*

Investment Program	Existing/ New	Types of Projects*	Safety	System Preservation	Capacity Management and Mobility	Clean Air/ Sustainable Communities	Transportation Equity	Economic Vitality
Major Infrastructure	Existing	Transit expansion/modernization , such as funding for rail extensions or facility or station improvements	X	X	X	X	X	X
	Existing	Large Complete Streets projects (programmed projects of this scale include Highland Avenue/Needham Street in Newton and Needham, and Melnea Cass Boulevard in Boston)	X	X	X	X	X	X
	New	Interchange modernization (for example, I-95/I-95 Canton, I-95/I-95 Woburn, or the Braintree Split)	X	X	X	X	NA	X

* The MPO will encourage municipalities, MassDOT, and other entities to incorporate climate resiliency into the design of any project submitted to the MPO for consideration, and the MPO will consider climate resiliency as part of project evaluation and selection.

I = Interstate. MassDOT = Massachusetts Department of Transportation. MPO = Metropolitan Planning Organization. NA = not applicable.

Source: Boston Region MPO.

UNIVERSE OF HIGHWAY AND TRANSIT PROJECTS

Tables A-3 through A-7 list the highway and transit projects in the Universe of Projects that are under consideration for inclusion in *Destination 2040* that cost more than \$20 million and/or add capacity to the transportation network.

Active MassDOT Major Infrastructure Highway Projects

The highway projects listed in Table A-3 are active MassDOT projects (meaning the MassDOT Project Review Committee has approved them) that are estimated to cost more than \$20 million and/or add capacity to the transportation network. These projects are included in the federal fiscal year (FFY) 2020–24 TIP Universe of Projects; however, MPO staff did not actively consider these projects for programming in the FFYs 2020–24 TIP because they were not listed in the LRTP at the time of TIP development.

Table A-3
Active MassDOT Major Infrastructure Projects

Municipality	Project Proponent	Project Name	PROJIS/ TIP ID	Design Status	Cost Estimate	MAPC Subregion	MassDOT Highway District	TIP/LRTP Evaluation Score ¹	LRTP Status
Somerville	Somerville	McGrath Boulevard Project	607981	PRC approved	\$82,500,000	ICC	4	68/14	FFYs 2026–30
Boston	Boston	Improvements along Commonwealth Avenue (Route 30), from Alcorn Street to Warren/Kelton Streets (Phase 3 and Phase 4)	608449	25% design	\$31,036,006	ICC	6	66/0	N/A
Saugus	MassDOT	Interchange Reconstruction at Walnut Street and Route 1, includes S-05-016 (Phase II)	601513	75% design	\$19,581,123	ICC	4	46/10	N/A
Boston	MassDOT/ Boston	Bridge Rehabilitation, B-16-184, Northern Avenue over Fort Point Channel	606265	PRC approved	\$55,000,015	ICC	6	NS	N/A
Boston	MassDOT	Replacement of Allston I-90 Elevated Viaduct, B-16-359, including Interchange Reconstruction Beacon Park Yard Layover and West Station	606475	PRC approved (2011)	\$936,100,000 to \$1,200,000,000	ICC	6	NS/13	N/A
Lynn, Revere	MassDOT	Bridge Reconstruction, L-18-015=R-05-008, Route 1A over Saugus River	608396	PRC approved	\$74,750,000	ICC	4	NS	N/A
Lynn	Lynn	Reconstruction of Western Avenue (Route 107)	609246	Pre-PRC; PRC-approval expected December 2018	\$36,205,000	ICC	4	NS	N/A
Malden, Revere, Saugus	MassDOT	Reconstruction and Widening on Route 1, from Route 60 to Route 99	605012	PRC approved	\$172,500,000	ICC	4	NS/15	N/A
Lexington	Lexington	Route 4/225 (Bedford Street) and Hartwell Avenue	N/A	N/A	\$30,557,000	MAGIC	4	NS/14	FFYs 2021–25
Concord	Concord	Improvements and Upgrades to Concord Rotary (Routes 2/2A/119)	602091	25% design	\$103,931,250	MAGIC	4	NS/9	N/A
Concord	MassDOT	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	NS	N/A
Natick	MassDOT	Bridge Replacement, Route 27 (North Main Street) over Route 9 (Worcester Street) and Interchange Improvements	605313	25% design	\$25,793,370	MWRC	3	58/13	FFYs 2021–25

