



BOSTON REGION METROPOLITAN PLANNING ORGANIZATION

Stephanie Pollack, MassDOT Secretary and CEO and MPO Chair
Karl H. Quackenbush, Executive Director, MPO Staff

TECHNICAL MEMORANDUM

DATE: October 18, 2018
TO: Boston Region Metropolitan Planning Organization
FROM: Chen-Yuan Wang, MPO Staff
RE: Selection of FFY 2019 Subregional Priority Roadway Study
Location

1 BACKGROUND

During the Metropolitan Planning Organization's (MPO) outreach to develop the Unified Planning Work Program (UPWP) and Long-Range Transportation Plan (LRTP), Metropolitan Area Planning Council (MAPC) subregional groups and other entities submit comments and identify transportation issues that concern them. Often, these issues are related to bottlenecks, safety, or lack of safe or convenient access to abutters along roadway corridors. They can affect not only mobility and safety along a roadway and its side streets, but also livability, quality of life, economic development, and air quality.

To address these concerns, MPO staff developed a work program—Addressing Safety, Mobility, and Access on Subregional Priority Roadways. The program follows the MPO goals, which are:

- 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

The program has been well received by municipalities and the Massachusetts Department of Transportation (MassDOT) district offices and has been included

in the UPWP since 2013, including this federal fiscal year (FFY) 2019.¹ Another purpose of the study is to identify roadway segments in the MPO region that are of concern to subregional groups but have not been cited in the LRTP regional needs assessment.²

The study emphasizes issues identified by the relevant subregional groups, along with recommendations to address the identified issues. In addition to topics about mobility, safety, and access, it includes bicycle, pedestrian, and freight transportation, transit feasibility, and other subjects raised by subregional groups.

This memorandum presents the procedure used to select roadways for the study, including selection criteria; the roadway corridor that was chosen for study; and a summary.

2 SELECTION PROCEDURE

Selecting the study location comprised three steps: 1) gathering data and identifying potential roadways, 2) developing selection criteria, and 3) rating potential roadways.

2.1 Gathering Data and Identifying Potential Roadways

MPO staff identified potential study roadways through various means:

- Soliciting suggestions for study locations during recent outreach for developing the MPO's FFY 2019 UPWP
- Reviewing meeting records from the UPWP outreach process for the past six years (2013–present) to identify roadways that had been proposed for study by subregions
- Reviewing the roadways that are being monitored as part of the MPO's Congestion Management Process program, and identifying those with delay or safety concerns
- Contacting subregions, the MassDOT Highway Division district offices, and municipalities for further information about some of the potential study roadways

MPO staff then assembled the following detailed data for these roadways:

¹ Unified Planning Work Program, Federal Fiscal Year 2019, endorsed by the Boston Region Metropolitan Planning Organization on June 21, 2018.

² Boston Region MPO Work Program for Addressing Priority Corridors from the Long-Range Transportation Plan Needs Assessment: Federal Fiscal Years 2012–18.

- MassDOT 2014 Road Inventory File—used to assemble roadway jurisdiction, average daily traffic, sidewalk width, shoulders, and other geometric information
- MassDOT 201115 crash database—used to assemble high-crash locations, pedestrian and bicycle crashes, and crash rates
- MPO bike network gap data and MassDOT bike facilities—used to identify bicycle needs, connectivity, and accommodation
- Massachusetts Bay Transportation Authority (MBTA) bus route, subway line and commuter data—used to identify segments serving MBTA bus routes and transit stations
- Data from MassDOT’s project-information database, the MPO’s 2019–23 Transportation Improvement Program (TIP) projects, MPO planning and other studies, and municipal websites—used to identify projects, studies, and TIP projects planned or programmed for each roadway

Locations with projects that currently are under construction, in design, under study, or programmed in the TIP were excluded from further consideration. After the exclusion, MPO staff identified 24 potential roadway segments in the region. Table 1 presents data assembled for each roadway segment and indicates municipality, MAPC subregion, MassDOT district office, jurisdiction, length, functional class, average daily traffic, overall crash rates, bicycle/pedestrian crashes per mile, Highway Safety Improvement Program (HSIP)-eligible crash clusters,³ and any relevant studies or projects. It also cites results of applying the selection criteria, and priority rating. Roadway segments are sorted by score, MassDOT District, and roadway name.

2.2 Selection Criteria

MPO staff examined roadway locations more closely and prioritized locations by applying a score based on safety conditions, multimodal significance, subregional priority, implementation potential, and regional equity.

- *Safety Conditions, 0–2 points (each bullet counts as 1 point)*
 - Location has higher-than-average crash rate for its functional class or contains two or more HSIP-eligible intersections

³ 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 MPO, 939 intersections are identified from MassDOT 2012–14 Crash Data as the top five percent crash clusters with a minimum EDPO value of 41.

