MEMORANDUM

DATE: June 24, 2010

TO: Transportation Planning and Programming Committee of the Boston Region Metropolitan Planning Organization

FROM: Chen-Yuan Wang, Project Manager

RE: *Safety and Operations Analyses at Selected Intersections*: Selection Procedure

This study was one of the recommendations from the Boston Region MPO's Congestion Management Process (CMP), funded through the MPO's Unified Planning Work Program. The study's purpose is to evaluate up to twelve intersections from through out the region and develop recommendations for safety and operations improvements.

The selection of intersections was based on two major sources. The first was the MassDOT Registry Division 2006-2008 crash database, which includes all the intersections and interchanges in the Commonwealth. The selection procedure consisted of the following steps:

- Rank all the intersections in the Boston region by the number of EPDO[1] (Equivalent Property Damage Only) crashes.
- Retain intersections with a high number of EPDO crashes.
- Exclude intersections that were already programmed in the 2010-2013 Transportation Improvement Program, have been or were being studied by the MPO or other agencies.
- Exclude large complicated intersections and locations related to highway interchanges or major traffic rotaries.
- Exclude intersections belonging to a group of intersections that may require a corridor or a subarea study.
- Review the screened intersections' location, geometry, and congestion conditions from the CMP database.
- Identify top 25 intersections.
- Contact the cities and towns about any existing intersection studies or designs and determine their interest in project implementation.

The second source was through the coordination with MAPC to solicit potential locations from MAPC Subregions and individual cities and towns. Danvers and Rockport proposed several intersections. Staff applied the similar steps above to evaluate the proposed intersections and selected a Rockport intersection with location significance and an EDPO value higher than that of other intersections on the proposed list.

[1] EPDO = 10 * Fatality Crashes + 5 * Injury Crashes + 1 * Other Crashes (Property Damage Only or Not Reported)

In summary, the selection was comprehensive and was applied iteratively with extensive data screenings and numerous interactions with cities and towns. Nine intersections were selected through this intensive effort. Table 1 lists the selected intersections by their locations, total number of EPDO crashes from 2006 to 2008, total number of crashes, the number of fatal/injury crashes, and the number of crashes involving with pedestrians or cyclists.

Table 1 Selected Intersections in the Boston Region

City/Town	Street 1	Street 2	2006-08 EDPO	Total Crashes	Fatal Crashes	Injury Crashes	Ped./Bike Crashes
Natick	Rte 135/ West Central St	Speen St	149	93	0	14	0
Wilmington	Rte 129/Lowell St	Woburn St	143	59	0	21	0
Chelsea	Broadway	Congress Ave	142	58	0	21	4
Chelsea	Broadway	Everett Ave	41	17	0	6	6
Stoughton	Central St	Pearl St	104	48	0	14	2
Bolton	Rte 117/ Main St	Ret 110/ Still River Rd	100	35	1	14	0
Holbrook	Weymouth St	Pine St & Sycamore St	77	33	0	11	0
Milford	Rte 140/ Prospect St	Water St & Williams St	70	29	1	8	0
Rockport	Rte 127/ Main St	Broadway & Parker St	31	15	0	4	1

Note: EPDO = 10*Fatal Crashes + 5*Injury Crashes + 1*Other Crashes (Property Damage Only or Not Reported)

CW/cw

cc: Karl Quackenbush, CTPS