



## BOSTON REGION METROPOLITAN PLANNING ORGANIZATION

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(nonvoting)

### MEMORANDUM

**DATE** March 15, 2012

**TO** Boston Region Metropolitan Planning Organization

**FROM** Seth Asante, CTPS  
Project Manager

**RE** Priority Corridors for Long-Range Transportation Plan (LRTP)  
Needs Assessment: Selection of Study Locations

### BACKGROUND

The recently approved Long-Range Transportation Plan (LRTP) identified regional needs that exist for all modes of transportation in the MPO region.<sup>1</sup> These needs can guide decision making about which projects to fund in future Transportation Improvement Programs (TIPs). Among the current mobility needs of the region are maintaining and modernizing roadways with high levels of congestion and safety problems, increasing the quantity and quality of walking and bicycling in the region, and improving transit service schedule adherence, efficiency, and modernization. For roadways, the LRTP identified several priority arterial segments in need of maintenance, modernization, and safety and mobility improvements. The problem arterial segments were identified based on previous and ongoing transportation planning work, including the MPO's Congestion Management Process (CMP), the MBTA's Program for Mass Transportation (PMT), and MPO planning studies.

This study was included in the FFY 2012 Unified Planning Work Program to address mobility, safety, and preservation concerns for arterial segments.<sup>2</sup> In this study, the focus is on arterial segments rather than intersections, which allows multimodal transportation needs to be evaluated comprehensively. Pedestrians, bicyclists, motorists, and public transportation users will be considered using a holistic approach to the analysis of the issues and associated improvement recommendations. The result will be plans for improved roadway corridors where it is safe to cross the street and walk or cycle to shops or schools, and for recreation; where buses can run on time; and where it is safe for people to walk to and from train stations. Typically, the recommendations are within the roadway's right-of-way, and take into account the needs of the abutters and users.

<sup>1</sup> *Paths to a Sustainable Region: The Long-Range Transportation Plan of the Boston Region Metropolitan Planning Organization*, September 22, 2011.

<sup>2</sup> Unified Planning Work Program, Federal Fiscal Year 2012, endorsed by the Boston Region Metropolitan Planning Organization on August 18, 2011.

## **SELECTION PROCEDURE**

The selection procedure for the study locations comprised three major parts. First, MPO staff assembled data on the arterial segments identified in the LRTP and provided it to MassDOT, which used it to screen the segments. There were 29 arterial segments in 46 communities in the MPO region. The data assembled were as follows:

- MPO staff used ArcMap geographic information system software and MassDOT's 2010 Road Inventory File and 2007-2009 crash database to assemble the following information for each arterial segment in each community: roadway jurisdiction, National Highway System (NHS) status, average daily traffic (ADT), high-crash locations, and crashes per mile.
- In addition, staff used MPO CMP arterial speed data to determine average travel speeds and speed index (average travel speed divided by the speed limit) on each arterial segment.
- Next, MPO staff used MBTA bus service performance and passenger load data to determine the percentage of bus trips failing schedule adherence or passenger load standards (late bus service or crowding).
- MPO staff reviewed MassDOT's project information database, the MPO's 2012-2015 TIP projects, CTPS planning and other studies, and municipal websites for projects, studies, and TIP projects planned or programmed for each arterial segment.

After assembling all of this information, MPO staff submitted it to MassDOT Highway District offices and MassDOT's Office of Transportation Planning for comment. Through this review process, MassDOT provided further information about problems, projects, and existing studies on some of the arterial segments. Each district office assigned to the arterial segment(s) in its jurisdiction a high, medium, or low priority.

Second, MPO staff reviewed the MassDOT responses and comments. Segments that had not been given priority ratings by MassDOT owing to jurisdiction were given ratings by MPO staff. Table 1 summarizes the comments of MassDOT and MPO staff for each of the arterial segments and indicates for each the priority rating, municipality and jurisdiction, MassDOT district office, crashes per mile, number of top-200 high-crash locations, speed index, transit services and their performance, any studies or projects, and the selection criteria met (described in bullet list below). Arterial segments that were rated medium or low priority, because of projects in construction, recently completed, in design, under study, or programmed in the TIP, were excluded from further consideration for this cycle of the Priority Corridors study. In addition, arterial segments that were recently studied by CTPS or other agencies were rated as low priority and were excluded from further consideration. Seven arterial segments had been given high priority by MassDOT staff, due to safety, mobility, and signal progression concerns, pedestrian and bicycle accommodation issues (including ADA compliance), and transit issues. These seven arterial segments were selected for further review and consideration.

