



# BOSTON REGION METROPOLITAN PLANNING ORGANIZATION

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

## *TECHNICAL MEMORANDUM*

**DATE:** January 18, 2018  
**TO:** Boston Region Metropolitan Planning Organization (MPO)  
**FROM:** Chen-Yuan Wang  
**RE:** FFY 2018 Addressing Safety, Mobility, and Access on Subregional Priority Roadways: Selection of Study Location

### 1 BACKGROUND

During the MPO's 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, this study was included in the UPWP for federal fiscal year (FFY) 2018,<sup>1</sup> and a work program was approved on October 19, 2017. The purpose of this study is to identify roadway segments in the MPO region that are of concern to subregional groups but that have not been identified in the LRTP regional needs assessment.<sup>2</sup>

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 and pedestrian 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.

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<sup>1</sup> Unified Planning Work Program, Federal Fiscal Year 2018, endorsed by the Boston Region Metropolitan Planning Organization on June 15, 2017.

<sup>2</sup> Work Program for Addressing Priority Corridors from the Long-Range Transportation Plan Needs Assessment: Federal Fiscal Year 2018, approved by the Boston Region MPO on October 19, 2017.

## 2 SELECTION PROCEDURE

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

### 2.1 Identifying Potential Roadways

MPO staff identified potential study roadways through various means, including:

- Soliciting suggestions for study locations during recent outreach for developing the MPO's FFY 2017 UPWP
- Reviewing meeting records from the UPWP outreach process for the past six years (2012–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 (CMP) program, and identifying those with delay or safety concerns
- Contacting subregions, the Massachusetts Department of Transportation (MassDOT) Highway Division district offices, and municipalities for further information about some of the potential study roadways

MPO staff then assembled detailed data for these roadways, including:

- MassDOT 2014 Road Inventory File—used to assemble roadway jurisdiction, average daily traffic (ADT), sidewalk width, shoulders, and other geometric information
- MassDOT 2010–2014 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
- MBTA bus route, subway line and commuter data—used to identify segments serving MBTA stations
- Data from MassDOT's project-information database, the MPO's 2018–2022 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 25 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,<sup>3</sup> 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 by applying five criteria: safety conditions, multimodal significance, subregional priority, implementation potential, and regional equity per the scoring system below.

- *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
  - 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

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<sup>3</sup> 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 ten 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.

- *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 less 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 25 potential locations, MPO staff identified three as high priority:

1. Route 60, Main Street, and major roadways in the vicinity of Medford Square
2. Route 109 from Walpole town line to Interstate 95 in Westwood
3. Route 129 from Washington Street to Swampscott town line in Lynn

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.<sup>4</sup> All three locations highly qualify for pedestrian accommodation or safety improvement requirements. Appendix A contains detailed results of the assessments.

## 3 SELECTED SUBREGIONAL ROADWAY: ROUTE 60, MAIN STREET, AND MAJOR ROADWAYS IN THE VICINITY OF MEDFORD SQUARE

MPO staff recommend the major roadways in the vicinity of Medford Square for this study cycle, based on the following considerations:

- The area has greater safety and congestion concerns than the other two highly rated locations.
- It includes one of the Commonwealth's top-five pedestrian crash clusters (2005–14 MassDOT crash data), and several HSIP-eligible crash clusters.
- It needs to be examined for pedestrian and bicycle accommodation and safety and operational improvements.
- The study site has strong support from all stakeholders, including representatives and officers from Medford (see Appendix B) and MassDOT District 4.

