



BOSTON REGION METROPOLITAN PLANNING ORGANIZATION

Stephanie Pollack, MassDOT Secretary and CEO and MPO Chair
Tegin L. Teich, Executive Director, MPO Staff

TECHNICAL MEMORANDUM

DATE: November 7, 2019
TO: Boston Region Metropolitan Planning Organization
FROM: Seth Asante, MPO Staff
RE: Selection of FFY 2020 LRTP Priority Corridor Study Location

1 BACKGROUND

During the development of the Boston Region Metropolitan Planning Organization's (MPO) Long-Range Transportation Plan (LRTP), *Destination 2040*, the MPO staff identified the existing needs for all transportation modes in the region.¹ The results were compiled in the LRTP Needs Assessment, which is used to guide the MPO's decision-making process for selecting transportation projects to fund in future Transportation Improvement Programs (TIPs). The MPO goals that guided the development of the LRTP Needs Assessment include the following:

- Safety—make all modes safe
- Preservation—maintain and modernize the system
- Capacity Management and Mobility—use existing facility capacity more efficiently and increase healthy transportation capacity
- Clean Air/Clean Communities—create an environmentally friendly transportation system
- Transportation Equity—provide comparable transportation access and service quality among communities, regardless of income level or minority population
- Economic Vitality—ensure our transportation network serves as a strong foundation for economic vitality

Based on previous and ongoing transportation-planning work—including the MPO's Congestion Management Process (CMP) and planning studies—MPO staff identified several priority arterial roadway segments that require maintenance, modernization, and safety and mobility improvements. These locations are documented in the LRTP Needs Assessment.

¹ *Destination 2040: The New Long-Range Transportation Plan of the Boston Region Metropolitan Planning Organization* was adopted by the Boston Region MPO in August 2019.

To address problems on some of these arterial segments, the *Addressing Priority Corridors from the Long-Range Transportation Plan Needs Assessment* study was included in the federal fiscal year (FFY) 2020 Unified Planning Work Program (UPWP).² This memorandum presents the results of the selection process and a recommendation for a location to study to the MPO board for discussion.³

By focusing on arterial segments rather than intersections, planners can evaluate multimodal transportation needs comprehensively (with the goal of creating Complete Streets). A holistic approach to analyzing problems and forming recommendations ensures that the needs of all transportation users are considered. Ultimately, this approach will result in roadways where it is safe to cross the street and walk or bicycle to shops, schools, train stations, and recreational facilities, and where buses can run on time. Typically, the recommended improvements are within a roadway's right-of-way. When developing the recommendations, the needs of abutters and users are taken into account. The interests and support of stakeholders are also considered.

2 SELECTION PROCEDURE

The process for selecting study locations consisted of three steps:

1. MPO staff gathered and assembled data about the arterial segments from the LRTP Needs Assessment and used the data to identify and prioritize the segments in need of improvements.
2. Staff examined the arterial segments more closely by applying specific criteria.
3. Staff scored each arterial segment and assigned a priority of *low*, *medium*, or *high* to each segment.

Details about each step in the process are provided below.

2.1 Gathering Data and Identifying Potential Arterial Segments

MPO staff identified 43 arterial segments in 33 municipalities in the Boston region based on the following data sources:

- The Massachusetts Department of Transportation (MassDOT) 2017 Road Inventory File and 2012–16 crash database were used to assemble the

² The FFY 2020 Unified Planning Work Program was endorsed by the Boston Region MPO on July 18, 2019.

³ The Boston Region MPO's work program for *Addressing Priority Corridors from the Long-Range Transportation Plan Needs Assessment: Federal Fiscal Year 2020* was approved on September 19, 2019.

following information for each arterial segment: roadway jurisdiction, National Highway System status, average daily traffic (ADT), high-crash locations, and crash rates.

- The MPO's CMP data on arterial congestion were used to determine average travel speeds, travel-time index (travel time in the peak period divided by travel time during free-flow conditions), and speed index (average travel speed divided by the speed limit) on each arterial segment.
- The MPO's data on gaps in the bike network and data on the location of MassDOT's bike facilities were used to identify bicyclists' needs, including locations where connectivity between bicycle facilities and bicyclists' accommodations could be improved.
- Data on Massachusetts Bay Transportation Authority (MBTA) bus service performance and passenger loads were used to determine the percentage of bus trips that do not adhere to the schedule (in other words, that provide late service) or do not adhere to passenger load standards (resulting in crowding).
- Data on MBTA bus routes, subway lines, and commuter rail lines were used to identify which arterial segments serve MBTA buses or stations.
- Data on the MPO's transportation equity analysis zones were used to identify areas of concern as relates to transportation equity.
- Data selected from MassDOT's project-information database, the MPO's FFY 2020–24 TIP project database, MPO planning studies and other studies, and municipal websites were used to obtain data on projects, studies, and TIP projects that are planned or programmed for each arterial segment.

Table 1 (attached) presents the data and information gathered about each of the arterial segments:

- Municipality
- Metropolitan Area Planning Council (MAPC) subregion
- Jurisdiction
- MassDOT district office
- Number of top-200 high-crash locations
- Number of crash clusters that are eligible for Highway Safety Improvement Program (HSIP) funding
- Travel-time index
- Transit service performance

- Proximity to a transportation equity analysis zone (within one-half mile distance)
- Relevant studies or projects within or near the segment

Table 1 also includes the score and priority rating that were determined by applying the selection criteria. The processes for scoring and assigning priority ratings to segments are described below.

2.2 Selection Criteria

MPO staff examined the arterial segments more closely by applying the following six criteria and assigning points based on the number of criteria that apply to each location.

1. *Safety Conditions, 0–4 points (each of the four criteria is worth one point)*
 - Location has a higher-than-average crash rate for its functional class
 - Location contains an HSIP-eligible crash cluster
 - Location is identified in the Massachusetts *Top High Crash Locations Report*
 - Location has a significant number of pedestrian and bicycle crashes per year (two or more per mile) or contains one or more HSIP-eligible bike-pedestrian crash cluster
2. *Congested Conditions, 0–2 points (each of the two criteria is worth one point)*
 - Travel-time index is at least 1.3
 - Travel-time index is at least 2.0
3. *Multimodal Significance, 0–3 points (each of the three criteria is worth one point)*
 - Location currently supports transit, bicycle, or pedestrian activities
 - Location needs to have improved transit, bicycle, or pedestrian facilities
 - Location has a high volume of truck traffic serving regional commerce
4. *Regional Significance, 0–4 points (each of the four criteria is worth one point)*
 - Location is in the National Highway System
 - Location carries a significant portion of regional traffic (ADT is greater than 20,000)
 - Location lies within 0.5 miles of a transportation equity analysis zone

- Location is essential for the region's economic, cultural, or recreational development
5. *Regional Equity, 0–2 points (each of the two criteria is worth one point)*
- Location is in an MAPC subregion for which there has not been a Priority Corridors study
 - Location is in an MAPC subregion for which there has not been a Priority Corridors study in the previous three years
6. *Implementation Potential, 0–3 points (each of the three criteria is worth one point)*
- Location is proposed or endorsed for study by the agency that administers the roadway
 - Location is proposed or endorsed by its MAPC subregional group and is a priority for that subregional group
 - Other stakeholders strongly support improvements for the location

2.3 Rating Potential Roadways

MPO staff rated arterial segments with a total score of 11 or fewer points as *low* priority; those with a score of 12 to 13 points as *medium* priority; and those with a total score of 14 or more points as *high* priority. Staff gave 12 arterial segments a high-priority rating based on safety and operational needs, multimodal and regional significance, regional equity, and support for improvements from agencies and municipalities. Staff then examined high-priority segments more closely and excluded arterials for which there were projects meeting any of the following criteria from further consideration for this cycle of the Priority Corridors study: recently completed, in construction, in design, under study, or programmed in the TIP with the 25 percent design completed.

Staff also evaluated the pedestrian accommodation and safety improvement needs for the segment with the highest score by applying the MPO's Pedestrian Report Card Assessment and Bicycle Level-of-Service Metric (Bicycle Report Card).⁴ These locations highly qualify based on pedestrian and bicycle accommodation or safety improvement requirements. Appendix A contains detailed results of the assessments for Route 28 in Milton, the arterial segment with the highest score.

⁴ Ryan Hicks and Casey-Marie Claude, Boston Region Metropolitan Planning Organization, *Pedestrian Level-of-Service Memorandum*, January 19, 2017; Casey-Marie Claude, Boston Region Metropolitan Planning Organization, *Development of a Scoring System for Bicycle Travel in the Boston Region*, November 8, 2018.