Third, MPO staff selected the segments to be studied, beginning by examining more closely the seven high-priority arterial segments using data related to five criteria:

- *Safety Conditions:* Location experiences high crash rate and/or has one or more top-200 high-crash locations
- *Congested Conditions:* Location experiences extensive delays during peak periods
- *Transit Significance:* Location carries bus route(s) or is adjacent to a transit stop or station
- *Regional Significance:* Location carries high proportion of regional traffic and/or is on the National Highway System
- *Implementation Potential:* Location either is under MassDOT jurisdiction or has a strong commitment from the community. Locations under Department of Conservation and Recreation (DCR) jurisdiction are considered to have lower potential for implementation.

Arterial segments scoring high in these selection criteria (meeting at least four of the five criteria) were examined more closely, and two were selected for study. The number of segments selected was determined in part by the study's budget.

### **ARTERIAL SEGMENTS SELECTED FOR STUDY**

The two arterial segments (highlighted in the table) to be evaluated for improvements in this study are:

- Route 114 in Danvers (MassDOT Highway Division District 4)
- Route 203 in Boston (Gallivan Boulevard and Morton Street) from Neponset Avenue to Shea Circle (MassDOT Highway Division District 6)

It should be noted that the remaining five arterial segments met as many criteria (four) as the selected arterial segments.

The segment of Route 114 within Danvers was chosen because (1) it had a pedestrian fatality crash recently; (2) District 4 is concerned with pedestrian and bicycle accommodation in the corridor and is very interested in improving it; and (3) District 4 is also considering signal progression and retiming along the entire Route 114 corridor from I-95 to Route 128. There are about eight traffic signals along the corridor in Danvers.

The Route 203 segment (as defined above) was chosen because MassDOT District 6 has already been working with local stakeholders to try to initiate a roadway improvement study that looks at the existing conditions (pavement, transit, ADA compliance, bicycle accommodations, and traffic signal system) and develops proposed improvements. There are four top-200 high-crash locations and 12 traffic signals in this corridor. Owing to budgetary considerations, staff will work with MassDOT (District 6 and Office of Transportation Planning) to determine priority areas that this study should focus on.

### **SUMMARY**

In summary, the selection process began with 29 arterial segments in 46 communities in the MPO region with safety and operations problems and pedestrian/bicycle accommodation needs. MPO staff used extensive sets of screening data and selection criteria and had extensive

interactions with MassDOT Highway District offices and the Office of Transportation Planning. Through this careful effort, the project staff identified the two arterial segments in the MPO region with safety concerns, congested conditions, and pedestrian and bicycle accommodation needs that it considers to be most suitable for this study.

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**TABLE 1**  
**ARTERIAL SEGMENTS CONSIDERED FOR STUDY, WITH SCREENING DATA (by Highway District)**  
**Priority Corridors for Long-Range Transportation Plan Needs Assessment Study**