- Location has significant number of pedestrian and bicycle crashes (two or more per mile) or contains two or more HSIP-eligible bike/pedestrian clusters
- *Multimodal Significance, 0–2 points (each bullet counts as 1 point)*
 - Location currently supports transit, bicycle, pedestrian, or heavy vehicle activities or needs to support these activities
 - Location has significant potential to improve transit, bicycle, pedestrian, or heavy vehicle activities
- *Subregional Priority, 0–2 points (each bullet counts as 1 point)*
 - Location is essential for subregion’s economic, cultural, or recreational development
 - Location carries significant portion of subregional vehicle, bicycle, or pedestrian traffic
- *Implementation Potential, 0–3 points (each bullet counts as 1 point)*
 - Location is proposed or endorsed by its subregion and is a priority for that subregion
 - Location is proposed or endorsed by its roadway administrative agency (agencies)
 - Location has strong support from all of its stakeholders
- *Regional Equity, 0–1 points (each bullet counts as 1 point)*
 - Location is situated in a subregion that has not been selected for this study in the past two years

2.3 Rating Potential Roadways

Roadway segments with a score of five points or fewer were rated as low priority. Roadway segments with a score of six to seven points were rated medium priority. Roadway segments with a score of eight or more points were rated high priority. Among the 24 potential locations, MPO staff identified three as high priority:

1. Route 9 in Brookline
2. Route 109 in Westwood
3. Route 135 in Ashland

Staff also evaluated the pedestrian accommodation and safety improvement needs for the three locations by applying the Pedestrian Report Card Assessment that the MPO recently developed.⁴ All three locations highly qualify for pedestrian accommodation or safety improvement requirements. Appendix A contains detailed results of the assessments.

3 SELECTED STUDY LOCATION: ROUTE 9 IN BROOKLINE

MPO staff recommends Route 9 in Brookline for this study cycle, based on the following considerations:

- The corridor has greater safety and congestion concerns than the other two highly rated locations.
- It has a very high pedestrian and bicycle crash rate. Based on the recent five-year (2011–15) MassDOT crash data, a total of 272 crashes occurred in the corridor. Among them, 20 are identified as pedestrian crashes and 12 are bicycle crashes.⁵
- The corridor is essential for the subregion's economic development.
- The study site has strong support from all stakeholders, including representatives and officers from Brookline (see Appendix B) and MassDOT District 6.

Figure 1 shows the locations of this study and the previously studied corridors in the region. The selected corridor is about three miles in total length. All the segments in the corridor are classified as Urban Principal Arterial. The roadway carries regional and local traffic, pedestrians, bicycles, and MBTA Bus Routes 51 and 60. In addition to residential areas, the corridor contains three major commercial areas, Brookline Village, Route 9 East, and Route 9 Reservoir, and a popular park, Brookline Reservoir Park. The Town of Brookline is currently planning to enhance the vibrancy, design, and livability of the Route 9 corridor through land-use changes and capital improvements. A study of the corridor will be essential to support the plan's goals by analyzing existing transportation conditions and potential improvements. Meanwhile, it will support enhancement of subregional transportation safety and mobility.

⁴ Pedestrian Level-of-Service Memorandum, Ryan Hicks and Casey-Marie Claude, Boston Region Metropolitan Organization, January 19, 2017.

⁵ Pedestrian crashes refers to crashes that involve at least one vehicle and one pedestrian, and bicycle crashes refers to crashes involving at least one vehicle and one bicycle. No crashes involving at least one bicycle or one pedestrian were identified from the available data.

4 SUMMARY

The selected Route 9 corridor in Brookline meets the objectives of this study, especially in supporting the transportation improvement priorities of the Inner Core Committee subregion.

MPO staff will submit this proposal to the MPO for discussion and approval. If the MPO approves this selection, staff will meet with officials from Brookline, MassDOT, and MAPC to discuss the study specifics, conduct field visits, collect data, and perform various analyses.