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

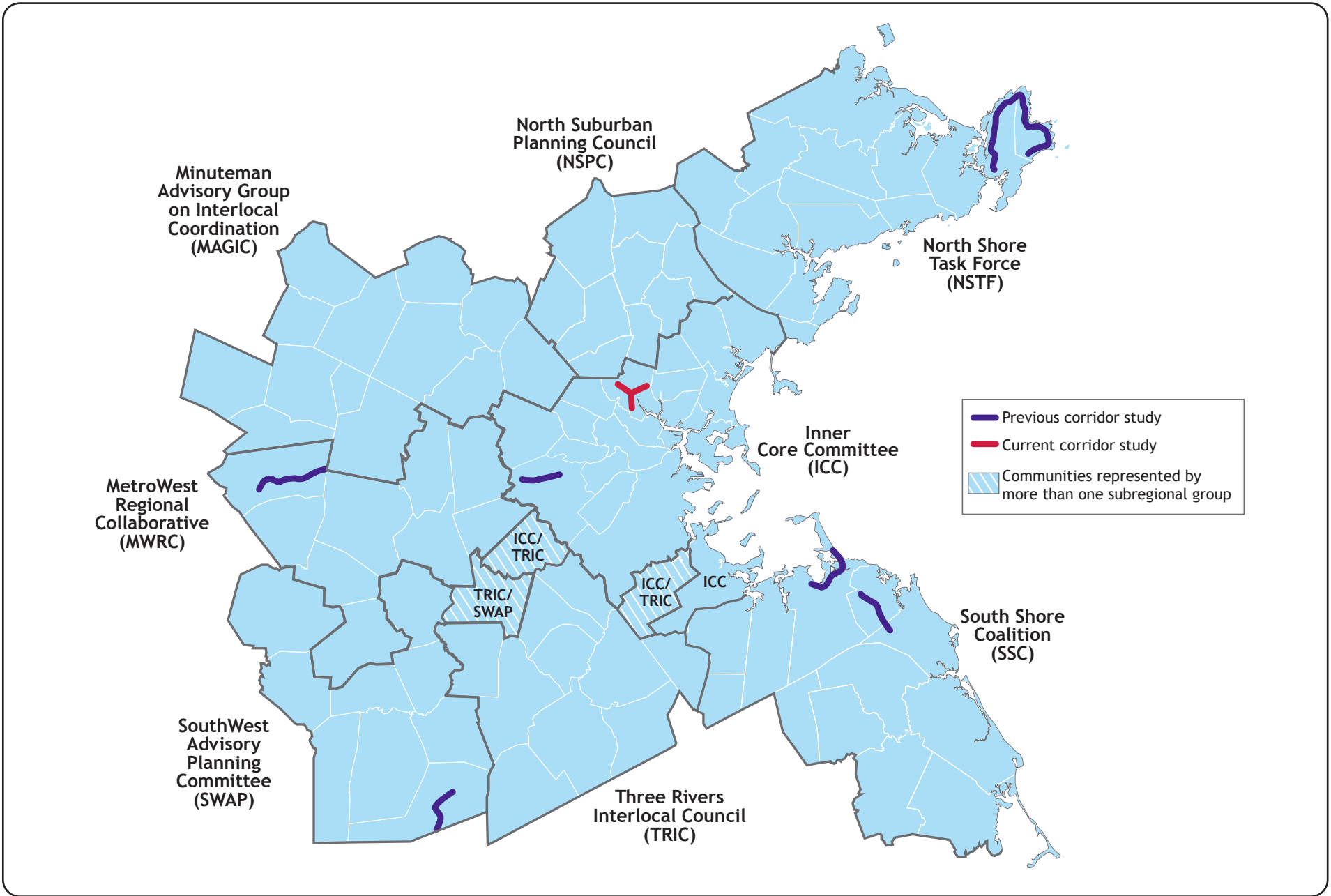
Figure 1 shows the locations of this study and the previously studied corridors in the region. The selected roadways are about 2.4 miles in total length. They all are classified as urban major and minor arterials. These roadways carry regional and local traffic, pedestrians, cyclists, and several MBTA bus lines. The study area also includes a popular multi-use path, Mystic River Reservation Bike Path. The City of Medford and MPAC recently completed a comprehensive plan for the area: Medford Square Mast Plan. This study would support that plan's goals by analyzing existing transportation conditions and potential improvements. More significantly, it would support enhancement of subregional transportation safety and mobility.

#### 4 SUMMARY

The selected roadways in the vicinity of Medford Square meet 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 Medford, MassDOT, and MAPC to discuss the study specifics, conduct field visits, collect data, and perform various analyses.

