



## Regional Transportation Advisory Council

June 14, 2017, Meeting

3:00 PM, State Transportation Building, Conference Room 4,  
Boston, MA

### Draft Meeting Summary

#### Introductions

T. Bennett, Chair (Cambridge) called the meeting to order at 3:00 PM. Members and guests attending the meeting introduced themselves. (For attendance list, see page 5.)

#### Chair's Report - Tegin Teich Bennett

The UPWP will be voted on for final approval at tomorrow's MPO meeting. Discussion at the last MPO meeting included the MBTA Youth Based Pass Program which has been effective in reaching low-income and minority riders and is expanding into more communities. The MBTA Capital Investment Plan (CIP) which is available for viewing online was out for public review until June 2.

In July, the Advisory Council will meet for a field trip to the Conley Seaport Terminal in South Boston in lieu of a regular meeting. Members will meet on July 12 at Massport's Boston Fish Pier – East Building at 1:00 PM. There will not be a regular meeting of the Advisory Council in August. The next Advisory Council meeting will be held on September 13.

#### Minutes - May 10, 2017

A motion to approve the minutes of the May 10 meeting was made and seconded. The minutes were approved with A. Fragoso abstaining.

#### Core Capacity Constraints: Accommodating Growth on Greater Boston's Road and Transit Systems - Bill Kuttner and Bruce Kaplan, CTPS

B. Kuttner introduced the Core Capacity Constraints study he presented at the May 4,

2017, MPO meeting. He summarized regional capacity problems noting that travel demand is steadily increasing; that expanding transportation capacity is difficult; and crowding will get worse. The study's objectives are to quantify existing congestion; to forecast future congestion; to identify approaches to expand capacity and to review mitigation programs. The study is organized into four distinct areas including demographics and development; roadway congestion; transit crowding; and mitigation programs.

The study is focused on communities located at the core of the Boston Region MPO including Boston, Brookline, Cambridge, Somerville, Everett, Chelsea, Revere, Medford, and Arlington.

The Study Area, which represents roughly seven percent of the total area of the MPO region, will experience nearly 18 times the increase in population per square mile and over 25 times the increase in employment per square mile when compared to the rest of the MPO for the planning period of 2010-2040. The trend assumptions are that greatest increases will occur in areas already dense in population and employment. Statistics further support assumptions that the expanded use of walking, bicycling, and working at home will satisfy only a portion of increased travel demand; and the average commuting distances are getting longer.

The study identified seventy-two large impact developments in the Study Area. Not included among these 72 large impact projects are developments associated with the Boston Seaport, the casino in Everett, Kendall Square in Cambridge and the Harvard expansion in Allston—projects already extensively studied and incorporated into the “No-Build” scenario along with background development growth.

The transportation network was divided into seven transportation subsystems: Roadways; Red Line; Orange Line; Green Line; Blue Line; Bus-Vehicles Services; Commuter Rail. In 2012, 319 miles of major Study Area roadways were congested during the AM and PM peak periods, meaning it was used at a rate greater than 85 percent of roadway total capacity. Under the 2040 “No-Build” scenario, i.e., the 72 big projects are not built, peak period congestion is projected to reach 399 miles of roadways while that number climbs to 424 miles of peak period miles of congested roadways for the 2040 “Build” scenario (assumes the 72 big projects are built). The sections of roadway becoming congested in the “Build” scenario are scattered across the Study Area.

B. Kuttner explained the development of graphics used to depict overcrowding on the four MBTA transit lines (Red, Green, Orange, and Blue). Based on the current assumptions of service levels, the Red Line, Orange Line and Green Line impacts are most severe with the building of the proposed new development projects.

The study considered developing data for investigating bus-vehicle crowding. These steps include identifying the peak load of each bus trip on a route; sum the peak loads of all buses over each 15-minute interval; sum the peak loads of the highest four consecutive

15-minute intervals; and divide the total number of bus seats provided during the interval (Peak Passengers / Peak Seats). Based on the analysis current conditions for 29 routes, the study showed that peak-hour riders per seat mostly fall between 1.0 and 1.3 (MBTA considers more than 1.4 riders per seat to be “crowded”). Riders per seat vary widely between individual buses. Peak-hour service ranges between 6 and 20 buses.

Some of the bus-vehicle service implications are that while available bus capacity is allocated to routes based on need, crowding results largely from bunching (which can result from congestion). Seating arrangements in new buses may reduce crowding, and operational strategies may reduce bunching.

The study considered commuter rail crowding by identifying the most crowded train on each line for each peak period (representing AM and PM peak for the 13 Commuter Rail Lines for a total of 26 trains). Of the studied trains, only one train under current conditions has involuntary standees, but the load is acceptable. Riders perceive crowding if load exceeds 80 percent of seats. Only half of the 26 trains exceed the 80 percent level at some point. Designing convenient schedules is a major challenge.

