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) 2018,¹ 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.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 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.

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,\(^3\) 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 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

---

\(^3\) 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 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)**
  o 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. 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.

---

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.

CW/cw
FIGURE 1
Study Locations
TABLE 1
Roadway Segments Considered for Study (Selected Segment is Highlighted in Blue)
Subregional Priority Roadways Study

<table>
<thead>
<tr>
<th>Roadway</th>
<th>Location</th>
<th>Community</th>
<th>MAFC District</th>
<th>roadway Subregion</th>
<th>Route Distance</th>
<th>MAFC Region</th>
<th>Roadway Segment</th>
<th>MAFC Region</th>
<th>Designation</th>
<th>Safety</th>
<th>Conditions</th>
<th>Multimodal Significance</th>
<th>Subregional Priority</th>
<th>Implementation Potential</th>
<th>Regional Equity</th>
<th>Scenario</th>
<th>Overall Assessment</th>
<th>Summary of Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Route 80, Main Street, median line to Route 68, Woburn; route 68 to Washington Street, Medford Square</td>
<td>Woburn</td>
<td>CC</td>
<td>4</td>
<td>Medford</td>
<td>0</td>
<td>Woburn</td>
<td>Main St &amp; Middle Rd (Medford) to Middle Rd (Woburn), bridge in Medford, MAFC jurisdiction</td>
<td>Medford</td>
<td>2, 2</td>
<td>2</td>
<td>1</td>
<td>10</td>
<td>High</td>
<td>City of Woburn recently sought consultant services to complete a study for this roadway for the FY2018 program. The study evaluated conditions, transportation, and potential improvements. The City supported the project and the project is expected to be programmed for implementation in FY2019.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Route 109, Middlesex Fells Reservation, side street to East Main Street, Medford</td>
<td>Medford</td>
<td>CC</td>
<td>6</td>
<td>Newton</td>
<td>0</td>
<td>Medford</td>
<td>Middlesex Fells Reservation, side street to East Main Street, Medford</td>
<td>Medford</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>Medium</td>
<td>Middlesex Fells Reservation, side street to East Main Street, Medford</td>
<td>Medford</td>
<td>1</td>
<td>1</td>
<td>Medium</td>
</tr>
<tr>
<td>Route 129, Westford to High Street, Haverhill</td>
<td>Haverhill</td>
<td>CC</td>
<td>6</td>
<td>Haverhill</td>
<td>0</td>
<td>Haverhill</td>
<td>Westford to High Street, Haverhill</td>
<td>Haverhill</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>Medium</td>
<td>Westford to High Street, Haverhill</td>
<td>Haverhill</td>
<td>1</td>
<td>1</td>
<td>Medium</td>
</tr>
<tr>
<td>Route 202, the vicinity of Route 109</td>
<td>Billerica</td>
<td>CC</td>
<td>6</td>
<td>Billerica</td>
<td>0</td>
<td>Billerica</td>
<td>vicinity of Route 109</td>
<td>Billerica</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>Medium</td>
<td>vicinity of Route 109</td>
<td>Billerica</td>
<td>1</td>
<td>1</td>
<td>Medium</td>
</tr>
<tr>
<td>Route 207, Route 176 over Pleasure House Brook</td>
<td>Sharon</td>
<td>TRC</td>
<td>6</td>
<td>Sharon</td>
<td>0</td>
<td>Sharon</td>
<td>Route 176 over Pleasure House Brook</td>
<td>Sharon</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>Medium</td>
<td>Route 176 over Pleasure House Brook</td>
<td>Sharon</td>
<td>1</td>
<td>1</td>
<td>Medium</td>
</tr>
<tr>
<td>Route 117, Route 117, route to Route 25</td>
<td>Framingham</td>
<td>CC</td>
<td>4</td>
<td>Framingham</td>
<td>0</td>
<td>Framingham</td>
<td>Route 117, route to Route 25</td>
<td>Framingham</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>Medium</td>
<td>Route 117, route to Route 25</td>
<td>Framingham</td>
<td>1</td>
<td>1</td>
<td>Medium</td>
</tr>
<tr>
<td>Route 38, Route 38, Route 38, route to Route 38</td>
<td>Winchester</td>
<td>NRPC</td>
<td>6</td>
<td>Winchester</td>
<td>0</td>
<td>Winchester</td>
<td>Route 38, Route 38, route to Route 38</td>
<td>Winchester</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>Medium</td>
<td>Route 38, Route 38, route to Route 38</td>
<td>Winchester</td>
<td>2</td>
<td>2</td>
<td>Medium</td>
</tr>
<tr>
<td>Roadway</td>
<td>Subregion</td>
<td>District</td>
<td>Study, Project, or TIP Project</td>
<td>Comments</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>-----------</td>
<td>----------</td>
<td>-------------------------------</td>
<td>----------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Route 35</td>
<td>Marblehead NSTF 4</td>
<td>Marblehead 1.4</td>
<td>No projects</td>
<td>Conceptual TIP Animal and Intersection Project Route 62 Atlantic Avenue (Route 126) east of the intersection. north of Main Street in Marblehead.</td>
<td>Conceptual TIP Animal and Intersection Project Route 62 Atlantic Avenue (Route 126) east of the intersection. north of Main Street in Marblehead.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Route 129</td>
<td>Swampscott NSTF 4</td>
<td>Swampscott, Massachusetts</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Route 137</td>
<td>Swampscott NSTF 4</td>
<td>Swampscott, Massachusetts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Route 38</td>
<td>Holbrook SSC 5</td>
<td>Holbrook, Massachusetts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Route 114</td>
<td>Saugus ICC 4</td>
<td>Saugus, Massachusetts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Route 129</td>
<td>Holbrook SSC 5</td>
<td>Holbrook, Massachusetts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Route 109</td>
<td>Woburn NSPC 4</td>
<td>Woburn, Massachusetts</td>
<td>No projects in MassDOT project database.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Route 3A</td>
<td>Rockport NSTF 4</td>
<td>Rockport, Massachusetts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Summary of Comments**