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**FIGURE 1**  
**Study Locations**

**TABLE 1  
Roadway Segments Considered for Study (Selected Segment is Highlighted in Blue)  
Subregional Priority Roadways Study**

Roadway	Location	Community	MAPC Subregion	MassDOT District	Jurisdiction	Length (Miles)	Functional Classification	Average Daily Traffic	Overall Crash Rate (MVT)	Bike/Ped Crashes Per Mile	Top 200 High-Crash Locations 2012-2014	HSIP-Eligible Crash Clusters 2012-2014	Study, Project, or TIP Project	Safety Conditions	Multimodal Significance	Subregional Priority	Implementation Potential	Regional Equity	Score	Overall Assessment	Summary of Comments
Route 60, Main Street, and major roadways in the vicinity of Medford Square	Medford Square	Medford	ICC	4	Medford, Massachusetts Department of Conservation and Recreation	2.4	3, 5	15,000	7.4	8.8	0	6	Medford Square Master Plan, City of Medford and Metropolitan Area Planning Council (MAPC). MassDOT Project 604716, Cradock Bridge Rehabilitation of Route 38 (Main Street) over Mystic River: the project consists of construction to replace the approach roadways, sidewalks, and most of the existing bridge structure, with the original stone masonry arch bridge spans to remain. It's under construction and expected to complete in Autumn 2018.	2	2	2	3	1	10	High	City of Medford and MAPC recently suggested that the major roadways in and around Medford Square as a study location for this FFY 2018 program. The study of traffic circulation, transportation conditions, and potential improvements would support the goals of the Medford Square Master Plan and enhance the subregional transportation safety and mobility.
Route 109	Walpole town line to Interstate 95	Westwood	ICC	6	Westwood	4.1	3	16,500	4.4	1.7	0	2	MassDOT Project 601315: Reconstruction of Route 109 (High Street) from Grove Street to Hartford Street. The project proposes to reconstruct High Street utilizing full depth reconstruction, including sidewalks, walls, drainage, curbing, signs, pavement markings, and new traffic signals are installed at Hartford Street, Gay Street, Windsor Road/Public Library Entrance and Summer Street. Construction ended in Spring 2008.	1	2	2	2	1	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 129	Washington Street to Swampscott town line	Lynn	ICC	4	Lynn	1.2	3	24,200	7.7	26.7	0	3	No projects	2	2	2	1	1	8	High	The North Shore Task Force 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.
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	3.7	14.2	0	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	1	7	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.
Washington Street	Dedham Street to Cobbs Corner	Canton	TRIC	6	Canton	2.5	3	16,000	3.5	4.8	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 228	In the vicinity of Route 3 as it crosses Norwell, Hingham, and Rockland	Hingham, Norwell, Rockland	SSC	5	MassDOT, Rockland, Norwell, Hingham	2.5	5	21,800	6.1	4.0	0	1	Conceptual TIP project #968 VFW Drive, Weymouth Street, Hingham Street (full-depth reconstruction) includes the southern half of the segment MassDOT Project #603414 Bridge Rehabilitation, Derby Street (Route 228) over Route 3 NB and SB; completed in summer 2015. MassDOT #604391 Reconstruction and Improvements on Route 228, from Queen Anne's Corner (Route 53) to Merymount Road (Phase II); completed in spring 2010.	2	2	1	1	1	7	Medium	Conceptual TIP project #968 includes half the segment in its scope. SSC cited this roadway during the UPWP outreach for FFYs 2013 and 2014 via a formal letter and verbal comments at MAPC subregion meeting.
Route 27	Upland Road (near Pine Grove Avenue) to Massapoag Brook (between Canton Street and Gabriel Road)	Sharon	TRIC	5	Sharon	1.7	3	13,900	2.4	2.9	0	0	No projects	1	1	2	2	1	7	Medium	TRIC cited this roadway in the UPWP FFY 2012 outreach.
Route 117	Weston town line to Route 20	Waltham	ICC	4	Waltham, MassDOT (0.05 mile section at Interstate 95)	1.3	5	17,500	3.3	4.6	0	0	No projects	1	2	2	1	1	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, MetroWest proposed this corridor as part of a subarea study that includes Route 20 and Route 30 between Waltham and Weston.
Route 38	Woburn town line to Tewksbury town line	Wilmington	NSPC	4	MassDOT	4.0	3	17,500	5.2	5.3	0	5	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	1	1	7	Medium	Pre-TIP #608051 has a scope covering half of the segment's length. 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.