CW/cw

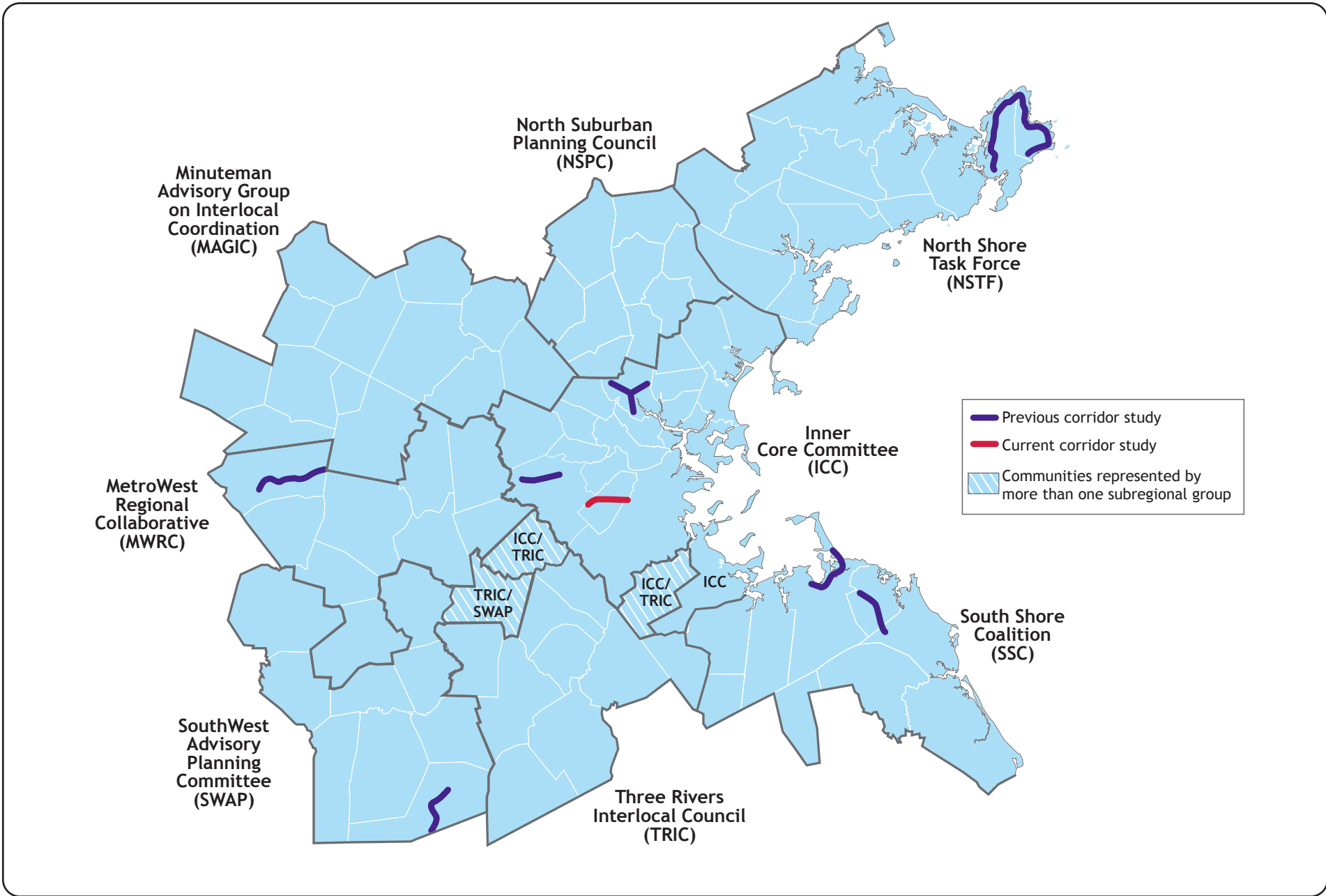


FIGURE 1
Study Locations

**TABLE 1
Roadway Segments Considered for Subregional Priority Roadways Study: Locations Evaluated and Selected**

Roadway	Location	Community	MAPC Subregion	MassDOT District	Jurisdiction	Length (Miles)	Functional Classification*	Average Daily Traffic	Overall Crash Rate (MVMT)	Bike/Ped Crashes Per Mile	HSIP-Eligible Crash Clusters 2013-2015	Study, Project, or TIP Project	Safety Conditions**	Multimodal Significance**	Subregional Priority**	Implementation Potential**	Regional Equity**	Score	Overall Assessment	Summary of Comments
Selected for Study: Route 9	Newton city line to Boston city line	Brookline	ICC	6	MassDOT	3.0	2	40,000	1.2	10.7	1	MassDOT Project 605110 (100% design received 6/18/2018): Intersection and signal improvement on Route 9 in the Gateway East or Village Square area of Brookline. The project will revitalize the corridor, improve the livability for residents and businesses, improve regional connections for bicycles and pedestrians and improve the overall streetscape. Major improvement items include (1) realign Walnut Street to Pearl Street to form a new four-way signalized intersection, (2) upgrade the signals at Washington Street and at Brookline Avenue, (3) interconnect the new signals at the three intersections, (4) demolish the pedestrian bridge that is currently closed for safety concerns, and (5) provide separated bicycle lanes. MassDOT Project 608821 (in the preliminary design phase): Resurfacing and related work on Route 9 in Brookline and Newton.	2	2	2	3	0	9	High	Town of Brookline and MassDOT Highway Division District 6 recently proposed this roadway as a study location for FFY 2019 priority corridor study. They cited that the study of traffic operations and transportation conditions of all travel modes would support the town's development plan and enhance the regional transportation safety and mobility.
Route 109	Walpole town line to Interstate 95	Westwood	ICC	6	Westwood	4.1	3	16,500	4.6	2.2	2	TIP 1819 (Pre-TIP FFYs 2019-23): Route 109, High Street traffic operational improvements by the use of Adaptive Signal Control Technology at seven locations from Hartford Street to Lowder Brook Drive. MassDOT Project 608947: Traffic signal improvements on Route 109. This project is in the preliminary design phase. MassDOT Project 601315: Reconstruction of Route 109 (High Street) from Grove Street to Hartford Street. The project proposes to reconstruct High Street, including new traffic signals at Hartford Street, Gay Street, Windsor Road/Public Library entrance, and Summer Street. Construction ended in Spring 2008.	2	2	2	2	0	8	High	In FFY 2016 UPWP outreach, Medfield cited Route 109 as a major commute route to Interstate 95 that puts strain on the adjacent communities. Based on the comment, staff also examined this Westwood section. Route 109 was also mentioned as a major regional travel route in a 2018 SWAP subregional meeting. MassDOT Project 608947 covers a major portion of the corridor.
Route 135	Hopkinton town line to Framingham city line	Ashland	MWRC	3	Ashland	3.1	3	12,000	3.7	2.9	0	No Projects	2	2	2	1	1	8	High	In FFY 2018 MWRC meeting, Route 135 from Hopkinton to Natick was cited as a regional corridor needing Complete Street improvements.