**Roadway**

**Subregion**

**District**

**Study, Project, or TIP Project**

**Comments**

- Route 35: No projects were mentioned for the Route 35 corridor in the study. The project involves the replacement of Route 126 Atlantic Avenue in Marblehead. The project is included in a conceptual TIP project. The project is considered a medium project with a medium level of significance.

- Route 129: The study mentions the need for a conceptual TIP project to address traffic flow and safety issues along Route 129 from Swampscott to Rockport. The project is recommended to be advanced in 2016.

- Route 137: The study mentions the need for a conceptual TIP project to address traffic flow and safety issues along Route 137 from Swampscott to Rockport. The project is recommended to be advanced in 2016.

- Route 38: The study mentions the need for a conceptual TIP project to address traffic flow and safety issues along Route 38 from Holbrook to Malden. The project is recommended to be advanced in 2016.

- Route 114: The study mentions the need for a conceptual TIP project to address traffic flow and safety issues along Route 114 from Saugus to Gloucester. The project is recommended to be advanced in 2016.

- Route 129: The study mentions the need for a conceptual TIP project to address traffic flow and safety issues along Route 129 from Holbrook to Malden. The project is recommended to be advanced in 2016.

- Route 109: The study mentions the need for a conceptual TIP project to address traffic flow and safety issues along Route 109 from Woburn to North Andover. The project is recommended to be advanced in 2016.

- Route 3A: The study mentions the need for a conceptual TIP project to address traffic flow and safety issues along Route 3A from Rockport to Peabody. The project is recommended to be advanced in 2016.
<table>
<thead>
<tr>
<th>Roadway</th>
<th>Location</th>
<th>Community</th>
<th>MAPC Region</th>
<th>Section</th>
<th>Centerline</th>
<th>Length [Miles]</th>
<th>Functional Classification</th>
<th>Average Daily Traffic</th>
<th>Overall Crash Rate (MVMT)</th>
<th>Overall Crash Per Mile</th>
<th>Bike/Ped</th>
<th>Conditions</th>
<th>Safety</th>
<th>Significance</th>
<th>Priority</th>
<th>Implementation</th>
<th>Regional Equity</th>
<th>Overall Assessment</th>
<th>Summary of Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Route 127</td>
<td>Route 1A in Beverly to Route 97 in Gloucester</td>
<td>Beverly, Wenham, Topsfield</td>
<td>NSTF 6</td>
<td>4</td>
<td>Beauty, Beverly</td>
<td>12.6</td>
<td>3 = rural minor arterial, 6 = urban collector</td>
<td>6,000</td>
<td>1.8</td>
<td>0.9</td>
<td>0</td>
<td>Medium</td>
<td>Low</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>6</td>
<td>Medium-DOT Project 602269; what is currently in the preliminary planning phase, covers two-thirds of the segment in scope. NSTF used this corridor during the UPRP outreach for FY 2015 and 2016. Study should include how to improve safety facilities and potential connections. This corridor traveled round area and built on the Essex Coastal Scenic Byway for the Agency.</td>
</tr>
<tr>
<td>Route 97</td>
<td>Route 1A in Beverly to Route 133 in Gloucester</td>
<td>Beverly, Wenham, Topsfield</td>
<td>NSTF 6</td>
<td>4</td>
<td>Beauty, Beverly</td>
<td>8.9</td>
<td>3 = rural minor arterial, 5 = urban minor arterial or rural major collector</td>
<td>15,000</td>
<td>8.8</td>
<td>0.3</td>
<td>0</td>
<td>Medium</td>
<td>Medium</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>NSTF proposed to study this segment in conjunction with the Route 1A corridor in Beverly, Danvers, and Haverhill (Merrimack Valley Planning District). This may have implementation challenges. This road is also mentioned in the FY 2014 UPRP Outreach and FY 2015 via public comment and a letter for the FY 2017 UPRP Outreach.</td>
</tr>
<tr>
<td>Route 133</td>
<td>Route 133 in Gloucester to Route 9A in Ipswich</td>
<td>Topsfield, Wenham, Beverly, Manchester by the Sea</td>
<td>NSTF 6</td>
<td>4</td>
<td>Route 133, Topsfield</td>
<td>13.6</td>
<td>3 = rural minor arterial, 5 = urban minor arterial or rural major collector</td>
<td>13,500</td>
<td>8.7</td>
<td>0.2</td>
<td>0</td>
<td>Medium</td>
<td>Medium</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>Medium-DOT Project 602146; covers all of the segment. This is the last of three sections prepared for study in Essex National Heritage Commission. This project includes pedestrian and bike improvements complete spring 2011.</td>
</tr>
<tr>
<td>Route 24-King Street</td>
<td>Route 9A Southbound to Lake Shore Drive, Beverly</td>
<td>Beverly</td>
<td>MAEIC 3</td>
<td>3</td>
<td>Route 127 (King Street)</td>
<td>2.5</td>
<td>3 = rural minor arterial, 6 = urban collector</td>
<td>15,000</td>
<td>1.6</td>
<td>0.4</td>
<td>0</td>
<td>Medium</td>
<td>Low</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>8</td>
<td>Requested by Littleton in 2015.</td>
</tr>
</tbody>
</table>
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
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