Municipality	Project Proponent	Project Name	PROJIS/ TIP ID	Design Status	Cost Estimate	MAPC Subregion	MassDOT Highway District	TIP/LRTP Evaluation Score ¹	LRTP Status
Framingham	Framingham	Intersection Improvements at Route 126/135/MBTA and CSX Railroad	606109	PRC approved (2010)	\$115,000,000	MWRC	3	NS/12	FFYs 2026–30
Southborough, Westborough	MassDOT	Improvements at I-495 and Route 9	607701	PRC approved (2013)	\$35,000,000	MWRC	3	NS/NS	N/A
Woburn, Reading, Stoneham, Wakefield	MassDOT	Interchange Improvements to I-93/I-95	605605	PRC approved (2009)	\$276,708,768	NSPC	4	NS/13	N/A
Peabody	MassDOT	Mainline Improvements on Route 128 (Phase II)	604638	100% design	\$24,031,419	NSTF	4	36/9	N/A
Beverly	Beverly	Interchange Reconstruction at Route 128/Exit 19 at Brimbal Avenue (Phase II)	607727	PRC approved (2014)	\$23,000,000	NSTF	4	NS/7	N/A
Beverly	MassDOT	Bridge Replacement, B-11-001, Bridge Street over Bass River (Hall-Whitaker Drawbridge)	608514	PRC approved	\$34,500,000	NSTF	4	NS	N/A
Beverly, Salem	MassDOT	Drawbridge Replacement/ Rehabilitation, B-11-005=S-01-013, Kernwood Avenue over Danvers River	605276	PRC approved	\$47,750,300	NSTF	4	NS	N/A
Salem	MassDOT	Reconstruction of Bridge Street, from Flint Street to Washington Street	5399	25% design	\$24,810,210	NSTF	4	NS/11	N/A
Bellingham	MassDOT	Ramp Construction and Relocation, I-495 at Route 126 (Hartford Avenue)	604862	PRC approved (2006)	\$13,543,400	SWAP	3	NS	N/A
Canton, Dedham, Norwood	MassDOT	Interchange Improvements at I-95/I-93/University Avenue/I-95 Widening	87790	25% design	\$ 202,205,994	TRIC	6	45/13	N/A
Lynn, Salem	MassDOT	Reconstruction of Route 107	608927	PRC approved	\$ 38,155,000	ICC, NSTF	4	NS	N/A

Note: Bridges included in this list have been noted as local priorities during TIP contact outreach.

¹The LRTP Evaluation scores listed here are from the project evaluations completed as part of the previous LRTP, *Charting Progress to 2040*.

Abbreviations: FFY = federal fiscal year. I = Interstate. LRTP = Long-Range Transportation Plan. MAPC = Metropolitan Area Planning Council. MassDOT = Massachusetts Department of Transportation. MBTA = Massachusetts Bay Transportation Authority. N/A = not applicable. NS = not scored. PRC = MassDOT Project Review Committee. PROJIS = MassDOT Project Information System. TIP = Transportation Improvement Program.

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

Source: Boston Region MPO.

Conceptual Major Infrastructure Highway Projects

The highway projects listed in Table A-4 include projects that are conceptual and anticipated to cost more than \$20 million and/or add capacity to the transportation network. MPO staff identified the projects through studies, the LRTP Needs Assessment, or from public comment. The projects with project information numbers, also known as PROJIS numbers, have had some planning work done in the past.

