

Draft Memorandum for the Record

Boston Region Congestion Management Committee Meeting

January 23, 2014 Meeting

12:15 PM–1:15 PM, State Transportation Building, Conference Rooms 2&3, 10 Park Plaza, Boston

Lourenço Dantas, Chair, representing Massachusetts Port Authority (Massport)

Decisions

No decisions were made at this meeting.

Meeting Agenda

1. Introductions

2. Chair's Report – *Lourenço Dantas, Massport*

Efi Pagitsas presented a brief update on the Intersection Improvement Program—which is on hold until approval can be obtained from the Congestion Mitigation and Air Quality (CMAQ) committee. Once the Intersection Improvement Program is approved, the consultant can begin the required work. The CMAQ committee will not meet in the immediate future, but the question for approval will go out to committee members via email today, with the deadline for responses one week from today. We anticipate that the program would be approved in the next couple of weeks

3. Approval of December 19, 2013, Congestion Management Committee Meeting Minutes

The December 19, 2013, Congestion Management Committee meeting minutes were approved.

4. Congestion Management Performance (CMP) Measures Discussion

At the December 19 Congestion Management Committee meeting, Ryan Hicks held a presentation about the INRIX data and a sample test conducted by CMP staff that analyzed the selected performance measures. (Slides from the presentation are available upon request.) He also presented a table that cited performance measures for freeways, nine of which were selected as potentials for further analysis using the INRIX data.

The INRIX data network consists of more than 7000 Traffic Message Channels (TMCs) in the Boston region; for each TMC, staff tracked every minute of 2012. As a result, more than 3.7 billion speed records for the Boston region are included with the INRIX purchase, including records for all of the major freeways in the Boston Region MPO model, and many arterials, collectors, and local roads.

CMP staff queried a small portion of the INRIX data and tested it against the nine potential performance measures. The corridors selected for analysis were I-95 from Route 2 to Route 28, I-93 from Route 60 to Route 129, and Route 3 from I-95 to Concord Road. Twenty-one non-holiday Tuesdays, Wednesdays, and Thursdays from 8:00 AM to 9:00 AM during the spring of 2012 were analyzed.

Below are examples of the four dimensions of performance measures that were graphically presented at the meeting:

Duration, which expresses the length of time a facility is congested, is the first dimension used to measure performance. The variable selected to measure duration is congested time.

Extent, which indicates the geographic span of congestion, is the second performance-measure factor. Extent is measured by potential variables; lane miles of congestion and freeway congestion scan.

Intensity is the third performance measure factor; it indicates the degree of congestion at a specific location. The potential variables are average travel speed, speed index, bottleneck factor, and delay per mile.

Reliability is the last dimension; this compares perfect to imperfect travel conditions. Travel time index and planning time index are the potential variables for measuring reliability.

Questions and comments

How do you define the segments for the freeways?

TMCs are used to define the segments. For freeways, TMCs usually span from interchange to interchange.

What are the next steps with the INRIX data after the performance measures are selected?

MPO Staff is currently working on an interactive tool that will display a map of all of the selected performance measures for both freeways and arterials. The data for the

interactive tool for freeways will be ready by the end of March, and the data for arterials will be ready shortly thereafter. Before the interactive tool is complete, staff will conduct a presentation on performance measures for the arterials to the CMP committee. The arterials and freeways will be presented to the CMP committee separately, as the potential performance measures for arterials could be different.

What is the final sample days selected for the data?

A total of 51 days (based on a typical weekday made up of spring and fall samples) will be included in the final sample criteria.

What if we want to include/exclude certain samples because of unforeseen events?

The database allows you to create queries to capture data for an unforeseen event to use in studies outside of the CMP scope. In order to include/exclude the times of unforeseen event, you would need to obtain the date of the event from an outside source.

Does the INRIX data factor in weather conditions?

The speed records do not distinguish between factors such as weather, accidents, etc. However, the INRIX data does contain a C-value score that can fluctuate to indicate that an abnormal event has occurred. If you have independent information about the weather, you may exclude it from the data samples if you know the time of the occurrence.

Is the INRIX data collected from embedded sensors on the freeways?

No, INRIX data is collected by fleet, cell phones, and navigation devices. INRIX reprocesses the data to sell to entities that can use either real time or aggregated data.

Is truck traffic factored in/separated from the rest of the data?

The INRIX data is calculated from a combination of all vehicle classifications. It is not possible to separate truck data from that of other vehicle types.

How does INRIX factor in drivers who stop in the middle of roadway segments on arterials?

Usually, if a tracked car remains on the roadway, it would be used as part of the sample data set. However, if the car pulls off the road entirely, the car movement would not be factored into the sample data.

Is there a chance that one or two measures presented might not be used, or would be redundant?

CMP staff has considered this issue and needs to decide what measures would make the final list. The purpose of using four dimensions is to dissect the data in different ways. Most of these measures may be calculated easily and are adding vital congestion monitoring information. However, it also is possible to overwhelm an audience with redundant performance measures, which should be avoided. Hence, because the needs of audiences inevitably fluctuate, the suitability of which performance measures to present to which group also must be adjusted depending upon the audience.

For reliability, why choose planning time index instead of buffer time index?

One issue with buffer time index is that it factors in average speed instead of free-flow travel speed, and it is possible that congestion would not be identified if the average speed of a roadway is similar to the five percent travel speed of the roadway.

How are the thresholds determined, e.g., the 0.70 index threshold that is used for speed index?

Staff still needs to determine the thresholds, which in most cases, would be subjective. Most important, staff needs to determine what parameters would define a facility as congested.

Next Steps

- CMP committee should meet in late February. Possible agenda item: presentation of park-and-ride and bicycle parking at MBTA stations.
- MPO staff will post the slides from today's meeting on the MPO website.
- CMP staff will present arterial INRIX data and performance measures at a future CMP committee meeting.
- CMP staff will provide updates on the interactive tool, as needed.

5. Other Business

There was none.

6. Adjournment

The meeting was adjourned at 1:15 PM.

Attendance

Members

Representatives and Alternates

At-Large Town (Town of Lexington)	Richard Canale
North Suburban Planning Council (City of Woburn)	Jay Corey
Massachusetts Port Authority	Lourenço Dantas
City of Boston (Boston Redevelopment Authority)	Tom Kadzis
Regional Transportation Advisory Council	David Montgomery
Three Rivers Interlocal Council/Town of Norwood	Steve Olanoff
MassDOT Highway Division	John Romano
Massachusetts Department of Transportation	Marie Rose

Other Attendees Affiliation

Mike Gowing	Regional Transportation Advisory Council /Town of Acton
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MPO Staff/Central Transportation Planning Staff

Hiral Gandhi
Ryan Hicks
Efi Pagitsas
Scott Peterson