Arterial Segment	Community	Jurisdiction	MassDOT District	In NHS	Crashes per Mile	Top-200 High-Crash Locations	Speed Index	Transit Service	Crowded or Late MBTA Bus Service	Study, Project, or TIP Project*	Selection Criteria**					MassDOT and MPO Staff Priority (High, Medium, Low)	MassDOT and MPO Staff Comment/Preference
											Safety Conditions	Congested Conditions	Transit Significance	Regional Significance	Implementation Potential		
Route 9	Natick	MassDOT	3	Yes	286	2	0.62	MWRTA Route 1	NA	MassDOT and TIP Project #601586 <sup>6</sup> MassDOT Project #604991 <sup>7</sup> MAPC land use/corridor study	√	√	√	√		Medium	Route 9 in Natick should be generally evaluated for safety and mobility improvements (there is not a need to evaluate maintenance of the roadway surface). It has two top-200 high-crash locations, located at Oak Street and Ring Rd intersections. It would also be helpful to evaluate opportunities to better manage access on the corridor. Route 9 from the Framingham Town Line to Walnut Street was recently resurfaced under Proj. #604991. Project #601586 will resurface from Walnut Street to just east of Oak Street. This project will also reconstruct the Route 9 / Oak Street intersection, and should address some of the congestion and safety issues at the intersection. In addition, MassDOT is currently at the 25% design stage with Project #605313, which will reconstruct the Route 9 / Route 27 interchange. This project is not currently included on the Boston MPO TIP. The segments to focus on would be from the Framingham Town Line to east of Speen Street.
	Framingham	MassDOT	3	Yes	215	5	0.87	MWRTA Route 1, 2, 3, 9	NA	MassDOT Project #604991 <sup>7</sup> MassDOT Project #603865 <sup>8</sup> MAPC land use/corridor study	√	√	√	√	√	High	Route 9 in Framingham has five top-200 high-crash locations which are located at Dinsmore Avenue, Caldor Road, Cochituate Road, Temple Street, and California Avenue intersections. Route 9 in Framingham should be generally evaluated for safety and mobility improvements (there is not a need to evaluate maintenance of the roadway surface). It would also be helpful to evaluate opportunities to better manage access on the corridor. MassDOT has no current plans to advance Proj. #603865 included in the spreadsheet (the Route 9 / Temple Street intersection). The intersections of Route 9 / Temple Street and Route 9 / Prospect Street / Main Street are non-conventional designs and both cause safety issues and congestion during peak periods. Also, the segment of Route 9 between the I-90 interchange and California Avenue is an area where congestion occurs during peak periods. The segments to focus on would be: 1) the section between the California Avenue intersection and the I-90 interchange, 2) the section between the County Club Lane intersection and the Prospect Street / Main Street intersection.
	Southborough	MassDOT	3	Yes	67	1	0.72		NA	MAPC land use/corridor study CTPS intersections study <sup>53</sup>	√			√		Low	Route 9 in Southborough has one top-200 high-crash location, which is located at Central St intersection. The CTPS intersections study will evaluate congestion and safety issues at the Route 9 / Oak Hill Road / Central Street intersection. In addition, the western section of Route 9 in Southboro (between the I-495 interchange and Crystal Pond Road) is being evaluated for shorter and longer-term improvements as part of MassDOT's I-495 / Route 9 Study. Mobility and access management should be studied on Route 9 in Southborough. In addition, this segment may be in need of pavement rehabilitation.

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											Safety Conditions	Congested Conditions	Transit Significance	Regional Significance	Implementation Potential		
Route 30 between I-90 and Route 9	Framingham	Town	3	Yes (part)	180	2	0.76	MWRTA Routes 10, 11	NA	MassDOT Project #86450 <sup>14</sup> MassDOT Project #110952 <sup>15</sup>	√	√	√	√	√	High	This segment of Route 30 has two top-200 high-crash locations, which are located at Speen St and at Route 9 intersections. TJX Companies has recently inquired with the Secretary of Transportation's office regarding improvements to the section of Route 30 near the I-90 interchange and the Speen Street intersection. Most of Route 30 is Town jurisdiction, however a short segment at the I-90 interchange ramps is owned by MassDOT. The focus of the study should be on the segment between Ring Road (Shoppers World) and Speen Street. The study should evaluate improvements to mobility and safety.
Route 109 from I-495 to Birch Street	Milford	Town	3	No	108	0	1.00		NA	MassDOT Project #60137925			√	√		Low	The project identified in the spreadsheet (Proj. #601379 - I-495 Ramps at Route 109) was completed in 2004. The ramp node intersections generally function well. If this arterial segment were included in the study, focus on Route 109 between Beaver Street and Route 16 (west of Birch Street).
Route 140	Franklin	MassDOT and Town	3	No	148	0	0.47	GATRA Franklin Area Bus	NA	MassDOT and TIP Project #604988 MassDOT Project #92000 <sup>32</sup>		√	√	√		Medium	The project identified in the spreadsheet (Proj. #92000 - Route 140 Relocation and I-495 / Route 140 Interchange) was completed in 2007. The project included the segment of Route 140 between the Bellingham Town Line and the Franklin Village Shopping Center. On this segment, evaluating improvements to signal timing and coordination would be the extent of what the District recommend studying. There are two other segments of Route 140 in Franklin where I would focus study: 1) Route 140 between Franklin Village Shopping Center and Beaver Street - mostly MassDOT jurisdiction, and 2) Route 140 between King Street / Chestnut Street and the Wrentham Town Line - mixed Town / MassDOT jurisdiction. In these segments, mobility, safety, maintenance, and access management should all be evaluated. The Town is currently designing a MassDOT project (Proj. #604988) on the segment of Route 140 in the Town Center - Emmons Street to Summer Street. Given that this project is expected to be advertised in 2013, the District recommend not to include the segment in the study.
Route 1 North Improvements	Saugus	MassDOT	4	Yes	210	4	0.74	MBTA Route 429	Yes	MassDOT Project #601513 <sup>1</sup> MassDOT Project #605012 <sup>2</sup>	√	√	√	√	√	Medium/High	This segment of Route 1 has four top-200 high-crash locations, all located at the interchanges. The corridor from Route 99 south through Route 60 is under design for widening to three full lanes. This segment should not be included in this study.
	Lynnfield	MassDOT	4	Yes	335	1	0.66			None	√	√		√	√	Medium/High	This segment of Route 1 has one top-200 high-crash location, which is located at an interchange. The corridor from Route 99 south through Route 60 is under design for widening to three full lanes. This segment should not be included in your study.
Route 1A from Oak Island Road to Bell Circle	Revere	MassDOT	4	Yes (part)	169	0	0.36	MBTA Routes 441 and 442	Yes	Lower North Shore Transportation Improvement Study, CTPS Study <sup>42</sup>	√	√	√	√		Low	Area is under construction by the MBTA in association with the Wonderland Station redevelopment.
Route 3	Woburn	MassDOT	4	Yes (part)	124	0	0.49	MBTA Routes 350 and 354	Yes	Route 3/3A (Cambridge Street) Corridor Study in Burlington, Woburn, and Winchester, CTPS study <sup>49</sup>		√	√	√		Medium	
Route 3/3A	Burlington	MassDOT	4	Yes	195	0	0.45	MBTA Route 350 and 352	Yes	Route 3/3A (Cambridge Street) Corridor Study in Burlington, Woburn, and Winchester, CTPS study <sup>49</sup>	√	√	√	√		Medium	The traffic signals were recently studied and interconnected by a developer.

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											Safety Conditions	Congested Conditions	Transit Significance	Regional Significance	Implementation Potential		
Route 16 (Revere Beach Parkway) Safety and Operations Improvements	Everett	DCR	4	Yes	225	1	0.50	MBTA Routes 99, 106, 110	Yes	The Lower North Shore Transportation Improvement Study, CTPS Report <sup>42</sup>	√	√	√	√		High	Priority corridor in need of operational and mobility improvements. There are a number of high crash locations on Revere Beach Parkway. The signals are not interconnected and there is traffic congestion. Revere Beach Parkway is a major connector to Revere and East Boston/Logan Airport. The District believes mobility could be improved. DCR interest in such study is very important for implementation.
Route 28 from the Assembly Square Mall to Highland Ave in Somerville	Somerville	DCR	4	Yes	282	1	0.66	MBTA Routes 80 and 88	Yes	MassDOT Project #605680 <sup>13</sup> Toward a Route 28 Corridor Transportation Plan, CTPS Study <sup>43</sup> Mystic Avenue/Route 28/I-93 Interchange Improvement Study, CTPS Study <sup>40</sup>	√	√	√	√		Low	Recently studied by CTPS also being studied under the Grounding McGrath Study
Route 38	Woburn	City	4	No	319	1	0.70	MBTA Route 134	Yes	None	√	√	√	√		Low	MassDOT jurisdiction north of I-95 reconstructed by developer.
	Wilmington	MassDOT	4	No	140	1	0.66	MBTA Route 134	Yes	None	√	√	√	√		Low	Reconstructed by the MBTA and a developer.
Route 60	Arlington	Town	4	No	169	0	0.54	MBTA Route 80	Yes	Community Transportation Technical Assistance Program, CTPS and MAPC study <sup>54</sup>	√	√	√	√		Medium	
	Belmont	Town	4	No	267	0	0.70	MBTA commuter rail (Belmont Center and Waverley stations)		MassDOT Project #601790 <sup>17</sup> Belmont, Lexington, Waltham Subarea Study, CTPS and MAPC study <sup>52</sup>		√	√	√		Low	Project #601790 recently reconstructed a section of Route 60, Pleasant Street in Belmont. Recently studied by CTPS and MAPC in a subarea study.
	Waltham	City	4	No	59	0	1.07			Belmont, Lexington, Waltham Subarea Study, CTPS and MAPC study <sup>52</sup>			√		Low		
Routes 4 and 225 corridor	Bedford	Town & MassDOT	4	No	181	0	0.30	MBTA Routes 62 and 76	Yes	Great Road Project: Master Plan and Conceptual Design, Town of Bedford MassDOT Project #29500 <sup>20</sup>	√	√	√	√	√	Low/Medium	Veterans Memorial Park was studied by VHB in 2011 for the Town of Bedford
	Lexington	Town	4	No	119	1	0.57	MBTA Routes 62 and 76	Yes	Hartwell Avenue Traffic Mitigation Plan (Bedford Street Concept Plan), by Town of Lexington MassDOT Road Safety Audit: Bedford St and Hartwell Avenue, November 2011 CTPS intersections study <sup>47</sup>	√	√	√	√	√	Low	MassDOT section from I-95 to Hartwell Ave is the subject of a Town study, an Road Safety Audit (RSA) and a potential TIP project.
Route 114 from Danvers TL to Forrest St and Essex St	Middleton	MassDOT	4	Yes	78	0	0.44			MassDOT and TIP Project #606126 <sup>18</sup> MassDOT Project #600227 <sup>19</sup>		√		√		Low	Corridor recently studied by VHB
Route 99	Everett	City	4	Yes	169	0	0.36	MBTA Routes 104, 105, and 109	Yes	MassDOT Project #602383 <sup>21</sup> MassDOT Project #601580 <sup>22</sup> MassDOT Project #602382 <sup>23</sup>	√	√	√	√	√	Low	The three projects listed completely reconstruct the corridor with the exception of Sweetzer Circle.
Route 107 (Broadway) south of Albert J. Brown Circle	Revere	MassDOT City	4	No	137	0	0.63	MBTA Routes 116, 117, and 119	Yes	MassDOT Project #601088 <sup>24</sup>		√	√	√		Low	

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											Safety Conditions	Congested Conditions	Transit Significance	Regional Significance	Implementation Potential		
Route 114	Peabody	MassDOT	4	Yes	146	0	0.53	MBTA Route 435	Yes	MassDOT Project #605383 <sup>26</sup>	√	√	√	√	√	High	Route 114 in Peabody was listed as a potential corridor in need of signal progression. There has been concern about pedestrians and bicycles.
	Danvers	MassDOT	4	Yes	157	0	0.69		NA	MassDOT Project #605383 <sup>26</sup>	√	√	√	√	√	High	Route 114 in Peabody was listed as a potential corridor, and since the town line is within the commercial area we think of the Danvers section with the Peabody section. However, the Peabody portion will not be included in this study, owing to budgetary considerations. Certainly we will need to consider progression along the entire corridor from I-95 to Route 128. There has been concern about pedestrians and bicycles. The Danvers bike trail is in this area. Also we recently had a pedestrian fatality on Route 114 in Danvers. There are eight traffic signals in the 2.5-mile corridor that may need signal progression or retiming.
	Salem	City	4	Yes (part)	287	1	0.30	MBTA Routes 426 and 459	Yes	Transportation Improvement Study for Route 1A, 114, and 107 and Other Roadways in Downtown Salem, CTPS Study <sup>44</sup>	√	√	√	√		Low	Studied by CTPS in 2005
Route 127	Rockport	MassDOT and Town	4	No	12	0		MBTA Commuter rail station		None		√	√	√		Low	
	Gloucester	MassDOT and Town	4	No	20	0				None			√			Low	
Route 129	Swampscott	Town	4	No	76	0	0.55	MBTA Routes 442 and 449	Yes	Community Transportation Technical Assistance Program, CTPS and MAPC study <sup>54</sup>		√	√	√		Medium	
Route 129	Marblehead	Town	4	No	40	0	0.76		NA	None			√		Medium		
Mystic Valley Parkway from Auburn Street to Main Street	Medford	DCR	4	Yes	143	1	0.57		NA	None	√	√	√		High/Medium	The signals are not interconnected and there is traffic congestion. Traffic on Mystic Valley Parkway routinely backs up beyond Main Street westbound and beyond Auburn Street eastbound. Also there are a number of high crash locations in this corridor. The District believes that mobility and safety in this corridor can be improved. DCR interest is critical for implementation.	
Route 1	Norwood	MassDOT	5	Yes	149	1	0.47			None	√	√	√		Medium		
Route 27 between Depot Street and Canton Street	Sharon	Town	5	Yes	48	0	0.52	MBTA Commuter rail P&R lot		None		√	√	√		Low	
Route 37	Holbrook	MassDOT	5	No	172	1	0.69	MBTA Route 230	Yes	None	√	√	√	√		Low	
Route 138	Stoughton	MassDOT and Town	5	No	241	0	0.69	BAT Route 14	NA	2012 Major Bottleneck Analysis Study, OCPC study Route 138 Corridor Study, CTPS study <sup>45</sup>	√	√	√	√		Medium	OCPC is studying Route 138 in Stoughton as part of their Major Bottleneck Analysis Study. Route 138 in Stoughton was also studied by CTPS in 2001
Route 140	Wrentham	MassDOT and Town	5	No	112	0	0.71			MassDOT Project #605700 <sup>31</sup>			√		Medium		
Route 1/VFW Parkway	Boston	DCR	6	Yes	92	0	0.50	MBTA Route 429	Yes	Route 1 South Corridor Planning Study, CTPS Study <sup>51</sup>		√	√	√		Low	
	Dedham	MassDOT	6	Yes	149	0	0.51	MBTA Route 52	Yes	Route 1 South Corridor Planning Study, CTPS Study <sup>51</sup>	√	√	√	√		Low	
Route 3A	Quincy	Town	6	Yes	209	3	0.47	MBTA Routes 210 and 212	Yes	CTPS intersections study <sup>53</sup>	√	√	√	√		Medium	This segment has three top 200 high-crash locations, which are located at Coddington St, McGrath Hwy, and Washington St/Route 53 intersections. Other intersections with safety problems include Furnace Brook Pkwy, Coddington St, McGrath Hwy, and Washington St/Route 53. Critical segment with delay problems, from Quincy Circle to Coddington St



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											Safety Conditions	Congested Conditions	Transit Significance	Regional Significance	Implementation Potential		
Route 3A	Weymouth	MassDOT	6	Yes	179	0	0.62	MBTA 220, 221, and 222	Yes	None	√	√	√	√		Medium	The intersections with safety problems in this segment of Route 3A are located at Evans St, North St, Neck St/Green St, and Sea St. The critical segment with delay problems, from Sea St to Green St/Neck St.
Route 9	Boston	City	6	Yes	128	0	0.61	MBTA Route 39, 60, and 65 MBTA Green Line	Yes	MassDOT Project #604871 <sup>33</sup> MassDOT Project #601046 <sup>34</sup>			√	√			Intersections with safety problems in this segment of Route 9 are at Ruggles St and Tremont St.
	Brookline	MassDOT	6	Yes	136	0	0.50	MBTA Route 39, 60, and 65 MBTA Green Line	Yes	Route 9 in Brookline and Newton, CTPS Study <sup>40</sup> MassDOT Project #605110 <sup>3</sup> MassDOT Project #604211 <sup>4</sup>		√	√	√		Low	The intersections with safety problems in this segment of Route 9 are located at Warren St/Summer Rd, Chestnut Hill Ave, and Hammond St. The critical segment with delay problems, from Chestnut Hill Ave to Hammond St. MassDOT Projects #605110 and #604211 address some of the concerns in this segment.
	Newton	MassDOT	6	Yes	134	0	0.33	MBTA Green Line	NA	Route 9 in Brookline and Newton, CTPS Study <sup>40</sup> MassDOT Project #604327 <sup>5</sup>		√		√		Low	The intersections with safety problems in this segment of Route 9 are located at Hammond Pond Pkwy, Langley Rd, Parker St, Walnut St, Center St, Eliot St/Woodward St, and Chestnut St. The critical segments with delay problems are Hammond Pond Rd to Langley and Centre St to Elliot St. CTPS studied this segment of Route in 2005. MassDOT Project #604327 address some of the concerns in this segment.
	Wellesley	MassDOT	6	Yes	178	1	0.42		NA	Route 9 Corridor in Wellesley, CTPS Study <sup>41</sup> MAPC land use/corridor study	√	√		√		Low	This segment has one top-200 high-crash location, which is located close to the Fire Station and Route 16 Interchange. The intersections with safety problems are located at Cedar St, Cunningham Rd, Fire Station area access, Oak St, Weston Rd, and Overbrook Dr. The critical segment with delay problems, from Cliff Rd to Oakland St. This segment was studied by CTPS in 2003 and 1999.
Route 16 (Revere Beach Parkway) Safety and Operations Improvements	Chelsea	DCR	6	Yes	216	2	0.50		NA	The Lower North Shore Transportation Improvement Study, CTPS Report <sup>42</sup>	√	√		√		Medium	This segment has two top-200 high-crash locations, which are located at the Washington Ave and Garfield Ave intersections. The critical segment with delay problems is from Everett Ave to Garfield Ave. CTPS studied this segment as part of The Lower North Shore Transportation Improvement Study in 2000.
Route 16	Wellesley	Town	6	No	398	0	0.42		NA	MassDOT Project #600712 <sup>9</sup>	√	√		√		Medium	The segment of Route 16 with safety problems are located at the intersections with Cliff Rd, Route 9 interchange, Oakland St. The critical segment with delay problem is between Weston Rd and Route 9.
	Newton	City	6	No	128	0	0.60	MWRTA Route 1 MBTA Green Line	NA	MassDOT Project #600894 <sup>10</sup>		√	√	√		Medium	The segment of Route 16 in Newton with safety problems are located at the intersections with Walsingham Rd, Route 30, Craft St, and Adam St. The critical segments with delay problems are from Concord St to Route 30 and from Albemarle Rd to Capital St.
Route 28	Randolph	MassDOT	6	No	798	2	0.66	MBTA Route 240 Brockton Area Transit (BAT)	NA	MassDOT Project #601716 <sup>11</sup> MassDOT Project #603735 <sup>12</sup> CTPS intersections study <sup>47</sup> CTPS Arterial Coordination Study <sup>48</sup>	√	√	√	√		Low	Investment in this area through 3 PWED projects as well as prior CTPS studies.
Route 37	Braintree	MassDOT	6	No	118	2	0.55	MBTA Routes 230 and 238	Yes	MassDOT Project #602027 <sup>16</sup>	√	√	√	√		Medium	This segment of Route 37 in Braintree has two top-200 high-crash locations, which are located at Common St and Franklin St/West St intersections. Other intersections with safety problems are located at West St/Franklin and Forbes Rd/Common St. The critical segment with delay problems, from Peach St to Forbes Rd.