Table A-4
Conceptual Major Infrastructure Highway Projects

Project Type	Investment Program	PROJIS	Proponent(s)	Project Name	LRTP Status - Evaluation Score ^a	CTPS Study	Estimated Cost
Inner Core							
Major Highway	Major Infrastructure	608128	MassDOT	Boston–Southeast Expressway Modification (Southampton Interchange)	Conceptual-14	N/A	\$143,750,000
Major Highway	Interchange	N/A	CTPS Study	Newton Corner Rotary (Interchange 17) Improvements	Conceptual-14	2009	\$4,000,000
Major Highway	Interchange	N/A	Newton	New Route 128 Ramp to Riverside Station	Conceptual-8	N/A	N/A
Major Highway	Bridge	N/A	Boston/ South Boston Transportation Study	Northern Avenue Bridge Reconstruction	Conceptual-N/A	N/A	N/A
Major Highway	Bottleneck	N/A	CTPS Study	Extend I-93 High-Occupancy Vehicle Lane into the City (Somerville)	Conceptual-N/A	2006	N/A
Freight	Freight Movement	N/A	Boston	Charlestown Haul Road	Conceptual-N/A	N/A	N/A
Freight	Freight Movement	N/A	Boston	Conley Rail Service	Conceptual-N/A	N/A	N/A
Arterial and Intersection	Intersection Improvements	N/A	South Boston Transportation Study	Cypher Street Extension from D Street to E Street and Reconstruct and Extend E Street from Cypher Street to Summer Street	Conceptual-10	2015	\$9,700,000
Arterial and Intersection	Intersection Improvements	N/A	South Boston Transportation Study	New Summer Street North/ South Connector to Northern Avenue/Haul Road/Drydock Avenue	Conceptual-N/A	2015	N/A
Arterial and Intersection	Intersection Improvements	N/A	Winn Resort/ Everett	Improvements Associated with Winn Development	Conceptual-N/A	2017	N/A
Arterial and Intersection	Interchange	N/A	Boston	Boardman Street at Route 1A	Conceptual-13	1990	\$13,686,000
Arterial and Intersection	Interchange	N/A	Revere (MassDOT)	Mahoney Circle Grade Separation	Conceptual-11	N/A	\$60,000,000

Project Type	Investment Program	PROJIS	Proponent(s)	Project Name	L RTP Status - Evaluation Score ^a	CTPS Study	Estimated Cost
Arterial and Intersection	Interchange	N/A	Revere (MassDOT)	Route 1/Route 16 Connector	Conceptual-12	N/A	N/A
Arterial and Intersection	Interchange	N/A	Revere (MassDOT)	Route 1A/Route 16 Connector	Conceptual-13	N/A	N/A
Arterial and Intersection	Complete Streets	N/A	Boston	Multimodal Improvements along Blue Hill Avenue/ Warren Street, from River Street to Dudley Street	Conceptual-N/A		\$80,000,000
Arterial and Intersection	Complete Streets	N/A	Boston	Multimodal Improvements along Columbia Road, from Blue Hill Avenue to Kosciuszko Circle	Conceptual-N/A		\$45,000,000
Arterial and Intersection	Complete Streets	N/A	Boston	Multimodal Improvements along Summer Street, from Boston Wharf Road to First Street	Conceptual-N/A		\$21,000,000
Arterial and Intersection	Complete Streets	N/A	CTPS Study	Lynn-Route 1A/Lynnway/ Carroll Parkway	Conceptual-N/A	2015	N/A
Arterial and Intersection	Complete Streets	N/A	Public Comment	Everett-Sweetser Circle (Route 16 and Route 99)	Conceptual-N/A	N/A	N/A
Arterial and Intersection	Bottleneck	N/A	Needs Assessment	Medford-Route 60	Conceptual-N/A	2018	N/A
Arterial and Intersection	Bottleneck	N/A	Needs Assessment	Arlington, Cambridge- Routes 2A/16	Conceptual-N/A	2018	N/A
Arterial and Intersection	Interchange	N/A	Medford	Improvements to Route 16/28 Intersection	Conceptual		N/A
Bicycle and Pedestrian	Bicycle and Pedestrian	NA	Cambridge	Alewife Bicycle/Pedestrian/ Transit Connection to Potential Future Commuter Rail Station	Conceptual		N/A
Bridge	Bridge	605527	Cambridge	Bridge Rehabilitation of River Street and Western Avenue Bridges	Pre-TIP		N/A
Minuteman Advisory Group on Interlocal Coordination							
Major Highway	Interchange	603345	Hudson, Marlborough (MassDOT)	Reconstruction on I-290 and I-495 and Bridge Replacement	Pre-TIP-7	N/A	\$100,000,000
Major Highway	Bottleneck	N/A	CTPS Study	Route 2 Capacity Improvements (Acton to Lexington)	Conceptual-N/A	2006	N/A
Arterial and Intersection	Bottleneck	N/A	Needs Assessment	Bolton-Route 117	Conceptual-N/A	2018	N/A
MetroWest Regional Collaborative							
Arterial and Intersection	Major Infrastructure	N/A	CTPS Study	Route 30 (Cochituate Road) in Framingham and Natick	Conceptual-N/A	2013	N/A
Arterial and Intersection	Complete Streets	N/A	CTPS Study	Marlborough- Reconstruction of Route 20 East	Conceptual-N/A	2017	N/A
Arterial and Intersection	Bottleneck	N/A	Needs Assessment	Weston-Route 20	Conceptual-N/A	2018	N/A

