

Memorandum for the Record

Boston Region Metropolitan Planning Organization Meeting

May 4, 2017 Meeting

10:00 AM – 12:30 PM, State Transportation Building, Conference Rooms 2&3, 10 Park Plaza, Boston

David Mohler, Chair, representing Stephanie Pollack, Secretary and Chief Executive Officer, Massachusetts Department of Transportation (MassDOT)

Decisions

The Boston Region Metropolitan Planning Organization agreed to the following:

- approve the minutes of the meeting of March 30, 2017
- approve the work program for *Massachusetts Bay Transportation Authority (MBTA) State Fiscal Year (SFY) 2018 National Transit Database (NTD): Data Collection and Analysis*
- vote to release the *Draft Federal Fiscal Year (FFY) 2018 Unified Planning Work Program (UPWP)* for a 21-day public review period

1. Introductions

See attendance on page 12.

2. Public Comments

There were none.

3. Chair's Report—*David Mohler, MassDOT*

There was none.

4. Committee Chairs' Reports

There were none.

5. Regional Transportation Advisory Council Report—*Tegin Bennett, Regional Transportation Advisory Council*

The Advisory Council will meet May 10 to vote on comments regarding the Draft FFYs 2018-2022 Transportation Improvement Program (TIP) and Draft FFY 2018 UPWP.

6. Executive Director’s Report—Karl Quackenbush, Executive Director, MPO Staff

The annual Administration & Finance Committee meeting will take place prior to the MPO meeting on June 15. K. Quackenbush announced that Elizabeth Moore, Director of Policy and Planning, MPO Staff, will retire at the end of June.

7. Approval of Meeting Minutes—Róisín Foley, MPO Staff

A motion to approve the minutes of the meeting of March 30 was made by the Metropolitan Area Planning Council (Eric Bourassa) and seconded by the City of Boston (Boston Transportation Department) (Jim Gillooly). The motion carried. The Regional Transportation Advisory Council (T. Bennett) abstained.

8. Action Item: Draft Federal Fiscal Year (FFY) 2018 Unified Planning Work Program (UPWP)—Sandy Johnston, MPO Staff

Handouts/Materials Posted to the MPO Meeting Calendar

1. Draft FFY 2018 UPWP Document: *Executive Summary, Table ES-1, FFY Unified Planning Work Program Budget, Page xxi*
2. UPWP Document: *Chapter 6.2, Planning Studies, