DATE: April 2, 2015 Meeting
TO: Draft Memorandum for the Record
FROM: Ryan Hicks, Central Transportation Planning Staff
RE: Boston Region Metropolitan Planning Organization Meeting

Meeting Time/Location

9:00 AM–9:50 AM, State Transportation Building**,** Conference Rooms 2 and 3, 10 Park Plaza, Boston, MA

Chairperson

Lourenço Dantas, Massachusetts Port Authority

Decisions

It was decided by the Congestion Management Process (CMP) committee that Option 2 would be implemented. Option 2 will postpone a portion of Task 3 of the federal fiscal year (FFY) 2015 CMP work scope until FFY 2016 in order to allocate funds to analyze two additional datasets that the Boston Region Metropolitan Planning Organization (MPO) has received.

Meeting Agenda

Introduction

Everyone who was present at the CMP committee meeting introduced themselves (see below for attendance list).

Approval of Minutes of September 18, 2014, CMP Committee Meeting

The minutes of the September 18, 2014, meeting were approved.

Discussion to Modify FFY 2015 CMP Work Program to Examine HERE and MassDOT Travel Time Data

In 2013, the Boston Region MPO purchased a roadway-monitoring dataset from INRIX that contains travel time data for roadways in the Boston Region MPO area. Since the approval of the FFY 2015 CMP work plan by the MPO in October 2014, the MPO has acquired two additional datasets (Massachusetts Department of Transportation [MassDOT] and HERE), which provide travel time information for a subset of the region’s roadways. These datasets are provided at no cost to the MPO.

The MassDOT dataset is collected through a partnership with a company called BlueTOAD that uses Bluetooth readers along roads in Boston to calculate travel times. These travel times are displayed to travelers on dynamic messaging signs and are also archived. This archived data has been given to the MPO in raw form; therefore, it needs to be cleaned before it can be used in analysis. Additionally, the roadway segments may be longer than the Traffic Messaging Channels (TMCs) used to measure the INRIX data, so work is needed to compare the two datasets. The MassDOT dataset covers a very limited sample of roadways (three interstates so far) and is only captured at limited points where the Bluetooth readers are located. The available data is as recent as this year and includes data as far back as 2012, when only one road was covered.

By comparison, INRIX uses vehicle-probe data. INRIX partners with companies and individuals who have volunteered to be tracked using cellphone apps to gather data. The data are cleaned and are provided in one-minute increments for each roadway segment or TMC. The MPO receives and analyzes the cleaned data. With MassDOT's BlueTOAD, every Bluetooth device has a MAC address (a unique number), and a time stamp is provided every time the device passes a data collection point. In 2012 and 2013, it was estimated that three to five percent of travelers were captured via MassDOT's BlueTOAD system. These percentages could be higher than the percentage captured in INRIX data, making the MassDOT data potentially more reliable.

The HERE dataset could provide information for truck travel by using vehicle-probe data on travel times and roadway speeds, which are collected by a fleet of vehicles that use Global Positioning System (GPS) monitoring devices. The HERE dataset is a product of the National Performance Management System (by NAVTEQ); it is given to all MPOs for free. The HERE dataset is similar to the INRIX dataset because it is a TMC system that provides data in five-minute increments. It differs from INRIX in that it separates trucks from automobiles, allowing freight analysis. HERE data are provided to the MPO on a monthly basis. The MPO would need to clean the data, and there are questions about the reliability of the data, which would require analysis to determine in what capacities the data would be most useful (e.g., for freight analysis only or for more expanded applications). Like MassDOT's BlueTOAD data, the HERE data only cover a limited number of roadways; therefore, there are drawbacks in comparison to the INRIX dataset.

The current INRIX data used by the MPO is from 2012 (purchased in 2013). Because it is too expensive to purchase every year, the MPO will seek to obtain new data in 2016 or 2017. Since the MassDOT and HERE datasets are free of charge, they could potentially be used to monitor traffic before the next purchase of detailed, comprehensive INRIX datasets. The MassDOT and HERE datasets could help to develop trends for intervening years, although the scope of the datasets is more limited than that of INRIX. Additionally, since INRIX does not capture freight data, the HERE

data could be used to improve the freight model (e.g., improve modeling of freight travel times). It is currently unknown how the HERE dataset categorizes different types of freight.

The analysis of the MassDOT and HERE data would take the place of other tasks that had been planned for the fall, at an estimated cost of $9,500. The funding for this task could be apportioned through either of the following two options, or through a third option proposed by committee members. Option 2 is the preference of the Boston Region MPO.

Option 1

Option 1 reduces the scope of Task 2 (Create Roadway Congestion Scans) in the FFY 2015 CMP work plan. If the number of proposed arterial congestion scans was decreased from 22 to 15, the cost of Task 2 would be reduced by $9,500, which would be allocated to the additional dataset analysis.