Roadway	Location	Community	MAPC Subregion	MassDOT District	Jurisdiction	Length (Miles)	Functional Classification	Average Daily Traffic	Overall Crash Rate (MVT)	Bike/Ped Crashes Per Mile	Top 200 High-Crash Locations 2012-2014	HSP-Eligible Crash Clusters 2012-2014	Study, Project, or TIP Project	Safety Conditions	Multimodal Significance	Subregional Priority	Implementation Potential	Regional Equity	Score	Overall Assessment	Summary of Comments
Route 35	Route 97 in Topsfield to Route 114 (Margin St.) in Peabody	Topsfield (less than 0.05 mi), Danvers, Peabody	NSTF	4	Topsfield (less than 0.05 mi), Danvers, Peabody, MassDOT	6.0	5	17,250	2.4	1.8	0	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 129	Swampscott town line to Ocean Ave.	Marblehead	NSTF	4	Marblehead	1.5	3	12,100	2.2	2.7	0	0	No projects Conceptual TIP Arterial and Intersection Project 972 Atlantic Avenue (Route 129) ends at the location boundary, near Seaview Avenue in Marblehead	1	2	2	1	1	7	Medium	The North Shore Task Force (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.
Route 127	Route 133 in Gloucester to Route 127A in Rockport	Gloucester, Rockport	NSTF	4	MassDOT, Gloucester, Rockport	4.7	3, 5	16,950	1.7	1.7	0	1	No projects	1	2	2	1	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.
Route 38	I-95 Interchange to Wilmington town line	Woburn	NSPC	4	MassDOT, Woburn	1.4	3	19,250	6.9	3.6	0	2	Conceptual (2013) TIP Arterial and Intersection Project #1449 Route 38 (Main Street) Traffic Lights, consisting of replacing outmoded traffic signal controls for the twelve 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 developer. MassDOT District 4 notes high crash locations at Elm Street and at the I-95 Rotary. While a study may have value, they suggested that a Road Safety Audit (RSA) may be a more appropriate way to address these locations.
Route 114	Salem town line to Route 129 (Ocean Ave)	Marblehead	NSTF	4	Marblehead	1.4	3	16,750	2.7	6.4	0	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.
Route 129	Lynn town line to Marblehead town line	Swampscott	NSTF	4	Swampscott, DCR (less than 0.1 mi)	2.5	3	19,000	1.9	5.2	0	0	Community Transportation Technical Assistance Program, CTPS and MAPC Study Conceptual TIP project 972: Atlantic Avenue (Route 129), roadway rehabilitation from Puritan and Humphrey to the Marblehead town line	1	2	2	1	1	7	Medium	Part of the segment falls under a conceptual TIP project. NSTF cited this roadway in 2012 as one of the subregion's priority roadways for study in the FFY 2013 and 2014 UPWP. Segment in downtown Swampscott is a bottleneck for those traveling from Marblehead to Lynn. MassDOT District 4 notes that the intersection of Route 129 and Burrill Street is a high crash location and an RSA could address safety and congestion issues.
Route 109	Millis town line to Dover town line	Medfield	TRIC	3	Medfield	3.2	3	16,000	3.0	1.9	0	0	MassDOT Project 601654: Roadway reconstruction including signals on a section of Route 109 (Main Street). The project is in the preliminary design phase.	0	2	2	2	1	7	Medium	In FFY 2016 UPWP outreach, Medfield cited Route 109 as a major commute route to Interstate 95 that puts strain on the adjacent communities.
Edgell Road	Route 9 to Water Street in Framingham	Framingham	MetroWest	3	Framingham	2.2	5	18,500	3.5	1.8	0	0	Pre-TIP 602038 Edgell Road Corridor Project: Reconstruct pavement and improve signalization at Water St, Brook St, Central St, and Vernon St (close to Route 9) No projects in MassDOT project database.	1	2	2	2	0	7	Medium	The roadway was first mentioned in FFY 2008 UPWP outreach and cited in the MetroWest Working Group Meeting in 2016.
Route 37	Braintree town line to Brockton town line	Holbrook	SSC	5	MassDOT and Holbrook	3.6	3	15,500	5.1	3.9	1	2	FFY 2013 Safety and Operations at Intersections Conceptual TIP #1044 Intersection improvements at South Franklin Street and King Road	2	1	2	1	1	7	Medium	Not suitable for selection since the SSC subregion is already well-represented by past Subregional Priority Roadways projects. The Town of Holbrook has been in contact with the district and is interested in improvements, particularly multimodal transportation improvements.
Main Street	Wakefield town line to Central Street	Saugus	ICC	4	Saugus and MassDOT	2.9	3, 5	16,950	2.6	2.1	0	1	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 3A	Burlington Mall Road to Francis Wyman Road (Route 62)	Burlington	NSPC	4	MassDOT	3.8	3	23,100	2.5	1.1	0	2	TIP Programmed/MassDOT Project 608068: Adaptive Traffic Control Signal System on Cambridge Street (Route 3A), Middlesex Turnpike Road, and Burlington Mall Road. 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.	1	2	1	1	1	6	Medium	MPO staff identified this roadway segment. MassDOT District 4 expressed interest in examining the inconsistent roadway cross-sections and the potential for pedestrian and bicycle accommodations in 2015. It's now considered low priority as Project 608068 advanced in 2016.



