TECHNICAL MEMORANDUM

DATE: **April 2, 2015**

TO: **Boston Region Metropolitan Planning Organization (MPO)**

FROM: **Chen-Yuan Wang and Katrina Crocker**

RE: **FFY 2015 Addressing Safety, Mobility, and Access on Subregional Priority Roadways: Selection of Study Locations**

1 BACKGROUND

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

To address these kinds of concerns, this study was included in the UPWP for federal fiscal year 2015[1] and a work program was approved on October 16, 2014. 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] Typically, these roadways are not major arterials, but are arterial or collector roadways that may carry fewer vehicles daily than major arterials and may be maintained by a city or town.

The study emphasizes issues identified by the relevant subregional groups along with recommendations to address the identified issues. In addition to mobility, safety, and access subjects that will be considered include bicycle and pedestrian transportation, transit feasibility, and other topics raised by subregional groups.

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[1] Unified Planning Work Program, Federal Fiscal Year 2015, endorsed by the Boston Region Metropolitan Planning Organization on June 26, 2014.

[2] A work scope for "Priority Corridors for LRTP Needs Assessment—FFY 2015," is being simultaneously submitted to the Boston Region MPO.

This memorandum presents the procedure of selecting roadways for the study, including selection criteria; the roadway corridor that was selected for study; and a summary.

2 SELECTION PROCEDURE

Selection of 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 sources. These sources include:

- Soliciting suggestions of study locations during the recent outreach for developing the MPO's FFY 2015 UPWP and FFY 2015 LRTP
- Reviewing meeting records from the UPWP outreach process for the past five years (2010 to the 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 that have delays 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 identified 30 roadway segments in 31 communities in the MPO region and assembled detailed data for these roadways, including:

- MassDOT 2013 Road Inventory File—used to assemble roadway jurisdiction, average daily traffic (ADT), sidewalk width, shoulders, and other geometric information
- MassDOT 2008–2012 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
- Select data from MassDOT's project-information database, the MPO's 2015–2018 Transportation Improvement Program (TIP) projects, MPO planning and other studies; and municipal websites for projects, studies, and TIP projects planned or programmed for each arterial segment

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] transit services, 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 four criteria: safety conditions, multimodal significance, subregional priority, and implementation potential, 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 one or more HSIP-eligible intersections
  - Location has significant number of pedestrian and bicycle crashes (two or more per mile) or contains one or more HSIP-eligible bike/pedestrian clusters

- *Multimodal Significance, 0-3 points (each bullet counts as 1 point)*
  - Location currently supports transit, bicycle, or pedestrian activities or needs to support these activities
  - Location has significant potential to enhance transit, bicycle, or pedestrian activities
  - Location has received reports of heavy vehicle (truck/bus) issue

- *Subregional Priority, 0-2 points (each bullet counts as 1 point***)**
  - Location carries significant portion of subregional vehicle, bicycle, or pedestrian traffic
  - Location is essential for subregion's economic, cultural, or recreational development

- *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

[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 the 896 intersections in the top five percent have crash clusters with a minimum EDPO value of 42.

- Location is proposed or endorsed by its roadway administrative agency (agencies)
- Location has strong support from all of its stakeholders

2.3 Rating Potential Roadways

Roadway segments with a total score of five points or less were rated as low priority. Roadway segments with a total score of six-to-seven points were rated medium priority. Roadway segments with a total score of eight-or-more points were rated high priority.

Five of the 30 potential locations were identified as high priority:

1. Summer Street/Rockland Street/George Washington Boulevard from North Street in Hingham to Nantasket Avenue in Hull
2. Route 1A in Beverly
3. Route 3A from Burlington Mall Road to Route 62 (Francis Wyman Road) in Burlington
4. Route 129 from Washington Street to Eastern Avenue in Lynn
5. Mount Auburn Street from Watertown Square in Watertown to Fresh Pond Parkway in Cambridge

These locations were further examined to check for existing relevant projects or studies. Locations with projects that currently are under construction, in design, under study, or programmed in the TIP were excluded from further consideration. Based on this evaluation, Route 1A in Beverly and Mount Auburn Street in Watertown and Cambridge were excluded from this study.

3 SELECTED SUBREGIONAL ROADWAY: HINGHAM/HULL

Among the remaining three high-priority locations, MPO staff recommends the Summer Street/Rockland Street/George Washington Boulevard corridor in Hingham and Hull for this study cycle. This final selection is based on the following considerations:

- The study site has strong support from all stakeholders, including officers and representatives from Hingham and Hull, MAPC, and MassDOT District 5, and the roadway's administrator.
- It has strong potential for design and implementation toward a "complete street" corridor.
- It includes a high-crash and congested location, the rotary of Summer Street at Route 3A, which needs to be improved for the safety and mobility of users of all modes.

The selected roadway is about three miles long. It is mostly an undivided four-lane roadway and entirely under MassDOT jurisdiction. Most of the roadway is functionally classified as an urban minor arterial, except the section of Summer Street between North Street and the Route 3A rotary, which is an urban principal arterial. Currently only a portion of the corridor, mainly the northern half, contains bicycle infrastructure in the form of an off-road bicycle shared-use path (George Washington Boulevard Bike Path). Sidewalks exist on at least one side of the roadway but with many substandard sections hindered by utility poles.

The corridor serves as a link to the adjacent Hingham downtown area and other South Shore communities via Route 3A and as a major entry point to Hull and Nantasket Beach. In addition, it serves as a link to the Nantasket Junction station of the MBTA Greenbush commuter rail line. During the summer months, traffic along the corridor increases substantially, affecting the safety and mobility of local residents and all users.

4 SUMMARY

The recommended roadway segment has a number of issues, including congestion, safety, multimodal accommodation, economic development, and environmental influences. The South Shore Coalition (SSC), the Towns of Hingham and Hull, MAPC, MassDOT, and Representative Garrett J. Bradley all have expressed their support for the study of this location.

The Hingham/Hull location meets the objectives of this study, especially in supporting the transportation improvement priorities of the SSC subregion. The work scope for this study assumed that “as many as two” arterial segments would be selected. MPO staff does not propose studying a second arterial segment because the roadway segment is relatively long and contains a complicated location, the Route 3A rotary, which would require considerable resources to evaluate improvement alternatives.

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 Hingham and Hull, MassDOT, and MAPC to discuss the study specifics, conduct field visits, collect data, and perform various analyses.

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

Roadway	Community	MAPC Subregion	MassDOT District	Jurisdiction	Length (Miles)	Functional Classification	Average Daily Traffic	Overall Crash Rate (MVMT)	Bike/Ped Crashes Per Mile	HSIP-Eligible Crash Clusters 2010-2012 (Highest EDPO/ Total EDPO)	Transit Service on or crossing segment	Study, Project, or TIP Project	Safety Conditions	Multimodal Significance	Subregional Priority	Implementation Potential	Score	Overall Assessment	Summary of Comments
Summer Street/ Rockland Street/ George Washington Boulevard	Hingham, Hull	SSC	5	MassDOT	3	3, 5	17,950	2.1	2.7	55/55	MBTA Commuter Rail at Natasket Junction, West Hingham, and Cohasset Ferry service	Pre-TIP and MassDOT project #605168 Intersection Improvements at Route 3A/Summer Street Rotary.The project will provide improved pedestrian accommodation as well as drainage upgrades, but no active design is currently underway.	2	2	2	3	9	High	SSC cited this roadway during the UPWP outreach for FFYs 2013 to 2015. This corridor serves as a major entrance point into Hull and Nantasket Beach. MassDOT District 5 expressed that the Summer Street/Rockland Street (Hingham) and George Washington Boulevard (Hull) corridor is an excellent candidate for study. The Towns of Hingham and Hull expressed interest in pursuing improvements on the corridor. Representative Garrett J. Bradley has submitted a formal letter of support to CTPS dated Dec. 9, 2014.
Route 1A	Beverly	NSTF	4	MassDOT, Beverly	4.1	2, 3	15,500	7.7	8.8	103/384	42 MBTA bus stops MBTA Route 451 MBTA Commuter Rail at Beverly, North Beverly, Montserrat, Salem, and Hamilton/Wenham Ferry service	Advertised TIP #600220 Reconstruction and Signal Improvements on Rantoul and Cabot Streets (Route 1A) from Cabot Street (South, at Veterans Memorial Bridge) to Cabot Street (North, at Memorial Building at 502 Cabot Street) MassDOT Project #600200 Reconstruction and Signal Improvements on Route 1A (Rantoul Street and Cabot Street), from Cabot Street (South) to 440 Feet North of Blaine Avenue, Includes Culvert Repair; construction begins winter 2014/2015 MassDOT Project #77158 Roadway Improvements Including Signals on Route 1A (Cabot, Dodge and Enon Streets); complete spring 2004	2	2	2	2	8	High	The majority of this corridor is already included in MassDOT project #600200- Reconstruction and Signal Improvements on Route 1A. Verbal Comments at MAPC Subregion Meeting: Route 1A in particular has non-commuter congestion
Route 3A	Burlington	NSPC	4	MassDOT	3.8	3	23,100	2.7	2.1	0	27 MBTA bus stops MBTA Routes 350, 352, 354 and 351	No projects	1	2	2	3	8	High	The proposed segment is from Burlington Mall Road to Route 62 (Francis Wyman Road) in Burlington. MassDOT District 4 expressed interest in examining the inconsistent roadway cross-sections and the potential for pedestrian and bicycle accommodations.
Route 129	Lynn	ICC	4	Lynn	1.2	3	24,200	8.2	25.8	71/221	20 MBTA bus stops MBTA Routes 441, 442, 448, 449, 429, 435, 436, 439,455, 456, and 459 MBTA Commuter Rail at Lynn/Central Square and Swampscott Ferry service	No projects	2	2	2	2	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.
Mt. Auburn St./Route 16	Watertown, Cambridge	ICC	6	Watertown, Cambridge, MassDOT (<0.1 mi near town lines)	2.6	3	24,000	4.0	19.6	72/169	32 MBTA bus stops MBTA Routes 71, 73, 70, and 70A MBTA Commuter Rail Stations at Porter Square, Belmont, Waverly, and Newtonville	Pre-TIP and MassDOT Project #607777 Rehabilitation of Mount Auburn Street (Route 16) from Summer Street to Belmont Street The project involves revising the roadway geometry including roadway diet reduction of available number of lanes, safety improvements, and multimodal accomodations including shared or exclusive bike lanes, traffic signasl improvements, and improved ADA amenities; preliminary design phase. MassDOT Project #602053 Intersection Improvements at Three Locations: Spring at Summer; Mount Auburn at Summer; Coolidge Hill Road at Crawford; complete spring 2011 DCR announced (on December 2, 2014) that the agency will conduct a traffic study of several intersections along Mount Auburn Street and Fresh Pond Parkway, in partnership with the City of Cambridge and the MBTA. The study will focus on safety measures, bus prioritization, and accessibility.	2	2	2	2	8	High	The majority of the corridor (from the Cambridge city line to just east of Watertown Square) is included in Watertown MassDOT Project #607777 Rehabilitation of Mount Auburn Street (Route 16). The project is currently in the preliminary design phase. DCR study will include the intersection of Mount Auburn Street at Fresh Pond Parkway. In FFY 2014 UPWP Watertown (Steve Magoon) proposed at MAPC subregion meeting to reduce travel lanes (which would involve adding bicycle lanes) and provide multiple uses for the roadway and to improve safety and access.

Roadway	Community	MAPC Subregion	MassDOT District	Jurisdiction	Length (Miles)	Functional Classification	Average Daily Traffic	Overall Crash Rate (MVMT)	Bike/Ped Crashes Per Mile	HSIP-Eligible Crash Clusters 2010-2012 (Highest EDPO/ Total EDPO)	Transit Service on or crossing segment	Study, Project, or TIP Project	Safety Conditions	Multimodal Significance	Subregional Priority	Implementation Potential	Score	Overall Assessment	Summary of Comments
Route 20	Marlborough	MetroWest	3	MassDOT and Marlborough	5.3	3	25,000	5.9	4.3	220/491	MetroWest RTA Routes 17, 19, 20, and 18 Proposed MBTA Commuter Rail	Pre-TIP (Jan 2013) #604811 Reconstruction of Route 20 (East Main Street), from Main Street Easterly to Lincoln Street (0.3 miles) Pre-TIP (Jan 2013) #604231 Intersection and Signal Improvements on Route 20 (East Main Street/Boston Post Road) at Concord Road Arterial and Intersection MassDOT Project 604231 Intersection and Signal Improvements on Route 20 (East Main Street/Boston Post Road) at Concord Road; preliminary design phase MassDOT Project 604811 Reconstruction of Route 20 (East Main Street) from Main Street Easterly to Lincoln Street (0.3 Miles); preliminary design phase MassDOT Project 600428 Roadway Reconstruction on West Main Street (Route 20) between Beach Street and Granger Boulevard (3,100 Feet); complete summer 2005 MassDOT Project 601133 Roadway Reconstruction Including Signals, Route 20 (Boston Post Road) from the Northboro city line to Felton Street; complete autumn 2004	2	2	2	1	7	Medium	Formal Letter and verbal comments at MAPC subregion meeting, resubmitted in Comment on Draft FFY 2014 UPWP Study Route 20 and major roadways in Downtown Marlborough (Lincoln Street, Main Street). Route 20 in Downtown Marlborough is a candidate for a road diet; this could potentially impact other roadways.
Route 35	Topsfield (less than 0.05 mi), Danvers, Peabody	NSTF	4	Topsfield (less than 0.05 mi), Danvers, Peabody, MassDOT	6.0	5	17,250	2.6	1.8	100/144	30 MBTA bus stops MBTA Routes 435 and 465 MBTA Commuter Rail at Hamilton/Wenham, North Beverly, Montserrat, Beverly, and Salem Ferry service	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	2	7	Medium	NSTF cited this roadway during the UPWP outreach for FFYs 2013 and 2014. The North Shore Task Force cited Route 35 in Danvers as one of the subregion's priority roadways for study in the FFY 2013 UPWP. Verbal comments were made a MAPC subregion meeting and a letter for the FFY 2014 UPWP was submitted.
Route 38	Wilmington	NSPC	4	MassDOT	4.0	3	17,500	5.2	5.0	81/332	MBTA Route 134 MBTA Commuter Rail at Wilmington and North Wilmington	Pre-TIP #608051 Reconstruction on Route 38 (Main Street), from Route 62 to the Woburn city line; the project will reconstruct Route 38 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. Pre-TIP/MassDOT #607327 Bridge Replacement, Route 38 (Main Street) over the Boston and Marine Corporation Railroad; preliminary design phase	2	2	2	1	7	Medium	Pre-TIP #608051 has a scope covering half of the segment's length. This section should be evaluated for safety and mobility improvements. NSPC cited this roadway during the UPWP outreach for FFYs 2013 and 2014. Both Routes 38 and 62 serve as conduits through Wilmington to I-95 and I-93, and contain congested signalized intersections and traffic and pedestrian safety issues.
Route 114	Marblehead	NSTF	4	Marblehead	1.4	3	16,750	2.9	6.4	44/44	Six MBTA bus stops MBTA Routes 441, 442, 448, and 449 MBTA Commuter Rail at Salem and Swampscott Ferry service	No projects	2	1	2	2	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 117	Waltham	ICC	4	Waltham, MassDOT (0.05 mi at I-95)	1.3	5	17,500	4.1	6.2	0	16 MBTA bus stops MBTA Routes 70, 170, 553 MBTA Commuter Rail at Silver Hill, Hastings, Kendal Green, Brandeis/Roberts, and Waltham	No projects	2	2	2	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.
Route 127	Gloucester, Rockport	NSTF	4	MassDOT, Gloucester, Rockport	4.7	3, 5	16,950	1.3	1.9	45/45	MBTA Commuter Rail at Rockport, Gloucester, and West Gloucester Cape Ann Transit Authority bus routes	No projects	1	2	2	2	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	Marblehead	NSTF	4	Marblehead	1.5	3	12,100	2.4	4.0	0	Ferry service (over 3 mi by road)	No projects	1	2	2	2	7	Medium	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.

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Route 129	Swampscott	NSTF	4	Swampscott, DCR (less than 0.1 mi)	2.5	3	19,000	1.9	6.0	48/48	25 MBTA bus stops MBTA Routes 442 and 449 MBTA Commuter Rail at Swampscott Ferry service	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	2	2	2	1	7	Medium	Part of the segment falls under a conceptual TIP project. The North Shore Task Force cited this roadway in 2012 as one of the subregion's priority roadways for study in the FFY 2013 UPWP, then again in FFY 2014. 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 congestion issues also.
Route 27	Stoughton	TRIC	5	Stoughton	0.6	3	17,550	15.3	31.7	97/168	MBTA Commuter Rail at Stoughton 2 Brockton Area Transit Authority bus stops serving Stoughton Bus Route 14	No projects	2	2	2	1	7	Medium	TRIC cited this roadway in the UPWP FFY 2012 and 2013 outreach.
Concord Avenue	Cambridge	ICC	6	Cambridge and DCR (between two rotaries)	1.9	3 and 2 (between two rotaries)	28,000	4.0	15.8	48/95	34 MBTA bus stops MBTA Routes 72,74,75, and 78 MBTA Commuter Rail at Porter Square and Belmont MBTA Rapid Tranist via Red Line (Porter Square)	Bicycle and Pedestrian Conceptual Project #987 Minuteman Path Right-of-Way to aquire 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.	2	2	2	1	7	Medium	Note comprehensive DCR study announced December 2014 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."
Route 20	Sudbury and Wayland	MetroWest and MAGIC	3	MassDOT	8.2	3	31,000	1.6	1.0	61/115	No MBTA or MWRTA transit service	Intersection Improvements: Pre-TIP (Jan 2013) #607249 at Route 20 and Landham Road, Conceptual TIP (Jan 2012) #1037 at Route 20/ Horsepond Road, and Conceptual TIP (Feb 2010) #1069 at Route 20/ Wayside Inn MassDOT Project #602845 Traffic Safety Improvements on Route 20 (Boston Post Road) at Route 27/126 (Cochituate Road). The work under this project includes reconstructing West Main Street (Route 20) from Beach Street to Granger Boulevard. Work includes widening and reconstruction, traffic signalization, drainage improvements, sidewalks, curbing, pavement markings, signing and landscape improvements; complete summer 2007. MassDOT Project #607249 Intersection Improvements at Route 20 and Landham Road; preliminary design phase	1	2	2	1	6	Medium	Formal Letter and verbal comments at MAPC subregion meeting, resubmitted in comment on Draft FFY 2014 UPWP
Main Street	Saugus	ICC	4	Saugus and MassDOT	2.9	3, 5	16,950	3.9	0.3	24/47	32 MBTA bus stops MBTA Routes 428,429, aand 430 MBTA Commuter Rail at Wakefield, Greenwood, Melrose/Highlands, Melrose/Cedar Park, and Wyoming Hill Ferry service	No projects	1	2	2	1	6	Medium	Brendan O'Regan, Driector of Saugus DPW has written to ask 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 38	Woburn	NSPC	4	MassDOT, Woburn	1.4	3	19,250	3.7	5.0	0	Twelve MBTA bus stops MBTA Route 134 MBTA Commuter Rail at Anderson/ Woburn and Mishawum	No projects	2	1	2	1	6	Medium	NSPC and Woburn requested a study of the I-95 rotary interchange and the traffic signals at Route 38 and Elm Street. MassDOT jurisdiction north of I-95 recently reconstructed by developer. It may be suitable for an intersection study at Elm Street. MassDOT District 4 notes high crash locations at Elm Street and at the I-95 Rotary. While a study may have value, they sugggest that a Road Safety Audit (RSA) should be conducted and may be a more appropriate way to address these locations.