Option 2

Option 2 suspends a portion of the work of Task 3 (Analyze the Regional Economic Costs of Congestion Using INRIX and Other Data) from the FFY 2015 CMP work plan until FFY 2016. This option would allow $9,500 from the work plan budget to be allocated to the additional dataset analysis.

Questions and comments

Comments about Option 1

None.

Comments about Option 2

The Task 3 work would be pushed into a subsequent FFY, not eliminated. Task 3 would be started this FFY and finished next year.

There is a person-power issue as well as budgetary constraints, which mean that it might be easier to add Task 3 work to the 2016 budget. Even if the money currently was available, staff may not have time to complete both Task 3 and the additional dataset analysis this year.

The regional economic causes of congestion analysis has not been started yet. This work would not be reduced, just deferred. It would carry over into FFY 2016.

The $9,500 estimate is based on staff time. Equivalent staff time currently allotted to Task 3 would be shifted to the next FFY.

The Committee selected Option 2.

Takeaways

Ask HERE about what types of freight are monitored.

Intersection Improvement Program Status Update

This is a Transportation Improvement Program (TIP)-based program to study the feasibility of low-cost signal improvements and retiming for intersections in selected communities in the region. The MPO determined a list of potential communities and intersections suitable for the program. The next step is to solicit involvement from the communities and facilitate communication with the consultant, Howard/Stein-Hudson (HSH).

The intersection improvement process has already been tested in Framingham and Arlington. The consultant has completed a study of one intersection in Arlington. A second intersection was considered in Arlington, but the city said that this intersection is suitable in its current condition. For the intersection that was studied, Pleasant Street at Irving Street, the consultant completed a 16-page memorandum on signal timing, inventory of signals, other pedestrian facilities, general analysis, and conclusions. The memorandum's recommendations can be divided into timing improvements and capital improvements (repainting crosswalks, ramps, etc.). Consultants will implement the timing improvements themselves since they have been granted access to the signal boxes. The capital improvements will be left to the municipalities to implement. At the Arlington intersection, the signal timing is fine, but the pedestrian "Stop, Don't Walk" phase will be adjusted by one second.

The consultant discovered that some of the intersections proposed for study in other communities do not have congestion; therefore, the list of intersections is being reviewed, and a new list will be proposed. It will be the MPO's job to write letters and contact the communities whose intersections ultimately are selected for consideration.

The selection criteria include crash data on crash clusters, local (not state) roadways, and Manual for Uniform Traffic Control Devices (MUTCD) signals. However, because congestion data are not often available for local roads, the crash data serve as a proxy.

Questions and comments

The pilot intersection that was examined for the Intersection Improvement Program helps us to examine the process, determine how to develop a technical memo, and even determine what data are needed by the consultant. The development of a lessons-learned memorandum is recommended to document these findings. The consultant will need to write it since Boston MPO staff are not allotted substantial hours for this task. Input from MassDOT would be needed as well, with discussion of how the program can

involve other agencies. Since a lessons-learned memorandum was not included in the original scope, the consultant will be asked to subtract one of the intersections suggested for study to allot time to this. Knowing how to improve programs is important to the MPO.

Part of the question is balancing the level of service (LOS) for motor vehicles with service for pedestrians in order to ensure pedestrian compliance. Even though the consultant is not considering pedestrians specifically, pedestrian signals will be looked at to make sure that the timing meets MUTCD criteria. The consultant will calculate the motor-vehicle LOS of the intersection, but not the LOS for pedestrians. The consultant is also doing traffic counts. Focusing on pedestrian service is recommended to ensure that pedestrians are not frustrated.

This is a valuable program. Nationwide, these types of inexpensive studies are an efficient tool for reducing congestion.

With the Arlington example, signal timing and infrastructure improvements are independent; the timing changes will be implemented regardless of the implementation of any infrastructure improvements.

The committee is interested in reading the completed study for the Pleasant Street and Irving Street Intersection in Arlington.

Takeaways

- Send Arlington memo to CMP committee (completed).
- Ask consultants to incorporate the LOS for pedestrians for the memo analysis.
- Recommend that the consultant produce a memo that outlines lessons learned; this should be done in place of studying one intersection.

Other Business

None.

Adjournment

The meeting was adjourned at 9:50 AM.

Attendance

Members	Representatives and Alternates
At-Large Town (Town of Lexington)	Richard Canale
Massachusetts Port Authority	Lourenço Dantas
At-Large City (City of Everett)	Jay Monty
Three Rivers Interlocal Council (Town of Norwood)	Steve Olanoff
MassDOT Highway Division	John Romano
MassDOT Highway Division	Marie Rose

Other Attendees	Affiliation
None	

MPO Staff/Central Transportation Planning Staff
Mark Abbott
Ryan Hicks
Scott Peterson