Roadway	Location	Community	MAPC Subregion	MassDOT District	Jurisdiction	Length (Miles)	Functional Classification	Average Daily Traffic	Overall Crash Rate (MVT)	Bike/Ped Crashes Per Mile	Top 200 High-Crash Locations 2012-2014	HSIP-Eligible Crash Clusters 2012-2014	Study, Project, or TIP Project	Safety Conditions	Multimodal Significance	Subregional Priority	Implementation Potential	Regional Equity	Score	Overall Assessment	Summary of Comments
Route 127	Route 1A in Beverly to Route 133 in Gloucester	Beverly, Manchester-by-the-Sea, Gloucester	NSTF	4	MassDOT, Manchester, Beverly	13.6	5, 6	4,850	1.8	0.9	0	1	Advertised TIP project 607441: Safe Routes to School includes about 0.10 mi of Route 127 near Lincoln Street in Manchester; construction is underway. MassDOT Project #607707 Resurfacing and Related Work on Route 127; preliminary design phase (last updates from 2013). Advertised (2013) TIP Project 600220 in construction on Route 1A in Beverly terminates near the intersection with Route 127.	0	2	2	1	1	6	Medium	MassDOT Project #607707, which is currently in the preliminary design phase, covers two-thirds of the segment in scope. 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.
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	0	1	MassDOT Project #604028 Intersection Improvements on Route 97 (Topsfield Road) at Cherry and Maple Streets; complete 2009. Pre-TIP Project 605020: Border (New Hampshire) to Boston Bikeway intersects Route 97 in Wenham.	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.
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	0.2	0	0	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; complete 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; complete 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 is the last of three sections proposed for study by Essex National Heritage Commission. It was cited in the 2013 UPWP outreach. A two-mile section in the Essex downtown area was recently reconstructed (summer 2011).
Route 2A/King Street	Route 495 Southbound ramps to Ayer town line	Littleton	MAGIC	3	MassDOT	2.5	3	15,000	1.5	0.4	0	0	MassDOT Project 605504: Bridge Betterment, Route 2A (King Street) over I-495; scheduled to complete in 2013.	0	2	2	0	1	5	Low	Requested by Littleton in 2015.