Project Type	Investment Program	PROJIS	Proponent(s)	Project Name	L RTP Status - Evaluation Score ^a	CTPS Study	Estimated Cost
North Shore Task Force							
Major Highway	Bottleneck	N/A	CTPS Study	Route 128 Capacity Improvements (Lynnfield to Peabody)	Conceptual-N/A	2006	\$24,634,000
North Suburban Planning Council							
Major Highway	Major Infrastructure	N/A	Lynnfield to Reading	I-95 Capacity Improvements	Conceptual-11	N/A	\$198,443,000
Major Highway	Interchange	N/A	Wilmington	I-93/Route 125/Ballardvale Road	Conceptual-N/A	N/A	N/A
Major Highway	Bridge	N/A	Woburn	Bridge Replacement and Related Work, Washington Street over I-95 Bridge	Conceptual-N/A	N/A	\$12,200,000
Arterial and Intersection	Bottleneck	N/A	Needs Assessment	Burlington–Route 3A	Conceptual-N/A	2018	N/A
Arterial and Intersection	Bottleneck	N/A	Needs Assessment	Wilmington–Routes 38 and 129	Conceptual-N/A	2018	N/A
South Shore Coalition							
Major Highway	Major Infrastructure	N/A	MassDOT	Route 3 South Widening	Conceptual-9	N/A	\$800,000,000
Major Highway	Interchange	N/A	Braintree (MassDOT)	I-93/Route 3 Interchange (Braintree Split)	Previous LRTP-13	2006	\$53,289,000
Major Highway	Bottleneck	N/A	CTPS Study	I-93 Capacity Improvements (Boston to Braintree)	Conceptual-N/A	2006	N/A
Arterial and Intersection	Major Infrastructure	N/A	Abington, Weymouth, Rockland	Improvements Associated with the Completion of the South Weymouth Naval Air Station	Conceptual-N/A	N/A	N/A
South West Advisory Committee							
Arterial and Intersection	Major Infrastructure	N/A	Milford	Veteran's Memorial Drive/ Alternate Route	Conceptual-N/A	N/A	N/A
Three Rivers Interlocal Council							
Major Highway	Interchange	N/A	Randolph	I-93/Route 24 Interchange	Conceptual-N/A	N/A	N/A
Major Highway	Bottleneck	N/A	CTPS Study	I-95 Capacity Improvements (Canton to Foxborough)	Conceptual-N/A	2006	N/A
Major Highway	Bottleneck	N/A	CTPS Study	Route 24 Capacity Improvements (Taunton to Randolph)	Conceptual-N/A	2006	N/A
Arterial and Intersection	Complete Streets	N/A	MassDOT	Route 1 Intersection Signalization (Corridor-wide)	Conceptual-N/A	N/A	N/A
Arterial and Intersection	Bottleneck	N/A	Needs Assessment	Canton–Route 128	Conceptual-N/A	2018	N/A
Arterial and Intersection	Bottleneck	N/A	Needs Assessment	Norwood, Westwood, Walpole–Route 1	Conceptual-N/A	2018	N/A

Project Type	Investment Program	PROJIS	Proponent(s)	Project Name	L RTP Status - Evaluation Score ^a	CTPS Study	Estimated Cost
Arterial and Intersection	Bottleneck	N/A	Needs Assessment	Medfield–Routes 109 and 27	Conceptual-N/A	2018	N/A
Multiple Subregions							
Major Highway	Bottleneck	N/A	CTPS Study	Interstate 93 Capacity Improvements (Somerville to Woburn) (ICC and NSPC)	Conceptual-NS	2006	\$550,000,000
Major Highway	Bottleneck	N/A	CTPS Study	I-495 Capacity Improvements (Littleton to Wrentham) (MAGIC, MWRC, and SWAP)	Conceptual-N/A	2006	N/A
Major Highway	Bottleneck	N/A	CTPS Study	Route 128 HOV (Wellesley to Woburn) (MWRC, MAGIC, and NSPC)	Conceptual-N/A	2006	N/A
Arterial and Intersection	Bottleneck	N/A	Needs Assessment	Quincy, Weymouth, Hingham–Route 3A (SWAP and ICC)	Conceptual-N/A	2018	N/A
Arterial and Intersection	Bottleneck	N/A	Brookline to Framingham	Route 9 Capacity Improvements (MWRC and ICC)	Conceptual-N/A	N/A	N/A
Arterial and Intersection	Bottleneck	N/A	Needs Assessment	Wellesley, Sherborn, Holliston–Route 16 (MWRC and SWAP)	Conceptual-N/A	2018	N/A

^a The L RTP Evaluation scores listed here are from the project evaluations completed as part of the previous L RTP, *Charting Progress to 2040*.

Abbreviations: CTPS = Central Transportation Planning Staff. HOV = high-occupancy vehicle lane. I = Interstate. L RTP = Long-Range Transportation Plan. MassDOT = Massachusetts Department of Transportation. N/A = not applicable. PROJIS = MassDOT Project Information System. TIP = Transportation Improvement Program.

Subregions: ICC = Inner Core Committee. MAGIC = Minuteman Advisory Group on Interlocal Coordination.

MWRC = MetroWest Regional Collaborative. NSTF = North Shore Task Force. NSPC = North Suburban Planning Council.

SWAP = South West Advisory Planning Committee.

Source: Boston Region MPO.

Transit Projects: Massachusetts Bay Transportation Authority's (MBTA) *Focus40* Next Priorities Through 2040

The transit projects and initiatives listed in Table A-5 are the core pieces of the MBTA's *Focus40* investment strategy through 2040. These projects are intended to be prioritized for planning and design work and phased in through the MassDOT/MBTA's rolling five-year Capital Investment Plan development process. All projects in this *Focus40* category are included to provide a more complete picture of proposed transportation projects in the Boston region. Rows highlighted in light blue indicate projects or initiatives for which the MPO may be able to provide financial or analytical support.

Table A-5
Transit Projects: MBTA Focus40 Next Priorities through 2040

Transit Investment Type	Service	Proponent(s)	Project Name	TIP/ L RTP Status	Potential MPO Action
Resiliency	Assessments	MassDOT/ MBTA	Incremental Implementation of Systemwide Climate Change Vulnerability Assessments	Conceptual	Provide MPO funds for implementing resiliency projects at specific locations in Boston region municipalities, particularly those related to recommendations identified in municipal vulnerability assessments and resiliency plans.
Resiliency	Blue Line	MassDOT/ MBTA	Blue Line Resiliency Phase 2: Further Implementation	Conceptual	N/A
Resiliency	Power Supply	MassDOT/ MBTA	Resilient Power Supply	Conceptual	N/A
Transit Capacity	Blue Line	MassDOT/ MBTA	Blue Line Capacity and Reliability Improvements—Signals and Power	Conceptual	N/A
Transit Capacity	Blue Line/Red Line	MassDOT/ MBTA	Downtown Pedestrian Connection Between Red and Blue Lines	Conceptual	Provide staff analytical support for studies funded by MassDOT/MBTA.
Transit Capacity	Bus	MassDOT/ MBTA	Bus Fleet Expansion to Serve Bus and Bus Rapid Transit Network	Conceptual	N/A
Transit Capacity	Bus	MassDOT/ MBTA	Priority Bus Rapid Transit Corridors	Conceptual	Provide MPO funds for implementation through a Dedicated Bus Lane Program.
Transit Capacity	Bus/Place-based Additions	MassDOT/ MBTA	Better Bus Project Phase 3: Implementation of Network Redesign	Conceptual	Fund studies of potential routes through the MPO's UPWP or provide staff analytical support for studies funded by MassDOT/MBTA. Provide MPO funds for implementation through a Dedicated Bus Lane Program.
Transit Capacity	Commuter Rail	MassDOT/ MBTA	Regional Multimodal West Station and Midday Train Layover	Conceptual	Provide staff analytical support for studies funded by MassDOT/MBTA.
Transit Capacity	Commuter Rail	MassDOT/ MBTA	Commuter Rail Double and Triple Tracking to Add Capacity	Conceptual	N/A
Transit Capacity	Commuter Rail	MassDOT/ MBTA	Commuter Rail Station Investments (Infill Stations, Connections to Rapid Transit)	Conceptual	Fund feasibility studies through the MPO's UPWP or provide staff analytical support for studies funded by MassDOT/MBTA. Provide MPO funds to create infill stations.
Transit Capacity	Customer Experience	MassDOT/ MBTA	System Access Improvements (Parking and Other)	Conceptual	Fund feasibility studies or technical assistance through the MPO's UPWP or provide staff analytical support for studies funded by MassDOT/MBTA. Provide MPO funds for implementation through the Community Connections.
Transit Capacity	Green Line	MassDOT/ MBTA	Green Line Transformation Phase 2: New Fleet, Upgraded Infrastructure and Maintenance Facilities	Conceptual	N/A