Washington Street	Dedham Street to Cobbs Corner	Canton	TRIC	6	Canton	2.5	3	16,000	3.4	4.0	0	No projects	1	2	2	1	1	7	Medium	Canton requested a study of the downtown section for signal coordination and pedestrian and bicycle safety and mobility improvements (2015 UPWP outreach).
Route 37	Braintree town line to Brockton town line	Holbrook	SSC	5	MassDOT and Holbrook	3.6	3	15,500	3.5	2.2	1	TIP/MassDOT Project 608543: Corridor Improvements and Related Work on South Franklin Street (Route 37) from Snell Street to King Road. The project consists of roadway rehabilitation to provide a consistent cross section, sidewalk reconstruction, ADA compliant curb ramp installation, and drainage upgrades along Route 37 for a length of 0.6 miles. Minor modification to the Route 37/King Road traffic signals is proposed (FFY 2013 Safety and Operations at Intersections). This project is in the preliminary design phase.	2	1	2	1	1	7	Medium	The Town of Holbrook has been in contact with the district and is interested in improvements, particularly multimodal transportation improvements.
Route 117	Weston town line to Route 20	Waltham	ICC	4	Waltham, MassDOT (0.05 mile section to I-95)	1.3	5	17,500	4.2	3.8	1	No projects	2	1	2	2	0	7	Medium	In FFY 2012 UPWP outreach, Waltham proposed this roadway for the Priority Corridor study. Major proposals include widening the bridge over Route 128, connecting Route 2 by extending Green Street, and other critical intersection improvements. In FFY 2016 UPWP outreach, MWRC proposed this corridor as part of a subarea study that includes Route 20 and Route 30 between Waltham and Weston.
Route 38	I-95 Interchange to Wilmington town line	Woburn	NSPC	4	MassDOT, Woburn	1.4	3	19,250	7.5	2.1	3	Conceptual (2013) TIP Arterial and Intersection Project #1449 Route 38 (Main Street) Traffic Lights, consisting of replacing outmoded traffic signal controls for the 12 signalized intersections along Route 38 in Woburn	2	1	2	1	1	7	Medium	NSPC and Woburn requested a study of the I-95 rotary interchange and the traffic signals at Route 38 and Elm Street. The area north of I-95 recently reconstructed by adjacent developments. MassDOT District 4 noted high crash locations at Elm Street and at the I-95 Rotary. While a study may have value, they suggested that a RSA may be a more appropriate way to address these locations.
Route 35	Route 97 in Topsfield to Route 114 (Margin Street) in Peabody	Topsfield (less than 0.05 mi), Danvers, Peabody	NSTF	4	Topsfield (less than 0.05 mile), Danvers, Peabody, MassDOT	6.0	5	17,250	1.9	1.2	1	Advertised TIP #606609 Bridge Replacement, Route 35 (Water Street) over Waters River MassDOT Project #87612 Reconstruction of Two Interchanges on Route 128, with Route 62 and with Route 35; complete Autumn 2012	1	2	2	1	1	7	Medium	NSTF cited this roadway during the UPWP outreach for FFYs 2013 and 2014. Verbal comments were made a MAPC subregion meeting and a letter for the FFY 2014 UPWP was submitted.
Route 114	Salem town line to Route 129 (Ocean Ave)	Marblehead	NSTF	4	Marblehead	1.4	3	16,750	2.3	3.6	0	No projects	1	1	2	2	1	7	Medium	NSTF cited this roadway during the UPWP outreach for FFYs 2013 and 2014. Study should include how to improve bike facilities and bike-to-rail connections in this heavily traveled tourist area and build on the Essex Coastal Scenic Byway to the region.