Based on this evaluation, staff recommends studying the segment on Route 28 in Milton. Figure 1 shows the study area with four HSIP intersection crash clusters.

3 ARTERIAL SEGMENT SELECTED FOR STUDY: ROUTE 28 IN MILTON

The arterial segment on Route 28 in Milton received a total score of 15, based on five of the six selection criteria (safety, congestion, multimodal and regional significance, regional equity, and implementation potential). Route 28 runs north and south through Milton and it serves residential, educational, and recreational areas, and a medical center. Route 28 also carries commuter traffic to and from Boston. Staff's evaluation indicates that there are safety, capacity management, and mobility problems in the segment. Four locations along the segment contain HSIP-eligible crash clusters, one of which is in the top 200 of intersection crash clusters in Massachusetts. Also, accommodation for bicyclists is poor and better bicycle connections are needed in the area.

The Town of Milton and the MassDOT Highway Division are looking for solutions to the problems in the corridor and have expressed support for and willingness to participate in a study of this arterial segment (see Appendix B). MPO staff would identify the problems and develop solutions that could be incorporated into MassDOT's project #609396 for resurfacing and related work on Route 28. The improvements would be implemented by the Town of Milton and MassDOT. The recommended arterial segment meets the selection criteria of this study, especially by supporting the transportation improvement priorities of the MPO's LRTP.

4 NEXT STEPS

After the MPO board discusses this recommendation, staff will meet with officials from the Town of Milton and MassDOT and other stakeholders to discuss the study specifics, conduct field visits, collect data, identify needs, and develop solutions.

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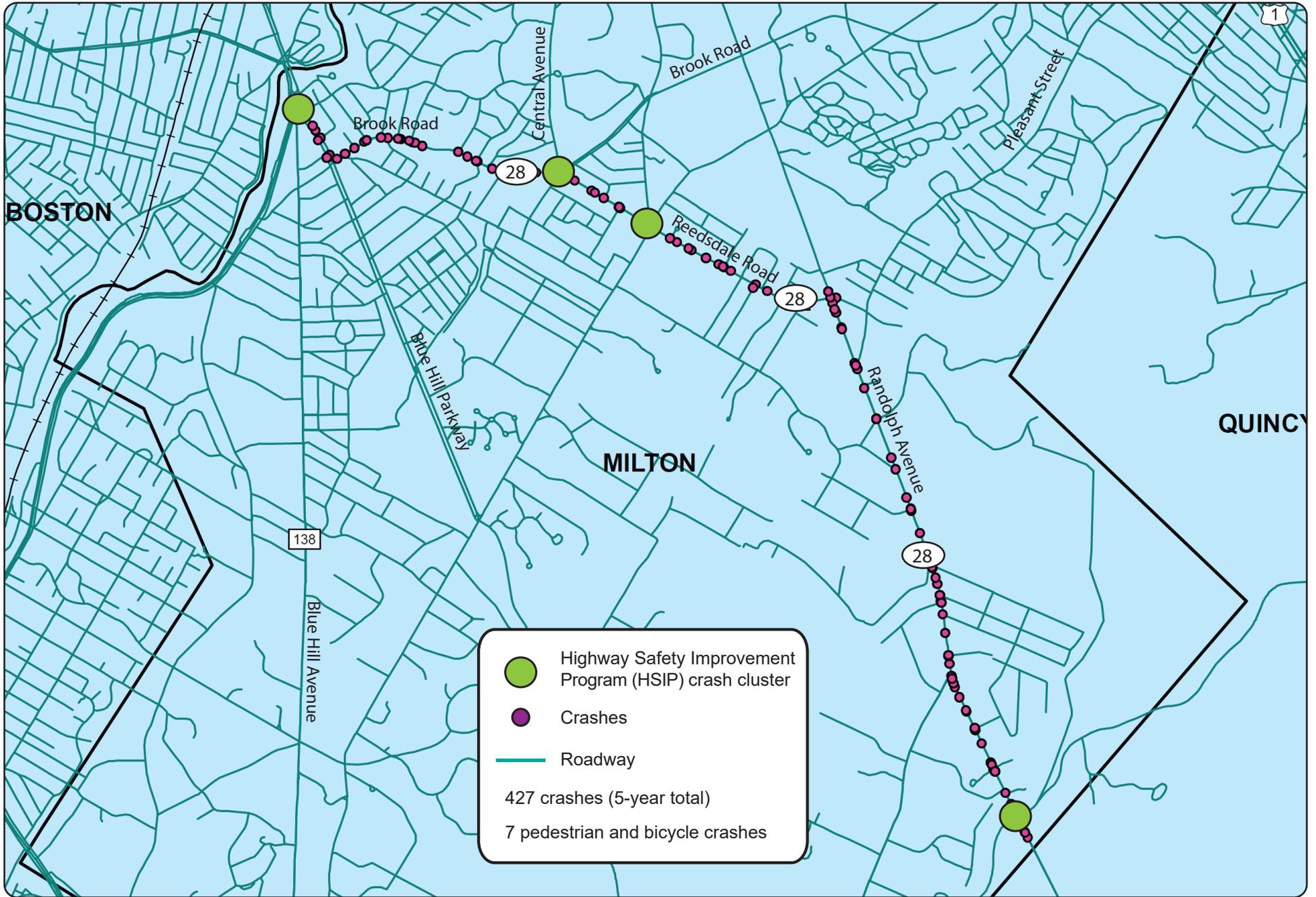


Figure 1
Crashes 2012-16

Addressing Priority Corridors from
 the LRTP Needs Assessment
 Route 28 in Milton



TABLE 1
Arterial Segments Considered for Study: Priority Corridors for Long-Range Transportation Plan Needs Assessment Study