**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 and Abbreviations**

AADT = Annual average daily traffic. ADA = Americans with Disabilities Act. ADT = Average daily traffic. BAT = Brockton Area Transit Authority. CTPS = Central Transportation Planning Staff. DCR = Department of Conservation and Recreation. DEIR = Draft Environmental Impact Report. EJ = Environmental justice. ENHC = Essex National Heritage Commission. EPDO = Equivalent property damage only. 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. MVT = Million vehicle miles traveled. MetroWest = MetroWest Regional Collaborative. MPO = Boston Region Metropolitan Planning Organization. MWRTA = MetroWest Regional Transit Authority. NSPC = North Suburban Planning Council. NSTF = North Shore Task Force. RSA = Road safety audit. RTA = Regional transit authority. SSC = South Shore Coalition. SWAP = South West Advisory Planning Committee. TIP = Transportation Improvement Program. TRIC = Three Rivers Interlocal Council. UPWP = Unified Planning Work Program.

Source: Central Transportation Planning Staff.

## **APPENDIX A**

### **Pedestrian Report Card Assessment**

1. Route 60, Main Street, and major roadways in the vicinity of Medford Square
2. Route 109, from Walpole town line to Interstate 95 in Westwood
3. Route 129, from Washington Street to Swampscott town line in Lynn

## Route 60, Main Street, and Major Roadways in the Vicinity of Medford Square

### Performance Measure Scores

Performance Measure	Features	Goal	Weight	Unweighted Score	Weighted Score
Sidewalk Presence	Sidewalks are present on all the roadways	Capacity Management and Mobility	3	3	9
Crossing Opportunities	About 40 crosswalks in 2.4 miles = 16 crosswalks per mile	Capacity Management and Mobility	2	3	6
Walkway Width	Most sidewalks are at least 5 feet wide on both sides of the roadways	Capacity Management and Mobility	1	1	1
Pedestrian Volumes	Estimated 60 or more pedestrians at several intersections	Economic Vitality	1	3	3
Adjacent Bicycle Accommodations	None	Economic Vitality	1	1	1
Pedestrian Crashes	One HSIP pedestrian cluster	Safety	3	1	3
Average Vehicle Travel Speeds	35 mph	Safety	1	1	1
Vehicle-Pedestrian Buffer	Average about 5' buffers	Safety	1	1	1
Sidewalk Condition	Fair	System Preservation	1	2	2
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	16	2.7	Good
Economic Vitality	2	4	2.0	Fair
Safety	5	5	1.0	Poor
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' wide 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' 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 129 from Washington Street to Swampscott town line in Lynn

### Performance Measure Scores

Performance Measure	Features	Goal	Weight	Unweighted Score	Weighted Score
Sidewalk Presence	Sidewalks are present on both sides of the street.	Capacity Management and Mobility	3	3	9
Crossing Opportunities	Total 17 crosswalks in 1.2 miles = 14.2 crosswalks per mile	Capacity Management and Mobility	2	3	6
Walkway Width	6' wide sidewalks	Capacity Management and Mobility	1	3	3
Pedestrian Volumes	Estimated 60 or more pedestrians per hour in the area	Economic Vitality	1	3	3
Adjacent Bicycle Accommodations	None	Economic Vitality	1	1	1
Pedestrian Crashes	One HSIP pedestrian cluster covering about a quarter of the corridor	Safety	3	1	3
Average Vehicle Travel Speeds	40 mph	Safety	1	1	1
Vehicle-Pedestrian Buffer	2' or less	Safety	1	1	1
Sidewalk Condition	Sidewalks generally are in good condition.	System Preservation	1	3	3
Transportation Equity Factor	Four factors (schools nearby, Environmental Justice area, high presence of senior citizens, and large presence of careless households)	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	18	3.0	Good
Economic Vitality	2	4	2.0	Fair
Safety	5	5	1.0	Poor
System Preservation	1	3	3.0	Good

**APPENDIX B**  
**Support Letters**



# City of Medford

OFFICE OF THE MAYOR

City Hall - Room 202  
Medford, Massachusetts 02155  
Telephone (781) 393-2408

FAX: (781) 393-2514  
TDD: (781) 393-2516

STEPHANIE MUCCINI BURKE  
MAYOR

September 26, 2017

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

RE: Priority Roadways Study Program, Medford Square, City of Medford

Dear Mr. Abbott,

The City of Medford formally requests that the Central Transportation Planning Staff (CTPS) include Medford Square in the Priority Roadways Study Program (PRSP) undertaken for sub regional Safety and Mobility Improvements.