Transit Investment Type	Service	Proponent(s)	Project Name	TIP/ L RTP Status	Potential MPO Action
Transit Capacity	Green Line	MassDOT/ MBTA	Green Line Transformation Phase 3: Expanded Capacity on D and E Branches	Conceptual	N/A
Transit Capacity	Green Line	MassDOT/ MBTA	Reservation and Right-of-Way Expansion for Surface Green Line	Conceptual	N/A
Transit Capacity	Orange Line	MassDOT/ MBTA	Orange Line Additional Capacity Improvements (3-minute headways)	Conceptual	N/A
Transit Capacity	Place-based Additions	MassDOT/ MBTA	Place-based Service Expansions Based on Pilots and Transit Action Plans	Conceptual	Fund related studies of potential routes through the MPO's UPWP or provide staff analytical support for studies funded by MassDOT/MBTA.
Transit Capacity	Red Line	MassDOT/ MBTA	Red Line Strategic Track Reconfiguration to Address Bottlenecks	Conceptual	N/A
Transit Capacity	Silver Line	MassDOT/ MBTA	Silver Line Next Generation Vehicles and Maintenance Facility	Conceptual	N/A
Transit Extension	Commuter Rail	MassDOT/ MBTA	Phase 2: Commuter Rail South Coast Rail	Conceptual	Provide staff analytical support for studies funded by MassDOT/MBTA.
Transit Extension	Customer Experience	MassDOT/ MBTA	Partnerships for Improved First-Mile/Last-Mile Connections	Conceptual	Fund feasibility studies or technical assistance through the MPO's UPWP or provide staff analytical support for studies funded by MassDOT/ MBTA. Provide MPO funds for implementation through the Community Connections Program.
Transit Extension	Silver Line	MassDOT/ MBTA	Silver Line Bus Rapid Transit to Everett	Conceptual	Provide MPO funds for supportive roadway investments through a Dedicated Bus Lane Program.
Transit Extension	Water Transportation	MassDOT/ MBTA	Phase 1: Expanded and Better Integrated Multi-Operator Water Transportation Network	Conceptual	Provide staff analytical support for studies funded by MassDOT/MBTA.
Transit Modernization	Accessibility	MassDOT/ MBTA	Accessibility Improvements at Surface Green Line Stops	Conceptual	Provide MPO funds for implementing accessibility improvements at surface level Green Line stops.
Transit Modernization	Accessibility	MassDOT/ MBTA	Plan for Accessible Transit Service Phase 2: Implementation of Mid-term Recommendations	Conceptual	Provide MPO funds for implementing accessibility improvements for specific stops, stations, or corridors in MPO municipalities.
Transit Modernization	Accessibility	MassDOT/ MBTA	The RIDE Service Reimagining	Conceptual	Fund related studies through the MPO's UPWP or provide staff analytical support for studies funded by MassDOT/ MBTA.
Transit Modernization	Bus	MassDOT/ MBTA	Phased Conversion to Zero-Emission Fleets	Conceptual	N/A

Transit Investment Type	Service	Proponent(s)	Project Name	TIP/ LRTP Status	Potential MPO Action
Transit Modernization	Customer Experience	MassDOT/ MBTA	Station Modernization, including Implementation of Platform Barriers and Doors	Conceptual	Provide MPO funds for implementing modernization improvements at specific stations in Boston region municipalities.
Transit Modernization	Red Line	MassDOT/ MBTA	Mattapan High-Speed Line Phase 2: Implementation of Reimagining	Conceptual	N/A
Transit Modernization	Silver Line	MassDOT/ MBTA	Infrastructure Upgrade in Silver Line Tunnel	Conceptual	N/A

LRTP = Long-Range Transportation Plan. MassDOT = Massachusetts Department of Transportation.