Arterial Segment	Community	MAPC Subregion	MassDOT District	Jurisdiction	National Highway System	Functional Class*	Number of Top-200 High-Crash Locations 2014–16	Number of HSIP-Eligible Crash Clusters 2014–16**	Travel Time Index	Transit Service	Crowded or Late Bus	In or Near Transportation Equity Priority Area	Study, Project, or TIP Project	Safety Conditions***	Congested Conditions***	Multimodal Significance***	Regional Significance***	Regional Equity***	Implementation Potential***	Score	Priority Rating	Summary of Comments
Route 28	Milton	ICC and TRIC	6	MassDOT and Milton	Yes	3	1	4	2.48	MBTA bus Routes 240, 245, 24, 28, 26, 29, 30, 31, and 33 MBTA Red Line rapid transit at Mattapan/Ashmont Station, BAT Route 12	Yes	Yes	MassDOT Project #607342, Intersection and Signal Improvements at Route 28 (Randolph Avenue) and Chickatawbut Road; programmed FFY 2020. MassDOT Project #609396, Resurfacing and related work on Route 28, in preliminary design. MassDOT Project # 106901: Reconstruction on Route 28 (Randolph Avenue) from Reedsdale Road to Quincy town line, completed in 2008.	4	2	3	3	0	3	15	High	This arterial segment was recommended for study because of safety problems. There are four HSIP intersection clusters in the segment. There is no accommodation for bicycles in the segment, which presents a significant connectivity problem because several of the side streets have bicycle lanes. There are peak period traffic congestion problems that create safety, operations, and mobility issues for the residents. The Town of Milton and MassDOT have expressed their support and will participate in the study. In addition, recommendations from the study could be incorporated into MassDOT Project #609396 or a new project.
Route 107	Salem	NSTF	4	MassDOT and Salem	Yes	3	4	13	2.84	MBTA bus Routes 450, 456, 459, 461, 465, and 469 MBTA commuter rail at Salem and Beverly Ferry service	Yes	Yes	Route 107 Corridor Study in Salem and Lynn, completed in 2016. MassDOT Project #608059: Stormwater improvements along Route 107 (Salem Bypass Road), in construction. MassDOT Project #608650: Adaptive Signal Controls on Route 107 (Highland Avenue), in construction. MassDOT Project #608817: Resurfacing and related work on Route 107, programmed FFY 2022 TIP. MassDOT Project #608927: reconstruction of Route 107, in preliminary design.	4	2	2	4	2	0	14	High	This arterial segment is not recommended for study. The Route 107 corridor in Lynn and Salem was studied in 2016 and many of the recommendations have advanced into MassDOT projects. Also, there is a FFY 2022 TIP project programmed for the corridor.
Route 3A	Burlington	NSPC	4	MassDOT	Yes	3	0	1	1.67	MBTA bus Routes 350, 351, 352, 353, and 354 travel on or across the segment.	None	Yes	MassDOT Project #608068, will install an adaptive traffic control signal system on Cambridge Street, Middlessex Turnpike, and Burlington Mall Road. The project includes the installation of compatible traffic signal control equipment, video detection, communication devices and software to integrate 11 MassDOT and 16 Town-owned traffic signal locations into one adaptive signal system. The project is in construction.	3	1	3	4	2	1	14	High	On this segment, there are no accommodations for bicycles, gaps in sidewalk network, and travel lanes that are very wide (drivers form two lanes in each direction). Land use is mixed along the corridor. There are three MBTA bus routes operating in the corridor. Pedestrian and bicycle crashes have occurred in the corridor. The installation of an adaptive traffic control signal system is underway on Cambridge Street, Middlessex Turnpike, and Burlington Mall Road to integrate 11 MassDOT and 16 Town-owned traffic signal locations into one adaptive signal system.
Route 9	Framingham	MWRC	3	MassDOT	Yes	2	2	7	3.47	MWRTA Routes 1, 2, 3, 7, and 9	None	Yes	MassDOT Project #604991: Resurfacing and Related Work on Route 9, includes wheelchair ramp upgrades, additional sidewalks/repairs, and signal improvements; completed in autumn 2011. MassDOT Project #608006: Framingham--Pedestrian Hybrid Beacon Installation at Route 9 and Maynard Road and the Framingham Fire Station, in design. MassDOT Project #608281: Installation of adaptive traffic control signal equipment, vehicle detection, communication equipment, and managing software at 5 traffic signals (3 in Framingham and 2 in Natick) on Route 9, in construction. MassDOT Project #608836: Drainage improvements on Route 9 at Route 126 interchange and salt shed relocation (Phase 1).	3	2	2	4	2	1	14	High	This arterial segment was not selected because, according to MassDOT District 3, most of the intersections on this corridor have already been studied and there are several MassDOT projects under construction in the corridor.
Route 135	Framingham	MWRC	3	Framingham	Yes	3	1	4	1.63	MBTA commuter rail at Framingham. MWRTA Routes 4, 5, 6, and 11		Yes	MassDOT Project #606109: Intersection improvements at Route 126/135/MBTA and CSX railroad.	4	1	2	4	2	1	14	High	MassDOT Project #606109: Intersection improvements at Route 126/135/MBTA and CSX railroad. Roadway has received improvements to address congestion and make it multimodal (accommodation for pedestrians and bicycles).
Route 16	Medford	ICC	4	MassDOT	Yes	2, 3	1	5	3.04	MBTA bus Routes 90, 97, 99, 100, 106, 108, 110, 112, and 134 MBTA rapid transit on the Orange Line at Wellington and on the Red Line at Porter Square; MBTA commuter rail at West Medford and Porter Square	Yes	Yes	MassDOT Project #604660: Everett--Medford-Bridge Replacements, Revere Beach Parkway (Route 16), E-12-004=M-12-018 over the Malden River (Woods Memorial Bridge) and M-12-017 over MBTA and Rivers Edge Drive—The purpose of this project is to replace the existing non-operating draw bridge with a new fixed bridge. The project is under construction. MassDOT Project #605531: Structure maintenance, E-12-004=M-12-018, Revere Beach Parkway (Route 16) over the Malden River (Woods Memorial Draw Bridge), in construction.	3	2	3	4	0	2	14	High	In FFY 2019, MPO staff studied Route 16 in Chelsea and Everett and suggested improvements to address safety, congestion, multimodal transportation, pedestrian and bicycle accommodations. The section of Route 16 in Medford has five HSIP intersection clusters, including two pedestrian clusters. The roadway experiences congestion and high truck volumes. It is also carries vehicular, pedestrian, and bicycle traffic to Wellington Station. Studying this segment in Medford will provide MassDOT with improvement concepts to comprehensively address safety, capacity management and mobility, and pedestrian and bicycle accommodations in the corridor.
Route 16	Milford	SWAP	3	MassDOT and Milford	Yes	3	0	5	3.58	MWRTA Route 14		Yes	MassDOT Project #607428: Resurfacing and intersection improvements on Route 16 (Main Street), from Water Street west to approximately 120 feet west of the Milford/Hopedale town line and the intersection of Route 140; programmed FFY 2019. MassDOT Project #606142: Signal and intersection improvements on Route 16 (Main Street and East Main Street) at six locations; completed in 2013.	3	2	2	4	2	1	14	High	This corridor is not recommended for study. The corridor received improvements in 2013 based on a CTPS study and currently a MassDOT resurfacing and intersection improvement project has been programmed for FFY 2019.
Route 114	Salem	NSTF	4	MassDOT and Salem	Yes	2, 3	0	3	2.06	MBTA bus Routes 450, 451, 455, 456, 459, and 465 MBTA commuter rail at Salem and Beverly; Ferry service	Yes	Yes	MassDOT Project #608521: Bridge Maintenance, North Street (Route 114) over Bridge Street (Route 107) and MBTA, in construction. MassDOT Project #605332, Bridge Replacement (Route 114) North Street over North River; in preliminary design.	3	2	2	4	2	1	14	High	This roadway has Complete Streets improvements, including sidewalks and bicycle lanes on either side of the roadway. The section that requires improvements to improve safety, capacity management and mobility, and accommodate bicycles is between Bridge Street (Route 107) and Route 128.
Route 16	Wellesley	MWRC	6	MassDOT and Wellesley	Yes	3	0	5	2.57	MBTA commuter rail at Wellesley Square, Wellesley Hills, Wellesley Farms and Waltham	N/A	Yes	MassDOT Project #94762: Bridge Rehabilitation, Br# W-13-014 Route 16 (Washington Street) over Route 9 including relocation of retaining wall.	3	2	2	4	2	1	14	High	The location was suggested in 2014 LRTP outreach through verbal comments at a 495/MetroWest Partnership meeting.

TABLE 1
Arterial Segments Considered for Study: Priority Corridors for Long-Range Transportation Plan Needs Assessment Study