The City of Medford is currently concluding a master planning process for its Central Business District, Medford Square. This process has been conducted by the Metropolitan Area Planning Council (MAPC), in partnership with City of Medford staff.

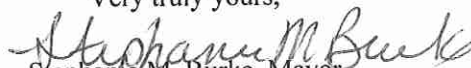
The Medford Square study area has been identified for comprehensive planning purposes. The study area is bounded by Columbia Road to the south, near the intersection of Main Street and Mystic Avenue, and Salem and High Streets to the north. The study area should also include the I-93 Salem Street rotary setting the eastern boundary and the intersection of Winthrop Street and Mystic Valley Parkway (State Route 16) setting the western boundary. MAPC has recommended that this area would greatly benefit from a comprehensive evaluation of traffic flow and patterns by CTPS.

The analysis and understanding of the circulation within this area is key to moving forward with the transportation component of the Medford Square Master Plan. I have discussed this matter with Secretary Pollack and she is in support of the study.

Medford is requesting the inclusion of this study area in the PRSP as we are interested in exploring approaches to increase the continuity of Medford Square's street grid with the goal of improving circulation and walkability in our downtown.

If you have any questions please contact Lauren DiLorenzo, Director of the Office of Community Development at (781) 393-2480 or [ldilorenzo@medford-ma.gov](mailto:ldilorenzo@medford-ma.gov).

Very truly yours,

  
Stephanie M. Burke, Mayor



RICHARD F. CARAVIELLO  
City Councillor

# City of Medford

OFFICE OF THE CITY COUNCIL

City Hall

85 George P. Hassett Drive  
Medford, Massachusetts 02155

Residence  
74 Prescott Street  
Medford, MA 02155  
781-396-3022  
rickcaraviello@gmail.com

September 26, 2017

Mr. Mark Abbott, Manager  
Traffic Analysis and Design  
Metropolitan Planning Organization  
Central Transportation Planning Staff  
10 park Plaza, Suite 2150  
Boston, MA 02116

Re: Priority Roadways Study Program, Medford Square, Medford, Massachusetts

Dear Mr. Abbott:

As President of the Medford City Council, I am writing to support Mayor Stephanie Burke's request that the Metropolitan Planning Organization's Central Transportation Planning Staff complete a traffic analysis of Medford Square, as part of its Priority Roadways Study Program (PRSP).

Traffic congestion and pedestrian safety have long been serious issues in Medford Square and have had a detrimental impact of economic vitality and quality of life in the area. Working with the City, the Metropolitan Area Planning Council has recently completed a Draft Master Plan for the Square and recommended that this area will greatly benefit from a comprehensive evaluation of traffic flow and patterns by CTPS. The analysis and understanding of the circulation within this area is key to moving forward with the transportation component of the Medford Square Master Plan. Creating a more efficient street network in this central location will benefit users of all modes of travel and encourage revitalization of the downtown core.

I respectfully request that you give the City's application every appropriate consideration.

Very truly yours,





*The Commonwealth of Massachusetts*

HOUSE OF REPRESENTATIVES  
STATE HOUSE, BOSTON 02133-1054

**CHRISTINE P. BARBER**  
STATE REPRESENTATIVE  
34th MIDDLESEX DISTRICT  
SOMERVILLE AND MEDFORD

Committees:  
Financial Services  
Housing  
Labor and Workforce Development  
Environment, Natural Resources  
and Agriculture

STATE HOUSE, ROOM 473F  
TEL. (617) 722-2210  
Christine.Barber@MAhouse.gov

October 3, 2017

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

Dear Mr. Abbott:

This letter is to express my support of the City of Medford's request that the Central Transportation Planning Staff (CTPS) include Medford Square in the Priority Roadways Study Program.

The City of Medford will be concluding a master planning process for its downtown, known as Medford Square, and the analysis of the circulation within this area will forward the goals included in the transportation component of the Medford Square Master Plan. This study area of this master plan encompasses the downtown and adjacent neighborhoods. The Metropolitan Area Planning Council (MAPC) developed the Medford Square Master Plan in partnership with City of Medford staff and through extensive community input. MAPC recommends that Medford Square would greatly benefit from a comprehensive evaluation of traffic circulation. Creating a more efficient street network in this central location will benefit users of all modes of travel and has the potential to engender positive development in the heart of the City.