Roadway	Location	Community	MAPC Subregion	MassDOT District	Jurisdiction	Length (Miles)	Functional Classification*	Average Daily Traffic	Overall Crash Rate (MVMT)	Bike/Ped Crashes Per Mile	HSIP-Eligible Crash Clusters 2013-2015	Study, Project, or TIP Project	Safety Conditions**	Multimodal Significance**	Subregional Priority**	Implementation Potential**	Regional Equity**	Score	Overall Assessment	Summary of Comments
Route 129	Lynn town line to Marblehead town line	Swampscott	NSTF	4	Swampscott, DCR (less than 0.1 mi)	2.5	3	19,000	1.8	4.4	0	TIP 600989: Reconstruct Route 129 (Humphrey Street) from the Lynn town line to Puritan Road. FFYs 2018-22 Pre-TIP. Community Transportation Technical Assistance Program, CTPS and MAPC Study Conceptual TIP project 972: Atlantic Avenue (Route 129) roadway rehabilitation from Puritan Road and Humphrey Street to the Marblehead town line	1	2	2	1	1	7	Medium	NSTF cited this roadway in 2013 as one of the subregion's priority roadways for study in the 2014 UPWP. Segment in downtown Swampscott is a bottleneck for those traveling from Marblehead to Lynn. MassDOT District 4 noted that the intersection of Route 129 and Burrill Street is a high crash location and an RSA could address safety and congestion issues.
Route 135	West Main Street to Ashland town line	Hopkinton	MWRC	3	Hopkinton	2.6	3	13,500	4.0	1.5	1	MassDOT Project 606043 (Signal and Intersection Improvements on Route 135): The project involves intersection improvements at Route 85, Pleasant Street, and Wood Street. Major improvements include signal equipment upgrade and additional lanes at Route 85; possible signalization at Pleasant Street; minor widening, geometric modifications, and equipment upgrades at Wood Street; pavement rehabilitation and drainage improvements from Ash Street to Wood Street; and reconstructed sidewalks and wheelchair ramps, and streetscape enhancements in the town center. The project is currently under design and is programed in 2018-22 TIP.	1	2	2	1	1	7	Medium	In FFY 2018 MWRC meeting, Route 135 from Hopkinton to Natick was cited as a regional corridor needing Complete Street improvements. MassDOT Project 606043 covers a major portion of Route 135 in Hopkinton.
Edgell Road	Route 9 to Water Street in Framingham	Framingham	MWRC	3	Framingham	2.2	5	18,500	4.4	1.4	1	MassDOT Project 608889: Traffic Signal Installation at Edgell Road and Central Street. This project is in the preliminary design phase. Pre-TIP 602038 Edgell Road Corridor Project: Reconstruct pavement and improve signalization at Water Street, Brook Street, Central Street, and Vernon Street (close to Route 9) No projects in MassDOT project database.	1	2	2	1	1	7	Medium	The roadway was first mentioned in FFY 2008 UPWP outreach and cited in FFY 2018 MWRC meeting.
Route 109	Milford town line to Mills town line	Medway	SWAP	3	Medway	4.8	3	15,000	2.7	1.5	1	MassDOT Project 605657: The Route 109 reconstruction project in Medway will focus on roadway improvements in Medway's business district including resurfacing and reconstruction, consolidating curb cuts, sidewalks, signage, street lighting, and aesthetic improvements. Signal upgrade and capacity improvements will be implemented at the intersection of Main, Franklin, Milford, and Highland streets, including widening for turn lanes in the SB and WB approaches. Work also includes adjusting the grade on Main Street west of Winthrop Street for approximately 700 feet. The project is currently under construction.	0	2	2	2	1	7	Medium	In FFY 2018 UPWP outreach, Route 109 is cited as a major subregional travel route to Interstate 95/Route 128. MassDOT Project 605657 covers a significant portion of Route 109 in Medway.
Route 109	Medway town line to Medfield town line	Millis	SWAP	3	Millis	3.8	3	16,000	1.1	0.3	0	No projects	0	2	2	2	1	7	Medium	In FFY 2018 UPWP outreach, Route 109 is cited as a major subregional travel route to I-95/Route 128.
Route 109	Millis town line to Dover town line	Medfield	TRIC	3	Medfield	3.2	3	16,000	2.9	1.6	0	MassDOT Project 601654: Roadway reconstruction including signals on a section of Route 109 (Main Street). The project was completed in the summer 2002. No recent projects.	0	2	2	2	1	7	Medium	In FFY 2018 UPWP outreach, Route 109 is cited as a major subregional travel route to I-95/Route 128.
Concord Avenue	Blanchard Road to Garden Street	Cambridge	ICC	6	Cambridge and DCR (between two rotaries)	1.9	3 and 2 (between two rotaries)	28,000	3.3	12.6	1	TIP Conceptual Project #987 Minuteman Path right-of-way to acquire Watertown branch right-of-way to connect Minuteman Path from Arlington, Cambridge, and Watertown to Dr. Paul Dudley White Bike Path in Boston DCR announced a comprehensive study of the parkway system for bike lanes on December 18, 2014 (a small portion of this segment has DCR jurisdiction).	2	2	1	1	0	6	Medium	Comments in survey response on vision, goals, objectives in FFY 2015 LRTP outreach. For example, "eliminate designation of Concord Avenue as 'unrestricted arterial' street. It's a narrow street with no wiggle room for bicycles when trucks pass." The small DCR portion of this segment is included in the comprehensive DCR study announced December 2014.
Route 38	Woburn town line to Tewksbury town line	Wilmington	NSPC	4	MassDOT	4.0	3	17,500	4.8	3.8	3	Pre-TIP/MassDOT Project 608051: Reconstruction on Route 38 (Main Street), from Route 62 to the Woburn city line. The roadway will consist of two 11-foot lanes, two five-foot bike lanes and a six-foot sidewalk. Turn lanes and upgraded traffic signals will be installed at Route 62; preliminary design phase. Pre-TIP/MassDOT Project 607327: Bridge Replacement, Route 38 (Main Street) over the Boston and Marine Corporation Railroad; preliminary design phase.	2	2	1	0	1	6	Medium	Pre-TIP #608051 has a scope covering half of the segment's length (about 2.2 miles). The project is under design. NSPC cited this roadway during the UPWP outreach for FFYs 2013 and 2014. Both Routes 38 and 62 serve as conduits through Wilmington to I-95 and I-93, and contain congested signalized intersections and traffic and pedestrian safety issues.
Route 129	Swampscott town line to Ocean Ave.	Marblehead	NSTF	4	Marblehead	1.5	3	12,100	2.0	2.0	0	Conceptual TIP Arterial and Intersection Project 972 Atlantic Avenue (Route 129) ends at the location boundary, near Seaview Avenue in Marblehead	0	2	2	1	1	6	Medium	NSTF cited this roadway as one of the subregion's priority roadways for study in the FFY 2013 and FFY 2014 UPWP. High traffic volumes between Marblehead and Lynn are creating bottlenecks in this corridor.
Main Street	Wakefield town line to Central Street	Saugus	ICC	4	Saugus and MassDOT	2.9	3, 5	16,950	3.0	2.1	4	No projects	1	2	1	1	1	6	Medium	In FFY 2012 UPWP outreach, Saugus requested the MPO to consider performing a roadway/sidewalk/traffic light/pedestrian access assessment study, to be called a Main Street/Saugus Center Corridor Study.
Route 2A (King Street)	Route 495 Southbound ramps to Ayer town line	Littleton	MAGIC	3	MassDOT	2.5	3	15,000	1.8	0.4	1	TIP/MassDOT 608443: Intersection Improvements on Route 2A at Willow Road and Bruce Street. The project involves intersection improvements, including geometric modifications, widening, and signalization. Additional improvements involve updated signage and pavement markings. This project is in the preliminary design phase. MassDOT Project 605504: Bridge Betterment, Route 2A (King Street) over I-495; scheduled to complete in 2013.	1	2	2	0	1	6	Medium	Requested by Littleton in 2015.