Arterial Segment	Community	MAPC Subregion	MassDOT District	Jurisdiction	National Highway System	Functional Class*	Number of Top-200 High-Crash Locations 2014–16	Number of HSIP-Eligible Crash Clusters 2014–16**	Travel Time Index	Transit Service	Crowded or Late Bus	In or Near Transportation Equity Priority Area	Study, Project, or TIP Project	Safety Conditions***	Congested Conditions***	Multimodal Significance***	Regional Significance***	Regional Equity***	Implementation Potential***	Score	Priority Rating	Summary of Comments
Route 20	Weston	MWRC	6	MassDOT	Yes	3	0	3	3.06	MBTA bus Route 70 MBTA commuter rail at Waltham and Kendal Green	Yes	Yes	Intersection improvements on Boston Post Road (Route 20) at Wellesley Street; preliminary design stage.	2	2	2	4	2	2	14	High	A congestion study was suggested through UPWP and LRTP outreach in 2012, 2013, and 2014 by MAGIC; a formal letter was submitted and verbal comments were made at an MWRC subregion meeting. A suggestion to study this location was resubmitted in a comment on the Draft FFY 2014 UPWP and during the 2017 MPO outreach program.
Route 18	Weymouth	SSC	6	MassDOT	Yes	3	3	9	2.55	MBTA bus Route 225 MBTA commuter rail at South Weymouth	Yes	Yes	MassDOT Project #601630—Reconstruction and widening on Route 18 (Main Street) from Highland Place to Route 139 (4.0 miles) includes replacing W-32-013, Route 18 over the Old Colony Railroad (MBTA); in construction.	4	2	2	4	2	0	14	High	This arterial segment was not selected because a MassDOT project, currently in construction, would address problems in the entire segment and no study is needed at this time.
Routes 38/129	Wilmington	NSPC	4	MassDOT and Wilmington	Yes	3	0	4	3.31	MBTA commuter rail at Wilmington, North Wilmington, Anderson/Woburn, and Reading	N/A	Yes	MassDOT Project #608051, Reconstruct Route 38 from Route 62 to the Woburn city line, add bike lanes, sidewalks, and turn lanes, and upgrade signals; in design. MassDOT Project #609253, Intersection improvements at Lowell Street (Route 129) and Woburn Street; in design. MassDOT Project #601732, Rehabilitation, Route 129 (Lowell Street) from Route 38 (Main Street) to Woburn Street; completed in 2009.	3	2	2	4	2	1	14	High	Several sections of the arterial have projects that are currently in design. These MassDOT projects would address problems in the corridor.
Route 2A/3	Arlington	ICC	4	Arlington	Yes	3	0	2	2.39	MBTA bus Routes 67, 77, 79, 80, 87, and 350 travel on or across the segment.	Yes	Yes	None	3	2	3	4	0	1	13	High	None
Route 203	Boston	ICC	6	MassDOT	Yes	3	5	9	2.94	MBTA bus Routes 14, 26, 201, 202, 215, and 217 travel on or across the segment.		Yes	MassDOT Project #606318, Intersection improvements at Gallivan Boulevard (Route 203) and Morton Street; in construction. MassDOT Project #608755, Intersection improvements Morton Street (Route 203) at Blue Hill Ave, at Courtland Road/Havelock Street, and at Havard Street; programmed in the FFY 2019 TIP, in design. MassDOT Project #606896, Reconstruction on (Route 203) Gallivan Boulevard, from Neponset Circle to east of Morton Street intersection; in preliminary design. MassDOT Project #606897, Improvements on (Route 203) Morton Street, from west of Gallivan Boulevard to Shea Circle; in preliminary design.	4	2	2	4	0	1	13	High	The FFY 2012 Priority Corridors for LRTP Needs Assessment Study and several MassDOT projects in the corridor will address issues.
Route 37	Braintree	SSC	6	MassDOT	Yes	2	0	2	2.73	MBTA bus Routes 230 and 236 and travel on or across the segment.		Yes	MassDOT Project #608651, Adaptive traffic signal control on Route 37 (Granite Street). Installation of adaptive traffic control signal equipment, vehicle detection, communication equipment, and managing software at seven traffic signals on Route 37; in construction. MassDOT Project #607684, Bridge replacement, B-21-017, Washington Street (Route 37) over MBTA/CSX railroad; preliminary design.	2	2	2	4	2	1	13	High	The arterial segment has a 5- to 6-foot shoulder on either side of the roadway for most of the corridor. There are sidewalks on either side of the roadway throughout the corridor. In addition, MassDOT is installing adaptive traffic control signal equipment, vehicle detection, communication equipment, and managing software at seven traffic signals on Route 37, a project that is under construction.
Route 2A	Cambridge	ICC	6	Cambridge and DCR	Yes	3	1	14	2.05	MBTA bus Routes 67, 77, 79, 80, 87, and 350 travel on or across the segment.		Yes	None	4	2	2	4	0	1	13	High	None
Route 2	Concord	MAGIC	4	MassDOT	Yes	2	0	1	5.93	MBTA commuter rail at West Concord, Concord, and Lincoln	N/A	Yes	MassDOT Project #602984, Crosby's Corner (Route 2 at Route 2A) Improvements; in construction. MassDOT Project #608015, Reconstruction and widening on Route 2, from Sandy Pond Road to Bridge over MBTA/B&M railroad. MassDOT Project #602091, Concord Rotary; in preliminary design. MassDOT Project #604069, Bridge Replacement over Sudbury River; in preliminary design. MassDOT Project #606223: Bruce Freeman Rail Trail Construction (Phase II-B) in Acton and Concord, will connect the trail across Route 2; programmed in the FFY 2019 TIP, in design.	2	2	2	4	2	1	13	High	FFY 2013 Priority Corridors for LRTP Needs Assessment Study (Concord and Lincoln) Route 2 was suggested during MPO outreach as a route experiencing congestion that affects MAGIC communities as well as Cambridge. There are many projects and studies conducted for this corridor, including the Route 2 (Crosby's Corner) improvements and Concord Rotary upgrade and improvements.
Route 16	Holliston	MWRC	3	MassDOT and Holliston	Yes	3	0	2	1.76	MWRTA Routes 6 and 14	None	Yes	2011 CTPS study, Route 126 Corridor: Transportation Improvement Study. 2008 CTPS study, Washington Street (Route 16/126) at Hollis Street.	2	1	2	4	2	2	13	High	This location has MassDOT projects and CTPS studies, which have not been implemented. The 495/MetroWest Partnership expressed interest in a Route 16 study. The section that experiences the most crashes is the town center portion (under Holliston jurisdiction). A road safety audit was performed for the town center portion in December 2012.

TABLE 1
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Arterial Segment	Community	MAPC Subregion	MassDOT District	Jurisdiction	National Highway System	Functional Class*	Number of Top-200 High-Crash Locations 2014–16	Number of HSIP-Eligible Crash Clusters 2014–16**	Travel Time Index	Transit Service	Crowded or Late Bus	In or Near Transportation Equity Priority Area	Study, Project, or TIP Project	Safety Conditions***	Congested Conditions***	Multimodal Significance***	Regional Significance***	Regional Equity***	Implementation Potential***	Score	Priority Rating	Summary of Comments
Route 107	Lynn	ICC	4	MassDOT and Lynn	Yes	3	4	13	1.87	MBTA bus Routes 424, 426, 435, 436, 441, 442, 450, 455, 456, 459, 429, and 435 MBTA commuter rail at River Works, Lynn/Central Square, and Swampscott Ferry service	Yes	Yes	MassDOT Project #808817: Resurfacing of Route 107 and related improvements; programmed FFY 2022. MassDOT Project #608927, Reconstruction of Route 107 in Lynn and Salem; in preliminary design. MassDOT project #609246, Rehabilitation of Western Avenue (Route 107); in preliminary design. MassDOT Project #604952, Bridge Replacement, Route 107 over the Saugus River; programmed 2019. MassDOT Project #26710, Bridge Replacement, Route 107 over the Saugus River (Fox Hill Bridge); completed spring 2013.	4	1	3	4	0	1	13	High	This arterial segment was not selected for study because a Route 107 Corridor Study in Lynn and Salem has been completed by MassDOT recently and the proposed improvements would be addressed under project #608927, which is in design.
Route 114	Peabody	NSTF	4	MassDOT and Peabody	Yes	3	0	2	3.60	MBTA bus Routes 435, 465	Yes	Yes	MassDOT Project # 608567, Improvements at Route 114 at Sylvan Street, Cross Street, Northshore Mall, Loris Road, Route 128 Interchange, and Esquire Drive; programmed FFY 2022.	3	2	2	3	2	1	13	High	Route 114 in Peabody was listed as a potential corridor in need of signal progression and improvements to accommodate pedestrians and bicyclists. However, the arterial segment was not selected because, according to MassDOT Highway District 4, a road safety audit was completed for the segment in August 2016 and a consultant has started design work as part of project #608567, which is programed for FFY 2022.
Route 3A	Quincy	ICC	6	MassDOT, DCR, and Quincy	Yes	3	1	10	2.76	MBTA bus Routes 201, 202, 210, 211, 212, 214, 216, 225, and 217 MBTA Red Line rapid transit at Quincy Center MBTA commuter rail at Quincy Center	Yes	Yes	MassDOT Project #608569, Intersection improvements at Route 3A (Southern Artery) and Broad Street; programmed FFY 2022 TIP. MassDOT Project #605729, Intersection and signal improvements at Hancock Street and East/West Squantum streets; completed in 2015. An FFY 2012 CTPS safety and operations study addressed problems at the Route 3A and Coddington Street intersection.	4	2	2	4	0	1	13	High	Route 3A (Hancock Street and Southern Artery) has received several improvement projects and was the focus of a CTPS study. The location was suggested in the 2017 MPO outreach program.
Route 1A	Salem	NSTF	4	MassDOT and Salem	Yes	2	0	9	1.59	16 MBTA bus stops MBTA bus Routes 455 and 459 MBTA commuter rail at Salem Ferry service	Yes	Yes	MassDOT Project #605146: Reconstruction of Canal Street from Washington Street and Mill Street to Loring Avenue (Route 1A) and Jefferson Street; completed in 2018. MassDOT Project #601017: Reconstruction of Route 1A (Bridge Street) from the Beverly/Salem Bridge to Washington Street (6,000 feet); completed in 2013.	3	1	2	4	2	1	13	High	This arterial segment was not selected because the southern end of this arterial segment is included in the study of Route 1A at Vinnin Square in Marblehead and in Swampscott; this location was selected as the subject of the FFY 2016 Priority Corridors Study. The intersection of Route 1A and Jefferson Street and Canal Street was reconstructed in 2018.
Route 16	Sherborn	SWAP	3	Sherborn	Yes	3	0	2	3.20	None	N/A	Yes	None	2	2	1	4	2	2	13	High	This location was suggested during 2014 LRTP outreach at a 495/MetroWest Partnership meeting. The section that experiences the most crashes and congestion is in the town center, where Route 16 and Route 27 combine and split.
Route 3A	Weymouth	SSC	6	MassDOT	Yes	3	0	1	1.74	30 MBTA bus stops MBTA bus Routes 220, 221, and 222 MBTA commuter rail at Quincy Center, Weymouth Landing/East Braintree, and West Hingham Ferry service	Yes	Yes	MassDOT Project #608231, Reconstruction of Route 3A including pedestrian and traffic signal improvements; in design. MassDOT Project #604382, Route 3A (Washington Street) Bridge; in construction. MassDOT Project #608483, Work consists of resurfacing on Route 3A; in preliminary design.	2	2	2	4	2	1	13	High	A road safety audit was completed for Route 3A in Weymouth in September 2016. The audit identified the problems and needs on the roadway, and suggested short-, medium-, and long-term improvements. MassDOT Project #608321, in design, will address problems and needs identified in the corridor.
Route 60	Arlington	ICC	4	Arlington	Yes	3	0	1	3.92	MBTA bus Routes 67, 77, 79, 80, 87, and 350 travel on or across the segment	Yes	Yes	CTPS and MAPC Community Transportation Technical Assistance Program evaluated the high-crash location at the intersection at Massachusetts Avenue in March 2010. MassDOT Project #606885 reconstructed the intersection of Route 3 and Route 60; the project was completed in 2017.	3	2	3	3	0	1	12	Medium	None
Route 2/3/3A/16	Cambridge	ICC	6	DCR	Yes	2	3	5	4.80	MBTA bus Routes 75, 71, 72, 73, 74, and 78 MBTA Red Line rapid transit MBTA commuter rail at Porter Square	Yes	Yes	DCR announced that the agency will conduct a traffic study of several intersections along Mount Auburn Street and Fresh Pond Parkway, in partnership with the City of Cambridge and the MBTA. The study will focus on safety measures, bus prioritization, and accessibility. MassDOT Project #608806, Multi-use Path Construction (Phase II), will create a multi-use greenway on the former B&M railroad right-of-way extending from Concord Avenue in Cambridge through the Fresh Pond Reservation, under Huron Avenue and Mount Auburn Street and into Watertown; this project is in construction. MassDOT Project #609290, Intersection improvements at Fresh Pond Parkway/Gerrys Landing Road, from Brattle Road to Memorial Drive.	3	2	2	4	0	1	12	Medium	The Fresh Pond Residents Alliance identified Fresh Pond Parkway and Alewife Brook Parkway as locations in need of transportation improvements. Concerns include pedestrian safety, particularly for young students who walk to Shady Hill School, because of high traffic volumes, environmental issues, and lack of livability.
Route 16	Chelsea and Everett	ICC	4	MassDOT	Yes	2	6	7	1.99	MBTA bus Routes 97, 99, 106, 110, 112, 104, 105, and 109 MBTA Orange Line rapid transit at Wellington and MBTA commuter rail at Chelsea	Yes	Yes	FFY 2019 Priority Corridor for LRTP Needs Assessment Study (Chelsea and Everett)	3	1	3	4	0	1	12	Medium	FFY 2019 Priority Corridors for LRTP Needs Assessment Study (Concord and Lincoln)