B. Kaplan continued the presentation addressing three types of mitigation strategies:

- Traffic System Management (TSM) – where the system is changed through physical operational modification like lane configuration and adding signals
- Transportation Demand Management (TDM) – where travel behavior is changed by shifting modes and times of travel
- Transit Mitigation – examples in the Boston area include: Boston Landing CRR station in Allston where the developer paid for the facility and start-up operations costs; Extensive shuttle bus network by Wynn Casino; Kendall Square where developers provide funding for transit enhancement projects

Nationally, San Francisco has a transit development assessment on non-residential developments which goes directly to MUNI operations. In Portland, OR, there is a transportation system development charge on any new development. Value capture methods where recovery of funds spent on public investments include tax increment finance districts or through special fees (Denver and Seattle).

As a summary, even though the 72 development projects will have an impact on the transportation system, an overarching framework to address the financing of regional transit mitigation is needed.

## **Discussion**

T. Bennett explained that municipalities are trying to address mitigation in various ways but often have not been successful because it is difficult to make a compelling case to certain developers to think about this in a more systematic way. The MPO’s discussion of this

topic (when it was presented) was very positive because municipal representatives recognized that this conversation needs to continue in order to address these transit mitigation problems.

M. Gowing asked if Autonomous Vehicles (AVs) were considered in the traffic volumes. B. Kuttner explained that they were not considered in the makeup of the travel model numbers, but that future implementation and expansion of AVs would have another impact on transit mitigation needs.

In response to a question on the inclusion of North-South Rail Link and feeder service to transit (F. Osman), B. Kaplan explained that it was not part of the study. T. Bennett added that a goal should be to develop strategies to make the best investments to accommodate the projected increase in transit trips.

T. Bennett encouraged CTPS to carry out some of the work related to the scenario planning for the Long Range Transportation Plan and that some of these bigger picture issues and how they interact and affect the choices of investment can be explored through some of those scenarios.

A. Fragoso asked if there are incentives for developers to develop further out from the hub, stating the data suggests that suburbs are likely to lose out on population and employment growth. She also noted that on funding concerns, when addressing the commuter rail system, there is a choke point on the north side where there are only four tracks open for all the lines in both directions. B. Kuttner explained that the future demand projections included all modes, not just commuter rail and that considering expansion to meet the demand is a multifaceted issue that will consider more than just commuter rail expansion which makes it beyond the scope of this study.

J. Businger encouraged continued discussion of the interaction of various transit modes on developments in the region as a whole.

L. Diggins asked about the handling of ridership peaks in the future and whether the peaks are result of general economic activity or are the conditions so “peaked out” that there need to be ridership adjustments to avert the more costly capacity expansion. B. Kuttner stated that expanding capacity at an exact moment in demand is always more expensive. It is not just adding trains on the commuter rail that mitigates capacity problems, but it is adding trains that are convenient to the clientele.

L. Diggins noted that peak pricing in Washington, DC, did not have an impact on system usage but it was a way to generate revenue. Elasticity is so low at a peak period that there is no large benefit in terms of commuting behavior and choices.

T. Bennett asked what is the next step for this study and if regional groups can request the presentation. B. Kuttner explained that he and Bruce are invited to present at Boston City Hall and would be happy to coordinate future presentations of this work.

## Old Business, New Business, and Member Announcements

T. Bennett announced that the next regular meeting will be on September 13.

## Adjournment

A motion to adjourn was made and seconded. The meeting adjourned at 4:20 PM.

## Attendance

### **Municipalities - Voting**

Acton  
Cambridge  
Needham

### **Attendee**

Mike Gowing  
Tegin Bennett  
Rhain Hoyland

### **Citizen Advocacy Groups**

Boston Society of Architects  
  
Boston Society of Civil Engineers  
CrosstownConnect  
MASCO  
MoveMassachusetts  
National Corridors Initiative  
WalkBoston

Schuyler Larrabee  
AnaCristina  
Fragoso  
Scott Zadakis  
Paul Nelson  
Jon Seward  
John Businger  
John McQueen

### **MAPC Sub-regions Non-Voting**

MAGIC

Franny Osman

### **Municipalities Non-Voting**

Boston

Tom Kadzis

### **Guests**

US EPA - Region I  
MBTA - Rider Oversight Committee (ROC)  
Malden Resident

Abby Swaine  
Leonard Diggins  
Ed Lowney

### **Staff**

Lourenço Dantas  
Bill Kuttner  
Bruce Kaplan

Matt Archer  
Jen Rowe