MBTA = Massachusetts Bay Transportation Authority. MPO = Metropolitan Planning Organization. N/A = not applicable. TIP = Transportation Improvement Program. UPWP = Unified Planning Work Program.

Source: Boston Region MPO.

Transit Projects: MBTA *Focus40* Big Ideas

The transit projects in *Focus40's* Big Ideas category (Table A-6) are included to provide a more complete picture of proposed transportation projects in the Boston region. However, these projects are distinct from the projects in the Next Priorities for 2040 category because the MBTA needs to better understand the feasibility, benefits, and costs of these projects before determining how to move forward. The MBTA may consider advancing the planning work for these projects as it makes progress on implementing the investments in the Next Priorities for 2040 category. Rows highlighted in light blue indicate projects or initiatives where the MPO may be able to provide financial or analytical support.

Table A-6
Transit Projects: MBTA Focus40 Big Ideas

Transit Investment Type	Service	Proponent(s)	Project Name	TIP/ L RTP Status	Potential MPO Action
Resiliency	Assessments	MassDOT/MBTA	Full Systemwide Climate Resilience	Conceptual	Provide MPO funds for implementing resiliency projects at specific locations in Boston region municipalities, particularly those related to recommendations identified in municipal vulnerability assessments and resiliency plans.
Transit Capacity	Blue Line/Red Line/Place-based	MassDOT/MBTA	Blue Line Connection to Red Line and Beyond	Conceptual	Provide staff analytical support for studies funded by MassDOT/MBTA.
Transit Capacity	Commuter Rail/ Orange Line/Silver Line	MassDOT/MBTA	Sullivan Square Superstation	Conceptual	Provide staff analytical support for studies funded by MassDOT/MBTA.
Transit Capacity	Blue Line/Red Line/ Green Line/ Orange Line	MassDOT/MBTA	Downtown Superstation	Conceptual	Provide staff analytical support for studies funded by MassDOT/MBTA.
Transit Capacity	Green Line	MassDOT/MBTA	Green Line Transformation Phase 4, Expanded Capacity on B and C Branches	Conceptual	N/A
Transit Capacity	Commuter Rail	MassDOT/MBTA	MBTA's Rail Vision will examine various service models for rail transportation. Analysis topics may include urban and regional rail, reverse commutes needs, and system electrification.	Conceptual	Fund supportive studies through the MPO's UPWP or provide staff analytical support for studies funded by MassDOT/MBTA.
Transit Extension	Blue Line/Place-based	MassDOT/MBTA	Blue Line Extension to Lynn	Conceptual	Provide staff analytical support for studies funded by MassDOT/MBTA.
Transit Extension	Green Line/Place-based	MassDOT/MBTA	Green Line Extension to Hyde Square	Conceptual	Provide staff analytical support for studies funded by MassDOT/MBTA.
Transit Extension	Green Line/Place-based	MassDOT/MBTA	Green Line Extension (GLX) to Mystic Valley Parkway, Somerville/Medford	Conceptual	This project was included in <i>Charting Progress to 2040</i> before it was removed in Amendment 1 to transfer funds to GLX Phase 1. The MPO could fund GLX Phase 2 through its Major Infrastructure program.
Transit Extension	Orange Line/ Place-based	MassDOT/MBTA	Orange Line Extension to Roslindale	Conceptual	Provide staff analytical support for studies funded by MassDOT/MBTA.
Transit Extension	Orange Line/ Place-based	MassDOT/MBTA	Orange Line Extension to Everett	Conceptual	Provide staff analytical support for studies funded by MassDOT/MBTA.