**TABLE 1  
ARTERIAL SEGMENTS CONSIDERED FOR STUDY, WITH SCREENING DATA (by Highway District)  
Priority Corridors for Long-Range Transportation Plan Needs Assessment Study**

Arterial Segment	Community	Jurisdiction	MassDOT District	In NHS	Crashes per Mile	Top-200 High-Crash Locations	Speed Index	Transit Service	Crowded or Late MBTA Bus Service	Study, Project, or TIP Project*	Selection Criteria**					MassDOT and MPO Staff Priority (High, Medium, Low)	MassDOT and MPO Staff Comment/Preference
											Safety Conditions	Congested Conditions	Transit Significance	Regional Significance	Implementation Potential		
Route 138	Canton	MassDOT	6	No	37	0	0.43		NA	MassDOT Project #605807 <sup>27</sup> MassDOT Project #603883 <sup>28</sup> MassDOT Project #602475 <sup>29</sup> MassDOT Project #602475 <sup>30</sup> Route 138 Corridor Study, CTPS study <sup>45</sup>		√		√		Low	If this has previously been studied by CTPS and have projects which completed recently, in construction, or in design. Focus on other areas.
Route 145	Boston	City	6	No	47	0		MBTA Route 120 Blue Line	Yes	None		√	√	√	Medium	Does not appear that there have been prior studies conducted of this area	
	Winthrop	Town	6	No	29	0			NA	None				√	Medium	Does not appear that there have been prior studies conducted of this area	
Route 203/Jamaicaway from Willow Pond Road to Forest Hills Rotary	Boston	DCR	6	Yes	130	0	0.56		NA	None		√		√	Medium	The intersections in the segment of Route 203 with safety problems are located at Willow Pond Rd, Perkins St, Washington St, and Forrest Hill Ave. The critical segment with delay problems, from Willow Pond Rd to Centre St rotary.	
Route 203 from (Gallivan Boulevard at Neponset) to (Route 203 (Morton Street at Shea Circle)	Boston	MassDOT	6	Yes	143	4	0.40	MBTA Route 21 and 215	Yes		√	√	√	√	√	High	This roadway segment is approximately 4 miles long. MassDOT is working with the local stakeholders in trying to initiate a roadway improvement study that looks at the existing conditions (pavement, transit, ADA compliance, bicycle accommodations and traffic signal system) and proposed improvements. There are four top-200 high-crash locations in this segment of Route 203, which are located at the Granite Ave, Dorchester Ave, Blue Hill Ave, and Harvard St intersections. In addition, this segment contain about 12 traffic signals. This corridor is probably our highest priority location in our District. There is a high level of interest from the community to see improvements made to this roadway, which was previously under the control of DCR.  Owing to budgetary considerations, staff will work with MassDOT (District 6 and Office of Transportation Planning) to determine priority areas that this study should focus on.
Alewife Brook Parkway/Fresh Pond Parkway from Soldiers Field Road to Route 2	Cambridge	DCR	6	Yes	214	0	0.47	MBTA Routes 72 and 75	Yes	Alewife Studies, Phase II, CTPS Study <sup>46</sup>		√	√	√		Low/Medium	
Storrow Drive	Boston	DCR	6	Yes	188	0	0.50	MBTA Route 1, CT1,CT2, and	Yes	None	√	√	√	√	Low/Medium	The problem intersections on Storrow Drive are David Mugar Way, Arlington St, Berkeley St, and Mass Ave. The critical segments with delay problems are located at Memorial Drive to Soldiers Field Rd and Blossom St to Leverett Circle.	
Memorial Drive	Cambridge	DCR	6	Yes	165	1		MBTA Routes 47, 64, and 70	Yes	None	√		√	√	Low/Medium	Memorial Drive has one top-200 high-crash location, which is located at River St/Cambridge St. The ntersections on Memorial Drive with safety problems are located at Massachusetts Ave, Bu Bridge, River St/Cambridge St, Western Ave, and JFK St. The critical segment with delay problems is River St to JFK St.	

NOTES:  
\* Superscript numbers refer to current MassDOT Highway Division project description list.  
\*\* Selection Criteria  
Safety Conditions: Segment contains top-200 high-crash location or locations considered as high-crash areas.  
Congested Conditions: Experiences extensive delays during peak periods.  
Transit Significance: Carries bus route(s) or is adjacent to a transit route or station.  
Regional Significance: Carries high proportion of regional traffic or is on the National Highway System.  
Implementation Potential: Is under MassDOT jurisdiction, has a TIP "conceptual" status, or has a strong commitment from city/town. (Locations under DCR jurisdiction are considered to have lower implementation potential.)