Roadway	Location	Community	MAPC Subregion	MassDOT District	Jurisdiction	Length (Miles)	Functional Classification*	Average Daily Traffic	Overall Crash Rate (MVMT)	Bike/Ped Crashes Per Mile	HSIP-Eligible Crash Clusters 2013-2015	Study, Project, or TIP Project	Safety Conditions**	Multimodal Significance**	Subregional Priority**	Implementation Potential**	Regional Equity**	Score	Overall Assessment	Summary of Comments
Route 85	Hopkinton town line to Marlborough city line	Southborough	MWRC	3	Southborough	4.3	5	8,000	2.3	0.0	0	MassDOT Project 600573: Roadway reconstruction and related work on Route 135 (East and West Central Street) and Route 27 (North and South Main Street) in Natick. Project completed in spring 2008.	0	2	2	1	1	6	Medium	In FFY 2018 MWRC meeting, Route 85 (Cordaville Road) was cited as a corridor needing improvements.
Route 140	Mendon town line to Franklin town line	Bellingham	SWAP	3	MassDOT	2.6	3	10,000	4.8	1.9	0	No Projects	1	2	1	1	1	6	Medium	In FFY 2018 SWAP post-meeting survey, Bellingham proposed Route 140 (Mechanic Street) from Maple Street to Route 126 for complete Street study.
Route 133	Route 127 in Gloucester to Route 1A in Ipswich	Essex, Gloucester, Ipswich	NSTF	4	MassDOT, Essex	11.0	5, 6	10,500	0.7	0.1	0	TIP/MassDOT 605743: Resurfacing and Related Work on Central and South Main Streets. In Ipswich, the project will reconstruct the roadway between Mineral Street and Poplar Street (3,200 feet) to improve the roadway surface. Geometric improvements at intersections and pedestrian crossings will be included. The drainage system is undersized and will be upgraded. 25% design received (04/30/2018). FFYs 2019-23 Pre-TIP. TIP/MassDOT 608596: Superstructure Replacement, E-11-001 (2TV), Route 133 (Main Street) over Essex River Bridge. This project is in the preliminary design phase. FFYs 2018-22 TIP Programmed. MassDOT Project 602146: Resurfacing and Related Work on a Section of Route 133 (Essex Road). The project includes pedestrian improvements from the intersection of Route 1A to the Essex town line, a distance of approximately two miles; completed spring 2011. MassDOT Project 600217: Reconstruction of Route 133 (Main Street) from North of Western Avenue to Waters Street in Essex (about one mile). It includes concrete sidewalks and pavement markings; completed autumn 2013.	0	2	1	1	1	5	Low	MassDOT Project 602146 covers all of the Ipswich portion of the segment, and 600217 covers some of the Essex portion. This roadway was cited in the 2013 UPWP outreach. A two-mile section in the Essex downtown area was reconstructed in summer 2011.
Route 97	Route 1A in Beverly to Topsfield/Boxford town line	Beverly, Wenham, Topsfield	NSTF	4	Beverly, Wenham, Topsfield	8.9	5	15,000	0.8	0.3	2	MassDOT Project 604028: Intersection Improvements on Route 97 (Topsfield Road) at Cherry and Maple Streets; completed 2009. Pre-TIP Project 605020: Border (New Hampshire) to Boston Bikeway intersects Route 97 in Wenham. MassDOT Project 600596: Signal Upgrade of Newburyport Turnpike (Route 1) at High Street (Route 97); completed 2008.	0	2	1	1	1	5	Low	NSTF proposed to study this segment in conjunction with the Route 97 corridor in Boxford, Georgetown, and Haverhill (Merrimack Valley Planning Commission). This may have implementation challenges. Segment mentioned in Fall 2014 LRTP Outreach and Fall 2012 via public comment and a letter for the FFY 2014 UPWP Universe.