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Route 127	Beverly, Manchester-by-the-Sea, Gloucester	NSTF	4	MassDOT, Manchester, Beverly	13.6	5, 6	4,850	2.0	1.3	0	One MBTA bus stop MBTA Route 451 MBTA Commuter Rail at Salem, Beverly, Montserrat, Prides Crossing, Beverly Farms, Manchester, West Gloucester, and Gloucester Cape Ann Transit Authority bus routes Ferry service	Conceptual TIP project #762 Beverly Bikeway 11-mile pedestrian and bicycle facility including much of Route 127 in Beverly MassDOT Project #607707 Resurfacing and Related Work on Route 127; preliminary design phase	0	2	2	2	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 1A	Wrentham	SWAP	5	MassDOT	5.0	5	9,650	5.7	0.4	62/128	MBTA Commuter Rail at Norfolk	MassDOT Project #603739 Construction of Route I-495/ Route 1A Ramps. Design is less than 25% complete (Jan 2015). Design to be funded through mitigation funds under a Section 61 finding. The Town of Wrentham has hired McMahon & Associates to perform the design, which is being advanced to the 25% stage. MassDOT Project #605218 Resurfacing and Related Work on Route 1A. The purpose of this project is to address various sections of State Highway on Route 1A from Route 1 in North Attleborough to the Norwood/Westwood town line that are in need of resurfacing to improve the riding surface and maintain structural integrity of the pavement; complete autumn 2014. MassDOT Project #600710 Safety Improvements, Route 1A (South Street) at Route 121 (West Street) (Wampum Corner); complete autumn 2006.	1	2	2	1	6	Medium	Recent MassDOT Project #605218 seems to cover the corridor in scope, but does not address the lack of bicycle and pedestrian facilities, nor intersection safety issues. MassDOT District 5 has met with the Town of Wrentham over the course of many years to discuss the needs of this corridor. The corridor exhibits congestion in the vicinity of the Wrentham Premium Outlets and there is potential for additional siginificant development in the immeadiate area. The corridor also includes high crash locations and lacks bicycle/pedestrian accomodations. It would be worthwhile to study the corridor and provide recommendations to the town and MassDOT prior to additional development.
Route 37	Holbrook	SSC	5	MassDOT and Holbrook	3.6	3	15,500	4.2	5.3	87/87	54 MBTA bus stops MBTA Route 230 MBTA Commuter Rail at Montello, Holbrook/Randolph, and South Weymouth	FFY 2013 Safety and Operations at Intersections Conceptual TIP #1044 Intersection improvements at South Franklin Street and King Road	2	1	2	1	6	Medium	The Town of Holbrook has been in contact with the district and is interested in improvements, particularly multimodal transportation improvements.
Route 228	Hingham, Norwell, Rockland	SSC	5	MassDOT, Rockland, Norwell, Hingham	2.5	5	21,800	4.0	1.6	57/196	MBTA Commuter Rail at South Weymouth and East Weymouth	Conceptual TIP project #968 VFW Drive, Weymouth Street, Hingham Street (full-depth reconstruction) includes the southern half of the segment MassDOT Project #603414 Bridge Rehabiltiation, Derby Street (Route 228) over Route 3 NB and SB in TIP Year 2004 MassDOT #604391 Reconstruction and Improvements on Route 228, from Queen Anne's Corner (Route 53) to Merrymount Road (Phase II) in TIP Year 2008.	1	2	1	2	6	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 139	Randolph, Stoughton	TRIC	5, 6	MassDOT and Randolph	0.7	3	28,750	3.7	2.9	57	MBTA Commuter Rail at Holbrook/Randolph	No projects	2	2	1	1	6	Medium	Verbal comment at Fall 2013 MAPC Subregion Meeting. Steve Winter noted: "Different types of development exist on either side of the town border. Is there a study that could support them working together to propose improvements?" This segment is a local access manangement issue and is not suitable for a Subregional Priority Roadways Study.
Route 97	Beverly, Wenham, Topsfield	NSTF	4	Beverly, Wenham, Topsfield	8.9	5	15,000	1.0	0.3	48/95	MBTA Route 451 MBTA Commuter Rail at North Beverly, Monserrat, and Beverly	MassDOT Project #604028 Intersection Improvements on Route 97 (Topsfield Road) at Cherry and Maple Streets; complete spring 2009	1	2	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 27	Sharon	TRIC	5	Sharon	1.7	3	13,900	2.4	1.2	0	MBTA Commuter Rail at Sharon, Canton Center, and Canton Junction	No projects	0	1	2	2	5	Low	TRIC cited this roadway in the UPWP FFY 2012 outreach.