TABLE 1
Arterial Segments Considered for Study: Priority Corridors for Long-Range Transportation Plan Needs Assessment Study

Arterial Segment	Community	MAPC Subregion	MassDOT District	Jurisdiction	National Highway System	Functional Class*	Number of Top-200 High-Crash Locations 2014–16	Number of HSIP-Eligible Crash Clusters 2014–16**	Travel Time Index	Transit Service	Crowded or Late Bus	In or Near Transportation Equity Priority Area	Study, Project, or TIP Project	Safety Conditions***	Congested Conditions***	Multimodal Significance***	Regional Significance***	Regional Equity***	Implementation Potential***	Score	Priority Rating	Summary of Comments
Route 99	Everett	ICC	4	Everett	Yes	3	0	1	2.23	MBTA bus Routes 97, 99, 104, 105, 106, 109, 110, and 112 travel on or across the segment	Yes	Yes	MassDOT Project #602383 reconstructed Route 99 with a traffic signal upgrade, from Second Street to the Malden city line; completed in 2008. MassDOT Project #602382 reconstructed Route 99 from Sweetser Circle to the Alford Street Bridge in 2013; completed spring 2013.	2	2	3	4	0	1	12	Medium	This roadway is not recommended for study because MassDOT completely reconstructed Route 99 with signal improvements from Alford Street Bridge to the Malden city line. Route 99 (Lower Broadway) has also received improvements, including pedestrian and bicycle accommodation, as a result of the Encore Boston Harbor mitigation improvements.
Route 3A	Hingham	SSC	5	MassDOT	Yes	3	0	1	1.69	MBTA commuter rail at Cohasset, Nantasket Junction, West Hingham, and East Weymouth Ferry service MBTA bus Routes 220 and 221	N/A	Yes	MassDOT Project #605168, Improvements on Route 3A from Otis Street/Cole Road including Summer Street and rotary; Rockland Street to George Washington Boulevard; in preliminary design. MassDOT Project #603137, Intersection Improvements on Route 3A at Kirby Street. There has been local interest in installing a traffic signal at this intersection; in preliminary design.	2	1	2	4	2	1	12	Medium	In FFY 2015, a subregional priority roadway study was conducted for Route 3A in Hingham and Hull. The location received strong support from the Towns of Hingham and Hull, as well as the South Shore Coalition and the MassDOT Highway Division District 5 Office.
Route 1	Norwood	TRIC	5	MassDOT	Yes	3	0	3	3.85	MBTA commuter rail at Islington, Dedham Corp. Center, Endicott, Norwood Depot, Norwood Central, Windsor Gardens, and Plimptonville	N/A	Yes	MassDOT's I-95 South Corridor Study, provided a comprehensive evaluation of the I-95 and Route 1 corridors south of Route 128 that included a recommended plan of short-term and long-term improvements; June 2010. MassDOT Project #609371, Median jersey barrier and fencing upgrade; programmed FFY 2019. MassDOT Project #608052, Route 1 at Morse Street (approved by PRC November 2014); programmed FFY 2023. MassDOT Project #605857, Route 1 at University Avenue and Everett Street; programmed FFY 2022. MassDOT Project #605321, Bridge Preservation, Route 1 over the Neponset River; in design stage. MassDOT Project #606545, Median jersey barrier and fencing upgrade; completed in 2012.	2	2	3	4	0	1	12	Medium	The location has MassDOT projects and studies and it is not recommended for study.
Route 28	Randolph	TRIC	6	MassDOT and Randolph	Yes	3	3	6	2.00	MBTA bus Routes 240 and 238 MBTA commuter rail at Holbrook/Randolph BAT Route 12	Yes	Yes	MassDOT Project #609399, Resurfacing and related work on Route 28; in preliminary design. Arterial Coordination Study, CTPS study (2010).	3	2	2	4	0	1	12	Medium	The location has received several MassDOT projects and CTPS studies and it is not recommended for study.
Route 16 (Revere Beach Parkway)	Revere	ICC	4	MassDOT	Yes	2	0	1	2.93	MBTA bus Routes 110, 116, and 117 travel on or across the segment MBTA rapid transit on Blue Line MBTA commuter rail at Chelsea	Yes	Yes	None	2	2	3	4	0	1	12	Medium	This location is not recommended for study because the Suffolk Downs Redevelopment project is evaluating several scenarios that would affect traffic on Route 16 and Route 1A.
Route 20	Waltham	ICC	6	MassDOT and Waltham	Yes	3	0	9	2.45	MBTA bus Routes 70, 170, 505, and 506 travel on or across the segment.	Yes	Yes	City of Waltham Transportation Master Plan, January 2017.	3	2	2	4	0	1	12	Medium	This location is not recommended for study because this location had been studied and improvements proposed in the Waltham Transportation Master Plan.
Route 9	Wellesley	MWRC	6	MassDOT	Yes	2	0	2	1.77	MBTA commuter rail at Wellesley Hills and Wellesley Farms MWRTA bus Route 1	None	Yes	MassDOT Project #608180: Resurfacing on Route 9, from limit of add-a-lane to east of Overbrook intersection; in construction. MassDOT Project #606530: Drainage improvements along Route 9 Boulder Brook Culvert (design only); in design. MassDOT Project #607340: Resurfacing and related work on Route 9 from Dearborn Street to Natick town line; in preliminary design. MassDOT Project #609402: Resurfacing and related work on Route 9; in preliminary design. MassDOT Project #94762, Bridge Rehabilitation, Route 16 (Washington Street) over Route 9, including relocation of retaining wall; completed summer 2010. MAPC Land Use/Corridor Study (fall 2013).	2	1	2	4	2	1	12	Medium	MassDOT has completed a preliminary assessment of this corridor that will develop into 25 percent design plans for roadway improvements.
Route 117	Bolton	MAGIC	3	Bolton			0	0	1.70	None		Yes	None	2	1	2	3	2	1	11	Medium	None
Route 62	Concord	MAGIC	4	Concord	Yes	3	0	1	2.65	MBTA commuter rail at Concord and West Concord	N/A	Yes	MassDOT Project #604646 Reconstruction of Main Street (Route 62) from Water Street to the Acton town line; completed 2010.	2	2	2	2	2	1	11	Medium	None
Route 60	Medford	ICC	4	Medford	No	3	0	3	3.00	MBTA bus Routes 95, 101, 194, 134, 326, and 710 MBTA commuter rail at West Medford and Porter Square		Yes	None	3	2	3	2	0	1	11	Medium	None