Notes:

*** Functional Classification:**

2 = principal arterial; 3 = rural minor arterial or urban principal arterial; 5 = urban minor arterial or rural major collector; 6 = urban collector or rural minor collector

**** Selection Criteria:**

Safety Conditions: Location has a high crash rate for its functional class or contains areas with a high number of crashes or with a significant number of pedestrian/bicycle crashes.

Multimodal Significance: Location supports transit, bicycle, or pedestrian activity, has significant potential to enhance these activities, or has a heavy vehicle (truck/bus) issue.

Subregional Priority: Location carries a significant proportion of subregional vehicle, bicycle, or pedestrian traffic or is essential for its subregional economic, cultural, or recreational development.

Implementation Potential: Location is proposed or endorsed by the subregion, by the roadway administrative agency (agencies), or has strong support from all of its stakeholders.

Regional Equity: Location is situated in a subregion that has not been selected for this study in the past two years.

Acronyms

ADA = Americans with Disabilities Act. CTPS = Central Transportation Planning Staff. DCR = Department of Conservation and Recreation. FFY = Federal fiscal year. 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. MVMT = Million vehicle miles traveled. MWRC = MetroWest Regional Collaborative. MPO = Boston Region Metropolitan Planning Organization. NSPC = North Suburban Planning Council. NSTF = North Shore Task Force. RSA = Road Safety Audit. SB = Southbound. SSC = South Shore Coalition. SWAP = South West Advisory Planning Committee. TIP = Transportation Improvement Program. TRIC = Three Rivers Interlocal Council. UPWP = Unified Planning Work Program. WB = Westbound.

Source: Central Transportation Planning Staff.

APPENDIX A

Pedestrian Report Card Assessment

1. Route 9 from Newton town line to Boston city line in Brookline
2. Route 109 from Walpole town line to Interstate 95 in Westwood
3. Route 135 from Hopkinton town line to Framingham city line in Ashland

Route 9 from Newton town line to Boston city line

Performance Measure Scores

Performance Measure	Features	Goal	Weight	Unweighted Score	Weighted Score
Sidewalk Presence	Sidewalks are present on both sides of the roadway in most locations and on one side in some locations.	Capacity Management and Mobility	3	2	6
Crossing Opportunities	21 crosswalks in 2.9 miles = 7 crosswalks per mile	Capacity Management and Mobility	2	1	2
Walkway Width	Most sidewalks are at least 5 feet wide on both sides of the roadways	Capacity Management and Mobility	1	2	2
Pedestrian Volumes	Estimated 60 or more pedestrians at several intersections	Economic Vitality	1	3	3
Adjacent Bicycle Accommodations	Wide shoulders present in most of corridor	Economic Vitality	1	2	2
Pedestrian Crashes	No HISP pedestrian clusters	Safety	3	3	9
Average Vehicle Travel Speeds	Posted speeds of 35 mph and 40 mph	Safety	1	1	1
Vehicle-Pedestrian Buffer	No buffer in many locations	Safety	1	1	1
Sidewalk Condition	Fair	System Preservation	1	2	2
Transportation Equity Factor	Two out of four factors (four schools nearby, large presence of senior citizens)	N/A	N/A		

The weighted scores of all the performance measures within the same category are averaged and given a grade of poor, fair, or good based on the average weighted category score. The average weighted scores are classified as follows:

- Good – Score is 2.3 or more (maximum 3.0).
- Fair – Score is between 1.7 and 2.3.
- Poor – Score is 1.7 or less (maximum 0).

Pedestrian Report Card Assessment

Goal	Weight Points	Weighted Score	Final Score	Rating
Capacity Management and Mobility	6	10	1.7	Poor
Economic Vitality	2	5	2.5	Good
Safety	5	11	2.2	Fair
System Preservation	1	2	2.0	Fair

Route 109 from Walpole town line to Interstate 95 in Westwood

Performance Measure Scores

Performance Measure	Features	Goal	Weight	Unweighted Score	Weighted Score
Sidewalk Presence	Sidewalks are present on one side of the street at most locations and on both sides at some locations	Capacity Management and Mobility	3	2	6
Crossing Opportunities	Total 12 crosswalks in 3.9 miles = 3.1 crosswalks per mile	Capacity Management and Mobility	2	1	2
Walkway Width	4-foot sidewalks	Capacity Management and Mobility	1	1	1
Pedestrian Volumes	Estimated 60 or more pedestrians per hour in Downtown Westwood	Economic Vitality	1	3	3
Adjacent Bicycle Accommodations	None	Economic Vitality	1	1	1
Pedestrian Crashes	No HSIP pedestrian clusters	Safety	3	3	9
Average Vehicle Travel Speeds	40 mph	Safety	1	1	1
Vehicle-Pedestrian Buffer	4-foot buffer	Safety	1	1	1
Sidewalk Condition	Sidewalks are not in fair condition in some sections	System Preservation	1	1	1
Transportation Equity Factor	Two out of four factors (schools nearby, large presence of senior citizens)	N/A	N/A		

The weighted scores of all the performance measures within the same category are averaged and given a grade of poor, fair, or good based on the average weighted category score. The average weighted scores are classified as follows:

- Good – Score is 2.3 or more (maximum 3.0).
- Fair – Score is between 1.7 and 2.3.
- Poor – Score is 1.7 or less (maximum 0).