Transit Investment Type	Service	Proponent(s)	Project Name	TIP/ LRTP Status	Potential MPO Action
Transit Extension	Water Transportation	MassDOT/MBTA	Phase 2: Full Implementation of an Expanded, Comprehensive, Multi-Operator Network	Conceptual	Provide staff analytical support for studies funded by MassDOT/MBTA.
Transit Extension	Silver Line	MassDOT/MBTA	Silver Line Tunnel Extension Under D Street in the Seaport	Conceptual	Provide staff analytical support for studies funded by MassDOT/MBTA.
Transit Modernization	Accessibility	MassDOT/MBTA	Full Systemwide Accessibility	Conceptual	Provide MPO funds for implementing accessibility improvements at specific locations in Boston region municipalities.
Transit Modernization	Bus	MassDOT/MBTA	Autonomous Bus Shuttles	Conceptual	N/A
Transit Modernization	Customer Experience	MassDOT/MBTA	Comprehensive and Cutting-edge Digital MBTA	Conceptual	N/A

GLX = Green Line Extension. LRTP = Long-Range Transportation Plan. MassDOT = Massachusetts Department of Transportation. MBTA = Massachusetts Bay Transportation Authority. MPO = Metropolitan Planning Organization. N/A = not applicable. TIP = Transportation Improvement Program. UPWP = Unified Planning Work Program
Source: Boston Region MPO.

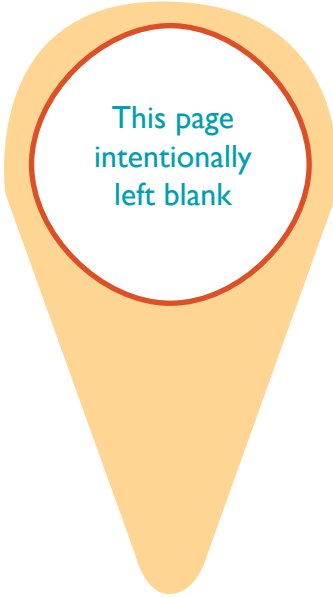
Other Transit Ideas

The projects in Table A-7 were included in the project universe of the MPO's previous LRTP, *Charting Progress to 2040*. While these projects are not currently planned for in the MBTA's *Focus40*, they are projects and ideas that MPO staff learned about through public outreach conducted during development of this LRTP. Rows highlighted in light blue indicate projects or initiatives where the MPO may be able to provide financial or analytical support.

Table A-7
Other Transit Ideas for Consideration in *Destination 2040*

Transit Investment Type	Service	Proponent(s)	Project Name	TIP/ LRTP Status	Potential MPO Action
Transit Capacity	Commuter Rail	MassDOT/ MBTA	South Station Expansion Project	Conceptual	N/A
Transit Extension	Commuter Rail	Public Input	Improved Connections between North and South Station	Conceptual	Provide staff analytical support for studies funded by MassDOT/MBTA or other entities.
Transit Extension	Water Transportation	South Boston Transportation Study	New Ferry Service in Boston Harbor	Conceptual	Fund a feasibility study through the MPO's UPWP or provide staff analytical support for studies funded by MassDOT/MBTA or other entities.
Transit Extension	Silver Line	South Boston Transportation Study	Extension of Silver Line to Dudley Square: Silver Line service to Dudley Square via a new tunnel connecting South Station with the Orange Line at Chinatown and the Green Line at Boylston (Silver Line Phase 3)	Conceptual	Provide staff analytical support for studies funded by MassDOT/MBTA or other entities.
Transit Extension	Bus	Merrimack Valley Planning Commission	Bus on Shoulder	Conceptual	CTPS study completed in 2014. Further action would include coordination with Merrimack Valley Planning Commission.
Transit Extension	Commuter Rail	Cambridge	Grand Junction Passenger Transit	Conceptual	N/A
Transit Station	Commuter Rail	Cambridge	Commuter Rail Transit Station at Alewife	Conceptual	N/A

CTPS = Central Transportation Planning Staff. LRTP = Long-Range Transportation Plan. MassDOT = Massachusetts Department of Transportation. MBTA = Massachusetts Bay Transportation Authority. MPO = Metropolitan Planning Organization. N/A = not applicable. TIP = Transportation Improvement Program. UPWP = Unified Planning Work Program. Source: Boston Region MPO.

An orange location pin icon with a white circular center. Inside the white circle, the text "This page intentionally left blank" is written in a teal color.

This page
intentionally
left blank