TABLE 1
Arterial Segments Considered for Study: Priority Corridors for Long-Range Transportation Plan Needs Assessment Study

Arterial Segment	Community	MAPC Subregion	MassDOT District	Jurisdiction	National Highway System	Functional Class*	Number of Top-200 High-Crash Locations 2014-16	Number of HSIP-Eligible Crash Clusters 2014-16**	Travel Time Index	Transit Service	Crowded or Late Bus	In or Near Transportation Equity Priority Area	Study, Project, or TIP Project	Safety Conditions***	Congested Conditions***	Multimodal Significance***	Regional Significance***	Regional Equity***	Implementation Potential***	Score	Priority Rating	Summary of Comments
Route 138	Milton	ICC and TRIC	6	MassDOT	Yes	2	0	2	2.41	MBTA bus Routes 245 and 716 MBTA commuter rail at Route 128 Station MBTA Red Line rapid transit at Mattapan Station	Yes	Yes	MassDOT Project #608484, Roadway Improvements on Route 138, is planned to be funded through the Boston Region Metropolitan Planning Organization's FFY 2020 Transportation Improvement Program; the project will also incorporate work planned originally for Project #607763 (described below); programmed FFY 2020. FFY 2018 LRTP Priority Corridor Study	2	2	2	4	0	1	11	Medium	FFY 2018 Priority Corridors for LRTP Needs Assessment Study (Canton). MassDOT Project #608484, Roadway Improvements on Route 138, programmed for FFY 2020, will address problems and needs in the corridor.
Route 135	Natick	MWRC	3	MassDOT and Natick	Yes	3	0	3	1.97	MWRTA bus Routes 10 and 11 MBTA commuter rail at Natick and West Natick	None	Yes	MassDOT Project #600573 reconstructed Route 135 in Natick in 2008. More extensive improvements were proposed in the downtown area, on East Central Street between North Main Street and Union Street, including signal upgrades, new sidewalks, pavement rehabilitation, and shoulders; Contract #32302 was completed; all construction operations were suspended (as of June 30, 2007). 2010 CTPS study, West Central Street (Route 135) at Speen Street.	3	1	2	2	2	1	11	Medium	There is congestion in the downtown area. The likely focus area would be on the intersection of Route 135 at Route 27 and the intersection of Route 135 at Speen Street because of the crash history of those locations.
Route 9	Newton	ICC	6	MassDOT	Yes	2	0	3	4.98	MWRTA Route 1 MBTA bus Routes 60, 51, 52, and 59 travel on or across the segment MBTA Green Line	Yes	Yes	MassDOT Project #608821, Resurfacing and related work on Route 9; in preliminary design. MassDOT Project #604327, Resurfacing and Related Work on Route 9 (Boylston Street) from the Wellesley/Newton city line to Newton/Brookline city line; completed in summer 2012. MassDOT Project #606635, Reconstruction of Highland Avenue, Needham Street, and Charles River Bridge, from Webster Street to Route 9; programmed FFY 2019.	2	2	2	4	0	1	11	Medium	According to MassDOT District 6, improvements were recently made to accommodate new developments. An analysis of the new existing conditions would be helpful to compare with the future projected conditions.
Route 129	Reading	NSPC	4	MassDOT and Reading	Yes	3	0	0	1.82	MBTA bus Route 136 MBTA commuter rail at Wakefield, Reading, and Woburn	Yes	Yes	No projects	3	1	2	2	2	1	11	Medium	None
Route 1	Walpole	TRIC	5	MassDOT	Yes	3	0	2	1.53	MBTA commuter rail at Sharon and Walpole	N/A	Yes	MassDOT's I-95 South Corridor Study presented a comprehensive evaluation of the I-95 and Route 1 corridors south of Route 128 and included a recommended plan of short-term and long-term improvements; June 2010. MassDOT Project #608480, Resurfacing and related work on Route 1; programmed FFY 2020. MassDOT Project #608599, Stormwater Improvements to treat discharges from Route 1, I-95, and Route 1A to the Neponset River and an Unnamed Tributary; programmed FFY 2022.	2	1	3	4	0	1	11	Medium	The location has MassDOT projects and studies and was not recommended for study by MassDOT Highway District 5.
Route 1	Westwood	TRIC	6	MassDOT	Yes	3	0	0	3.49	MBTA commuter rail at Islington	N/A	Yes	MassDOT's I-95 South Corridor Study provided a comprehensive evaluation of the I-95 and Route 1 corridors south of Route 128 and included a recommended plan of short-term and long-term improvements; June 2010. MassDOT Project #603162, Route 128 Add-a-Lane Bridges (Bridge III), Route 1 and 1A over I-95/128; completed in 2012.	2	2	2	4	0	1	11	Medium	This segment is the subject of MassDOT projects and studies.

Notes:

***Functional Class**

2 = principal arterial. 3 = principal arterial other (rural minor arterial or urban principal arterial). 5 = minor arterial (urban minor arterial or rural major collector).

****Number of HSIP-eligible crash clusters**

HSIP-eligible crash clusters are defined by MassDOT as crash clusters that rank within the top five percent of crash clusters for each regional planning agency, based on the Equivalent Property Damage Only (EDPO) index. In the EDPO index, property damage only crashes are awarded one point each, crashes involving injuries are given five points each, and fatal crashes are given 10 points each. In the Boston region, the 896 intersections in the top five percent have crash clusters with a minimum EDPO value of 42.

*****Selection Criteria**

Safety Conditions: Segment has a high crash rate for its functional class, contains an HSIP-eligible crash location, a top-200 high-crash location, and/or a significant number or HSIP-eligible clusters of pedestrian or bicycle crashes.

Congested Conditions: Segment has a Travel Time Index of at least 1.3 and/or of at least 2.0, that is, which signify that it experiences delays during peak periods.

Multimodal Significance: Segment supports transit or bicycle or pedestrian activities, has a need to improve these activities, and/or has a high volume of truck traffic serving regional commerce.

Regional Significance: Segment is in the National Highway System, carries a significant proportion of regional traffic, lies within 0.5 miles of environmental justice transportation analysis zones, and/or is essential for regional economic, cultural, or recreational development in the area.

Regional Equity: Location is in a subregion that has not had a priority corridor study before, or location is in a subregion that has not had a priority corridor study in the in last three years.

Implementation Potential: Improvements to the segment are proposed or endorsed by the roadway administrative agency (agencies), proposed or endorsed by the subregion and are a priority for the subregion, and/or have strong support from other stakeholders.

Acronyms

ADA = Americans with Disabilities Act. BAT = Brockton Area Transit Authority. CTPS = Central Transportation Planning Staff. DCR = Department of Conservation and Recreation. DEIR = Draft Environmental Impact Report. EJ = environmental justice. FFY = federal fiscal year. GATRA = Greater Attleboro Taunton Regional Transit Authority. HSIP = Highway Safety Improvement Program. ICC = Inner Core Committee. LRTP = Long-Range Transportation Plan. MAGIC = Minuteman Advisory Group on Interlocal Coordination. MAPC = Metropolitan Area Planning Council. MassDOT = Massachusetts Department of Transportation. MBTA = Massachusetts Bay Transportation Authority. MPO = Boston Region Metropolitan Planning Organization. MWRC = MetroWest Regional Collaborative. MWRTA = MetroWest Regional Transit Authority. NSPC = North Suburban Planning Council. NSTF = North Shore Task Force. PRC = MassDOT Project Review Committee. SSC = South Shore Coalition. SWAP = South West Advisory Planning Committee. TIP = Transportation Improvement Program. TRIC = Three Rivers Interlocal Council. UPWP = Unified Planning Work Program. VHB = Vanasse, Hanen, Brustlin Inc.

Source: Central Transportation Planning Staff.