Pedestrian Report Card Assessment

Goal	Weight Points	Weighted Score	Final Score	Rating
Capacity Management and Mobility	6	9	1.5	Poor
Economic Vitality	2	4	2.0	Fair
Safety	5	11	2.2	Fair
System Preservation	1	1	1.0	Poor

Route 135 from Hopkinton town line to Framingham city line in Ashland

Performance Measure Scores

Performance Measure	Features	Goal	Weight	Unweighted Score	Weighted Score
Sidewalk Presence	Sidewalks are missing on one side in many parts of the corridor	Capacity Management and Mobility	3	2	6
Crossing Opportunities	10 crosswalks in 3.0 miles = 4 crosswalks per mile	Capacity Management and Mobility	2	1	2
Walkway Width	Most sidewalks are at least 6 feet where present	Capacity Management and Mobility	1	3	3
Pedestrian Volumes	Estimated 60 or more pedestrians at several intersections	Economic Vitality	1	3	3
Adjacent Bicycle Accommodations	Shoulders mostly shorter than 5 feet and no sharrows	Economic Vitality	1	1	1
Pedestrian Crashes	No HISP pedestrian clusters	Safety	3	3	9
Average Vehicle Travel Speeds	Posted speeds of 35 mph	Safety	1	1	1
Vehicle-Pedestrian Buffer	Grass buffer in many locations, others have no buffer	Safety	1	2	2
Sidewalk Condition	Some sidewalk sunken or in poor repair	System Preservation	1	2	2
Transportation Equity Factor	One out of four factors present (four schools nearby)	N/A	N/A		

The weighted scores of all the performance measures within the same category are averaged and given a grade of poor, fair, or good based on the average weighted category score. The average weighted scores are classified as follows:

- Good – Score is 2.3 or more (maximum 3.0).
- Fair – Score is between 1.7 and 2.3.
- Poor – Score is 1.7 or less (maximum 0).

Pedestrian Report Card Assessment

Goal	Weight Points	Weighted Score	Final Score	Rating
Capacity Management and Mobility	6	11	1.8	Fair
Economic Vitality	2	4	2.0	Fair
Safety	5	12	2.4	Good
System Preservation	1	2	2.0	Fair

APPENDIX B
Support Letter



TOWN of BROOKLINE

Massachusetts

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July 19, 2018

Mark Abbot
Manager, Traffic Analysis and Design Group
Metropolitan Planning Organization
Central Transportation Planning Staff
State Transportation Building
10 Park Plaza, Suite 2150
Boston, MA 02116

Re: CTPS Priority Corridor Study of Route 9 in Brookline, Massachusetts

Dear Mr. Abbot:

We are writing on behalf of the Town of Brookline to express enthusiastic support for the Town's proposal to include State Route 9 as a Priority Corridor for study by the Metropolitan Planning Organization's Central Transportation Planning Staff (CTPS) during federal fiscal year 2018. We understand that staff from the Brookline Department of Planning and Community Development met with you on Thursday, July 12th to discuss the Priority Corridor program and we are eager to work with CTPS and MassDOT on this exciting opportunity to reimagine one of Brookline's key transportation corridors.

Today, Route 9 serves as a crucial link between Brookline, the western suburbs, and the City of Boston. However, as currently configured the roadway is not a safe or hospitable environment for non-motorists and is not designed to adequately support the range of land uses surrounding it. The Town has committed significant resources to studying the corridor and to seeking community input regarding its future, including the 2005 Comprehensive Plan, 2015 MIT study Bringing Back Boylston, and 2018 Metropolitan Area Planning Council's study Perspectives and Opportunities for Brookline's Commercial Areas. Building on this input and in response to increasing development pressure, we are currently in the early stages of implementing zoning and other infrastructure improvements along the corridor to achieve a variety of policy goals related to economic development, housing, and open space. We intend for this process to include work with our partners at the State to implement upgrades to Route 9 so that its design and configuration accord with the community's vision, while serving a broader range of users as efficiently and safely as possible.

The support and expertise of CTPS is crucial at this stage for us to initiate and carry forward momentum on this priority project. We thank you in advance for your consideration. Please do not hesitate to contact us with any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Neil Wishinsky". The signature is fluid and cursive, with a long, sweeping tail on the final letter.

Neil Wishinsky, Chair
Brookline Select Board

A handwritten signature in blue ink, appearing to read "Melvin Kleckner". The signature is cursive and somewhat stylized, with a prominent initial letter.

Melvin Kleckner
Town Administrator