Roadway	Community	MAPC Subregion	MassDOT District	Jurisdiction	Length (Miles)	Functional Classification	Average Daily Traffic	Overall Crash Rate (MVMT)	Bike/Ped Crashes Per Mile	HSIP-Eligible Crash Clusters 2010-2012 (Highest EDPO/ Total EDPO)	Transit Service on or crossing segment	Study, Project, or TIP Project	Safety Conditions	Multimodal Significance	Subregional Priority	Implementation Potential	Score	Overall Assessment	Summary of Comments
Route 53	Hanover	SSC	5	MassDOT	3.5	3	22,500	3.1	0.9	42/42	None	Pre-TIP #607758 Intersection and Signal Improvements on Route 53 (Columbia Road) at Route 139 (Rockland Street) Advertised (Apr 2009) TIP project #602602 Reconstruction of Washington Street (Route 53) and Related Work from the Route 3 Northbound MassDOT Project #114501 Reconstruction of Route 53, from Mill Street to Pond Street (Phase 1b); complete autumn 2010. MassDOT Project #602602 Reconstruction of Washington Street (Route 53) and Related Work, from the Route 3 (NB) Ramp to Webster Street (Route 123); construction begins winter 2014/2015 MassDOT Project #607715 Resurfacing and Related Work Route 53; preliminary design phase MassDOT Project #605101 Bridge Replacement, Route 53 (Washington Street) over Route 3 Including Signal and Intersection Improvements at Northbound Ramps; complete autumn 2012 MassDOT Project #603378 Bridge Rehabilitation, Route 53 over Route 3; complete summer 2007	1	1	2	1	5	Low	SSC cited this roadway during the UPWP outreach for FFYs 2013 and 2014 via a formal letter and verbal comments at MPAC subregion meeting. This north-south corridor is a direct connection to and from Route 3 Exit 13, serves many south shore communities, and a major route between Route 123 and Route 139.
Greenough Blvd.	Cambridge, Watertown	ICC	6	DCR	1.1	5	10,500	2.7	0.9	0	MBTA Routes 70 and 70A MBTA Rapid Transit via Red Line and Green Line MBTA Commuter Rail at Porter Square, Belmont, and Waverly	DCR announced (on December 18, 2014) a comprehensive study of the parkway system for bike lanes which will focus on off-road recreational multi-use trail developments including Greenough Boulevard as part of its scope.	0	2	2	1	5	Low	This roadway is the focus of a recently announced (12/18/2014) DCR study of bicycle lanes and improvements for all users. Watertown (Steve Magoon) proposed this segment via verbal comments at MAPC subregion meeting in Fall 2012 to reduce travel lanes and provide multiple uses of the roadway. It was noted that traffic on this segment is not enough to warrant existing capacity.
Route 16	Cambridge	ICC	6	Cambridge	0.4	3	12,383	12.4	15.0	73/145	Seven MBTA bus stops MBTA Route 72, 75, 71, and 73	MassDOT Project #605637 Improvements at Route 2 and Route 16; construction ends spring 2016	2	1	1	1	5	Low	Comments in survey response on vision, goals, objectives in FFY 2015 LRTP outreach Comment from Fresh Pond Residents Alliance: Regional through traffic is choking the western gateway to Cambridge on Route 2 and Route 16 and clogging neighborhood streets in West Cambridge
Route 2A/King Street	Littleton	MAGIC	3	MassDOT	2.5	3	15,000	1.2	0.4	0	MBTA Commuter Rail at Littleton/Route 495	MassDOT Project #605504 Bridge Betterment, Route 2A (King Street) over I-495.	0	2	2	0	4	Low	Suggestion by Littleton (email from Keith Bergman)
Route 133	Essex, Gloucester, Ipswich	NSTF	4	MassDOT, Essex	11.0	5, 6	10,500	0.9	0.3	0	MBTA Commuter Rail at West Gloucester, Ipswitch and Gloucester Cape Ann Transit Authority bus routes	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 (about one mile). Includes concrete sidewalks and pavement markings; complete autumn 2013.	0	2	1	1	4	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 ENHC. It was cited in the 2013 UPWP outreach. A two-mile section in the Essex downtown area was recently reconstructed (summer 2011).

*** 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 (agencie), or has strong support from all of its stakeholders

Score	#	%
4	2	7%
5	5	17%
6	8	27%
7	10	33%
8	4	13%
9	1	3%
Sum	**30**	**100%**

Acronyms and Abbreviations

AADT = Annual average daily traffic. ADA = Americans with Disabilities Act. ADT = Average daily traffic. BAT = Brockton Areas 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. MVMT = 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.