As a state legislator representing Medford, I support the inclusion of Medford Square in the MPO's work program. Conducting this analysis will further our goal for increased transportation connectivity within the region, enhancing the walkability and, ultimately, the livability of Downtown Medford.

If you have any questions please contact Lauren DiLorenzo, Director of the Office of Community Development at (781) 393-2480 or [ldilorenzo@medford-ma.gov](mailto:ldilorenzo@medford-ma.gov).

Sincerely,

Representative Christine Barber  
34<sup>th</sup> Middlesex District



# MEDFORD POLICE

LEO A. SACCO, JR.  
CHIEF OF POLICE

100 MAIN STREET  
MEDFORD, MASSACHUSETTS 02155  
EMERGENCY: 911  
(781) 395-1212  
GENERAL INFO.: (781) 391-6404  
FAX: (781) 395-5177

August 27, 2017

Mr. Mark Abbott, Manager  
Traffic Analysis and Design  
Metropolitan Planning Organization  
Central Transportation Planning Staff  
10 Park Plaza, Suite 2150  
Boston, MA 02116

Dear Mr. Abbott:

I am writing to you to express support for the City of Medford's request that the Central Transportation Staff (CTPS) include Medford Square in the Priority Road Roadways Study Program.

Located at the confluence of interstate, regional and local routes, including I-93, Route 16 and Route 60, the City of Medford's downtown core has long been affected by serious traffic congestion and pedestrian safety issues. These conditions compromise public safety and the quality of life and economic vitality of the area.

Working with the City, the Metropolitan Area Planning Council is concluding a Master Planning process for Medford Square and has recommended that analysis of the circulation within this area will help forward the goals included in the transportation component of the plan. Creating a more efficient street network in this central location will benefit users of all modes of travel, improve safety and help engender positive development in the area.

Very truly yours,

Leo A. Sacco, Jr.  
Chief of Police



The Commonwealth of Massachusetts  
MASSACHUSETTS SENATE

**SENATOR PATRICIA D. JEHLLEN**

*Second Middlesex District*

Medford, Somerville, Cambridge, and Winchester

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ASSISTANT MAJORITY LEADER

*Chair*

JOINT COMMITTEE ON MARIJUANA POLICY  
*and*

SPECIAL SENATE SUBCOMMITTEE ON EDUCATION

*Vice Chair*

JOINT COMMITTEE ON EDUCATION

JOINT COMMITTEE ON LABOR AND  
WORKFORCE DEVELOPMENT

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

September 26, 2017

Dear Mr. Abbott,

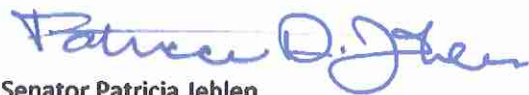
This letter is to express support of a request by the City of Medford that the Central Transportation Planning Staff (CTPS) include Medford Square in the Priority Roadways Study Program.

The City of Medford will be concluding a master planning process for its downtown, known as Medford Square, and the analysis of the circulation within this area will forward the goals included in the transportation component of the Medford Square Master Plan. This study area of this master plan includes encompasses the downtown and adjacent neighborhoods. The Metropolitan Area Planning Council (MAPC) developed the Medford Square Master Plan in partnership with City of Medford staff and through extensive community input. MAPC recommends that Medford Square would greatly benefit from a comprehensive evaluation of traffic circulation. Creating a more efficient street network in this central location will benefit users of all modes of travel and has the potential to engender positive development in the heart of the City.

This letter is to support the inclusion of Medford Square in your work program. Conducting this analysis will further the goals of increasing transportation connectivity within the region and enhancing the walkability and, ultimately, the livability of Downtown Medford.

If you have any questions please contact Lauren DiLorenzo, Director of the Office of Community Development at (781) 393-2480 or [ldilorenzo@medford-ma.gov](mailto:ldilorenzo@medford-ma.gov).

Very truly yours,



Senator Patricia Jehlen