<table>
<thead>
<tr>
<th>Goal</th>
<th>Weight Points</th>
<th>Weighted Score</th>
<th>Final Score</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity Management and Mobility</td>
<td>6</td>
<td>16</td>
<td>2.7</td>
<td>Good</td>
</tr>
<tr>
<td>Economic Vitality</td>
<td>2</td>
<td>4</td>
<td>2.0</td>
<td>Fair</td>
</tr>
<tr>
<td>Safety</td>
<td>5</td>
<td>5</td>
<td>1.0</td>
<td>Poor</td>
</tr>
<tr>
<td>System Preservation</td>
<td>1</td>
<td>2</td>
<td>2.0</td>
<td>Fair</td>
</tr>
</tbody>
</table>
Route 109 from Walpole town line to Interstate 95 in Westwood

Performance Measure Scores

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

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

<table>
<thead>
<tr>
<th>Goal</th>
<th>Weight Points</th>
<th>Weighted Score</th>
<th>Final Score</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity Management and Mobility</td>
<td>6</td>
<td>9</td>
<td>1.5</td>
<td>Poor</td>
</tr>
<tr>
<td>Economic Vitality</td>
<td>2</td>
<td>4</td>
<td>2.0</td>
<td>Fair</td>
</tr>
<tr>
<td>Safety</td>
<td>5</td>
<td>11</td>
<td>2.2</td>
<td>Fair</td>
</tr>
<tr>
<td>System Preservation</td>
<td>1</td>
<td>1</td>
<td>1.0</td>
<td>Poor</td>
</tr>
</tbody>
</table>
### Performance Measure Scores

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

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

<table>
<thead>
<tr>
<th>Goal</th>
<th>Weight Points</th>
<th>Weighted Score</th>
<th>Final Score</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity Management and Mobility</td>
<td>6</td>
<td>18</td>
<td>3.0</td>
<td>Good</td>
</tr>
<tr>
<td>Economic Vitality</td>
<td>2</td>
<td>4</td>
<td>2.0</td>
<td>Fair</td>
</tr>
<tr>
<td>Safety</td>
<td>5</td>
<td>5</td>
<td>1.0</td>
<td>Poor</td>
</tr>
<tr>
<td>System Preservation</td>
<td>1</td>
<td>3</td>
<td>3.0</td>
<td>Good</td>
</tr>
</tbody>
</table>
APPENDIX B
Support Letters
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.

Very truly yours,

Stephanie M. Burke, Mayor
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,

[Signature]

Richard F. Caraviello
City Councillor
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.

Sincerely,

[Signature]

Representative Christine Barber
34th Middlesex District
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 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,

[Signature]
Leo A. Sacco, Jr.
Chief of Police
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 kilorenzo@medford-ma.gov.

Very truly yours,

Senator Patricia Jehlen