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Pedestrian Report Card Assessment (PRCA): Roadway Segment



Roadway Segment Location

Route 28 in Milton (Brook Rd and Reesdale Rd)

Grading Categories ^[1]	Score	Rating
Safety	1.8	Fair
System Preservation	2.0	Fair
Capacity Management and Mobility	2.3	Good
Economic Vitality	2.0	Fair

Transportation Equity ^[2]	
High Priority Area	
Moderate Priority Area	√
Low Priority Area	

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[1] **Poor** = 0 to 1.7; **Fair** = 1.8 to 2.2; **Good** = 2.3 to 3.0

[2] **Low** = 0 or 1 Factor; **Moderate** = 2 or 3 Factors; **High** = 4 or 5 Factors

Grading Categories: Scoring Breakdown Roadway Segment

Capacity Management and Mobility			
Performance Measure ^[1]	Percentage	Score (out of 3.0)	Rating
Sidewalk Presence	50%	3	Good
Crosswalk Presence	33%	1	Poor
Walkway Width	17%	3	Good
GRADING CATEGORY TOTAL^[2] (Sidewalk Presence Score * 0.5) + (Crosswalk Presence Score * 0.33) + (Walkway Width Score * 0.17)	100%	2.3	Good

Economic Vitality			
Performance Measure ^[1]	Percentage	Score (out of 3.0)	Rating
Pedestrian Volumes	50%	2	Fair
Adjacent Bicycle Accommodations	50%	2	Fair
GRADING CATEGORY TOTAL^[2] (Pedestrian Volumes Score * 0.5) + (Adjacent Bicycle Accommodations Score * 0.5)	100%	2	Fair

Safety			
Performance Measure ^[1]	Percentage	Score (out of 3.0)	Rating
Pedestrian Crashes	60%	2	Fair
Pedestrian-Vehicle Buffer	20%	2	Fair
Vehicle Travel Speed	20%	1	Poor
GRADING CATEGORY TOTAL^[2] (Pedestrian Crashes Score * 0.6) + (Pedestrian-Vehicle Buffer Score * 0.2) + (Vehicle Travel Speed Score * 0.2)	100%	1.8	Fair

System Preservation			
Performance Measure ^[1]	Percentage	Score (out of 3.0)	Rating
Sidewalk Condition	100%	2	Fair

Transportation Equity Factors ^[3]	
Area Condition	Yes/No
Low-Income Population ≥ 32.32%	
Minority Population ≥ 28.19%	√
More than 6.69% of Population > 75 Years of Age	√
More than 16.15% of Households w/o Vehicle	
Within ¼ Mile of School/College	√

[1] Poor = 1.0; Fair = 2.0; Good = 3.0

[2] Poor = 0 to 1.7; Fair = 1.8 to 2.2; Good = 2.3 to 3.0

[3] Use these factors to determine Transportation Equity priority level (front)

Roadway Segment Notes

Detailed Performance Measure Information

Grading Category	Performance Measure	Features of Analyzed Locations
Capacity Management and Mobility	Sidewalk Presence	Standard sidewalks on either side of the road
	Crosswalk Presence	7 crosswalks in 1.6 miles (4 crosswalks per mile)
	Walkway Width	Standard width (5.5 feet)
Economic Vitality	Pedestrian Volumes	5-60 pedestrians per hour
	Adjacent Bicycle Accommodations	Sharrows for the most part
Safety	Pedestrian Crashes	2 pedestrian and 2 bicycle crashes
	Pedestrian-Vehicle Buffer	7 feet (3 feet grass buffer and 4 feet shoulder)
	Vehicle Travel Speed	30 mph and 45 mph
System Preservation	Sidewalk Condition	Fair



Pedestrian Report Card Assessment (PRCA): Roadway Segment

Roadway Segment Location

Route 28 in Milton (Randolph Ave)

Grading Categories ^[1]	Score	Rating
Safety	1.6	Poor
System Preservation	2.0	Fair
Capacity Management and Mobility	2.3	Good
Economic Vitality	1.5	Poor

Transportation Equity ^[2]	
High Priority Area	
Moderate Priority Area	√
Low Priority Area	

[1] **Poor** = 0 to 1.7; **Fair** = 1.8 to 2.2; **Good** = 2.3 to 3.0
 [2] **Low** = 0 or 1 Factor; **Moderate** = 2 or 3 Factors; **High** = 4 or 5 Factors



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Grading Categories: Scoring Breakdown Roadway Segment

Capacity Management and Mobility			
Performance Measure ^[1]	Percentage	Score (out of 3.0)	Rating
Sidewalk Presence	50%	3	Good
Crosswalk Presence	33%	1	Fair
Walkway Width	17%	3	Good
GRADING CATEGORY TOTAL^[2] (Sidewalk Presence Score * 0.5) + (Crosswalk Presence Score * 0.33) + (Walkway Width Score * 0.17)	100%	2.3	Good

Economic Vitality			
Performance Measure ^[1]	Percentage	Score (out of 3.0)	Rating
Pedestrian Volumes	50%	2	Fair
Adjacent Bicycle Accommodations	50%	1	Poor
GRADING CATEGORY TOTAL^[2] (Pedestrian Volumes Score * 0.5) + (Adjacent Bicycle Accommodations Score * 0.5)	100%	1.5	Poor

[1] Poor = 1.0; Fair = 2.0; Good = 3.0

[2] Poor = 0 to 1.7; Fair = 1.8 to 2.2; Good = 2.3 to 3.0

[3] Use these factors to determine Transportation Equity priority level (front)

Safety			
Performance Measure ^[1]	Percentage	Score (out of 3.0)	Rating
Pedestrian Crashes	60%	2	Fair
Pedestrian-Vehicle Buffer	20%	1	Poor
Vehicle Travel Speed	20%	1	Poor
GRADING CATEGORY TOTAL^[2] (Pedestrian Crashes Score * 0.6) + (Pedestrian-Vehicle Buffer Score * 0.2) + (Vehicle Travel Speed Score * 0.2)	100%	1.6	Poor

System Preservation			
Performance Measure ^[1]	Percentage	Score (out of 3.0)	Rating
Sidewalk Condition	100%	2.0	Fair

Transportation Equity Factors ^[3]	
Area Condition	Yes/No
Low-Income Population ≥ 32.32%	
Minority Population ≥ 28.19%	√
More than 6.69% of Population > 75 Years of Age	√
More than 16.15% of Households w/o Vehicle	
Within ¼ Mile of School/College	√

Roadway Segment Notes

Detailed Performance Measure Information

Grading Category	Performance Measure	Features of Analyzed Locations
Capacity Management and Mobility	Sidewalk Presence	Standard sidewalks on either side of the road
	Crosswalk Presence	4 crosswalks in 1.7 miles (2 crosswalks per mile)
	Walkway Width	Standard width (5.5 feet)
Economic Vitality	Pedestrian Volumes	5-60 pedestrians per hour
	Adjacent Bicycle Accommodations	None
Safety	Pedestrian Crashes	1 pedestrian and 2 bicycle crashes
	Pedestrian-Vehicle Buffer	None
	Vehicle Travel Speed	45 mph
System Preservation	Sidewalk Condition	Fair



BOSTON REGION METROPOLITAN PLANNING ORGANIZATION



Bicycle Report Card

Roadway Segment Location

Route 28 in Milton (Brook Rd and Reedsdale Rd)

Grading Categories	Score	Grade
Safety	32	F
System Preservation	75	C
Capacity Management and Mobility	60	D
Economic Vitality	50	F

Transportation Equity

High Priority Area	
Moderate Priority Area	√
Low Priority Area	

Grading

- A: 90–100 *Excellent*
- B: 80–89 *Satisfactory*
- C: 70–79 *Acceptable*
- D: 60–69 *Needs Improvement*
- F: 59–0 *Not recommended for bicycle travel*

Transportation Equity Priority

- High:** Four (4) or Five (5) Factors
- Moderate:** Two (2) or Three (3) Factors
- Low:** Zero (0) or One (1) Factor

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Grading Categories: Scoring Breakdown

Capacity Management and Mobility			
Performance Measure	Percentage	Points	Grade
Bicycle Facility Presence	50%	20	F
Proximity to Bike Network	33%	100	A
Proximity to Transit	17%	100	A
Total	100%	60	D

Economic Vitality			
Performance Measure	Percentage	Points	Grade
Bike Rack Presence	50%	0	F
Land Use	50%	100	A
Total	100%	50	F

Grading

- A: 90–100 *Excellent*
- B: 80–89 *Satisfactory*
- C: 70–79 *Acceptable*
- D: 60–69 *Needs Improvement*
- F: 59–0 *Not recommended for bicycle travel*

Transportation Equity Priority

- High:** Four (4) or Five (5) Factors
- Moderate:** Two (2) or Three (3) Factors
- Low:** Zero (0) or One (1) Factor

Safety			
Performance Measure	Percentage	Points	Grade
Bicycle Facility Presence	33%	20	F
Absence of Bicycle Crashes	33%	40	F
Bicyclist Operating Space	17%	0	F
Number of Travel Lanes	17%	70	C
Total	100%	32	F

System Preservation			
Performance Measure	Percentage	Points	Grade
Bicycle Facility Continuity	50%	100	F
Bicycle Facility Condition	50%	50	F
Total	100%	75	C

Transportation Equity Priority	
Area Condition	Yes/No
Low Income Population => 32.32%	
Minority Population => 28.19%	√
18.2%+ of Population < 16 Years Old	√
16.15%+ of Households w/o Vehicle	
Within ¼ Mile of School/College	√

Notes

Detailed Performance Measure Information

Goal	Performance Measure	Features of Analyzed Locations
Capacity Management and Mobility	Bicycle Facility Presence	Sharrows/shared-use lane
	Proximity to Bike Network	Bicycle facility network within ¼ mile
	Proximity to Transit	Has a bus route on it and several stops in the corridor
Economic Vitality	Bike Rack Presence	No bicycle rack in the segment
	Land Use	Mixed use—educational, recreational, residential
Safety	Bicycle Facility Presence	Sharrows/shared-use lane
	Absence of Bicycle Crashes	2 bicycle crashes
	Bicyclist Operating Space	Bicycle operates in mixed traffic
	Number of Travel Lanes	Two travel lanes per direction
System Preservation	Bicycle Facility Continuity	Length of bicycle facility matches length of segment
	Bicycle Facility Condition	Bicycle facility in fair condition



BOSTON REGION METROPOLITAN PLANNING ORGANIZATION



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Bicycle Report Card

Roadway Segment Location

Route 28 in Milton (Randolph Ave)

Grading Categories	Score	Grade
Safety	32	F
System Preservation	0	F
Capacity Management and Mobility	50	F
Economic Vitality	50	F

Transportation Equity

High Priority Area	
Moderate Priority Area	√
Low Priority Area	

Grading

- A: 90–100 *Excellent*
- B: 80–89 *Satisfactory*
- C: 70–79 *Acceptable*
- D: 60–69 *Needs Improvement*
- F: 59–0 *Not recommended for bicycle travel*

Transportation Equity Priority

- High:** Four (4) or Five (5) Factors
- Moderate:** Two (2) or Three (3) Factors
- Low:** Zero (0) or One (1) Factor

Grading Categories: Scoring Breakdown

Capacity Management and Mobility			
Performance Measure	Percentage	Points	Grade
Bicycle Facility Presence	50%	0	F
Proximity to Bike Network	33%	100	A
Proximity to Transit	17%	100	A
Total	100%	50	F

Economic Vitality			
Performance Measure	Percentage	Points	Grade
Bike Rack Presence	50%	0	F
Land Use	50%	100	A
Total	100%	50	F

Grading

- A: 90–100 *Excellent*
- B: 80–89 *Satisfactory*
- C: 70–79 *Acceptable*
- D: 60–69 *Needs Improvement*
- F: 59–0 *Not recommended for bicycle travel*

Transportation Equity Priority

- High:** Four (4) or Five (5) Factors
- Moderate:** Two (2) or Three (3) Factors
- Low:** Zero (0) or One (1) Factor

Safety			
Performance Measure	Percentage	Points	Grade
Bicycle Facility Presence	33%	0	F
Absence of Bicycle Crashes	33%	40	F
Bicyclist Operating Space	17%	0	F
Number of Travel Lanes	17%	70	C
Total	100%	32	F

System Preservation			
Performance Measure	Percentage	Points	Grade
Bicycle Facility Continuity	50%	0	F
Bicycle Facility Condition	50%	0	F
Total	100%	0	F

Transportation Equity Priority	
Area Condition	Yes/No
Low Income Population => 32.32%	
Minority Population => 28.19%	√
18.2%+ of Population < 16 Years Old	√
16.15%+ of Households w/o Vehicle	
Within ¼ Mile of School/College	√

Notes

Detailed Performance Measure Information

Goal	Performance Measure	Features of Analyzed Locations
Capacity Management and Mobility	Bicycle Facility Presence	Sharrows/shared-use lane
	Proximity to Bike Network	Bicycle facility network within ¼ mile
	Proximity to Transit	Has a bus route on it and several stops in the corridor
Economic Vitality	Bike Rack Presence	No bicycle rack in the segment
	Land Use	Mixed use—educational, recreational, residential
Safety	Bicycle Facility Presence	Sharrows/shared-use lane
	Absence of Bicycle Crashes	2 bicycle crashes
	Bicyclist Operating Space	Bicycle operates in mixed traffic
	Number of Travel Lanes	Two travel lanes per direction
System Preservation	Bicycle Facility Continuity	Length of bicycle facility matches length of segment
	Bicycle Facility Condition	Bicycle facility in fair condition

APPENDIX B
Support Letters

Seth Asante

From: John Thompson
Sent: Friday, October 11, 2019 10:54 AM
To: Vatan, Geraldine T. (DOT); Seth Asante; Dwyer, Courtney (DOT)
Cc: Mark Abbott; Michael D. Dennehy; Chase Berkeley
Subject: RE: Milton - Route 28 - Corridor Study

Good Morning Seth,

The Town of Milton still very much supports a corridor study for Route 28 as well. As you know, the Town sees a huge influx of cut through traffic in the peak hours along this corridor and safety and efficiency are of the utmost importance to the Town and residents.

Thank-you for the consideration.

Regards,

John P. Thompson, P.E.
Town Engineer

Town of Milton – Engineering Dept.
525 Canton Avenue
Milton, MA 02186

(617) 898-4869

From: Vatan, Geraldine T. (DOT) <geraldine.vatan@state.ma.us>
Sent: Friday, October 11, 2019 10:00 AM
To: Seth Asante <sasante@ctps.org>; Dwyer, Courtney (DOT) <courtney.dwyer@state.ma.us>
Cc: Mark Abbott <mabbott@ctps.org>; John Thompson <jthompson@townofmilton.org>
Subject: RE: Milton - Route 28 - Corridor Study

Hello Seth,
Yes, thank you for your consideration, D6 is still in support of a Route 28 corridor study in Milton.
Geri

Geraldine Vatan - District 6 Project Development Engineer

MassDOT Highway Division
185 Kneeland Street, Boston MA 02111
Office (857) 368-6115 Cell (508) 330-1078 geraldine.vatan@state.ma.us

From: Seth Asante <sasante@ctps.org>
Sent: Thursday, October 10, 2019 3:02 PM
To: Vatan, Geraldine T. (DOT) <Geraldine.Vatan@dot.state.ma.us>; Worhunsky, Courtney (DOT) <Courtney.Dwyer@dot.state.ma.us>
Cc: Mark Abbott <mabbott@ctps.org>
Subject: RE: Milton - Route 28 - Corridor Study

Good afternoon Geri and Courtney,

I am reviewing the arterial segments that were identified in the needs assessment of the MPO's Long-Range Transportation Plan to select a priority corridor for study this year.

Last April, you requested for a Route 28 corridor study in Milton with the support of the Town and Representative William Driscoll. This corridor ranks high on our list and so I wanted to confer with you if District 6 and Milton are still interested in pursuing the Route 28 study.

Please let me know as soon as possible.

Thank you,
Seth

Seth A. Asante, P.E. | Chief Transportation Planner
CENTRAL TRANSPORTATION PLANNING STAFF
857.702.3644 | sasante@ctps.org
www.ctps.org/bostonmpo

Ten Park Plaza, Suite 2150 | Boston, MA 02116-3968
Main 857.702.3700 | Fax 617.570.9192 | TTY 617.570.9193



From: Dwyer, Courtney (DOT) <courtney.dwyer@state.ma.us>
Sent: Monday, April 1, 2019 2:50 PM
To: Mark Abbott <mabbott@ctps.org>; sasante@ctps.org
Cc: Vatan, Geraldine T. (DOT) <geraldine.vatan@state.ma.us>
Subject: Milton - Route 28 - Corridor Study

Good Afternoon Mark & Seth,

The Town of Milton has requested for a corridor study to be conducted on Route 28. State Representative William Driscoll has been supportive of this request and has asked for an update regarding next steps and what, if anything, is required from Milton to get this study programmed. We have committed that the District will get back to the Town and Rep. Driscoll, after we hear back from you.

In March 2019, there was a Project (#609396) initiated for Resurfacing and Related Work on Route 28. The project is scheduled for advertisement in April 2024.

Please let us know if there is anything else you need from the District or Milton to help process this request.

Thank you,
Courtney

Courtney (Dwyer) Worhunsky, P.E.
District 6 Projects Engineer
MassDOT – Highway Division | 185 Kneeland Street, 9th Floor Boston, MA 02111
office (857)368-6165 | courtney.dwyer@state.ma.us

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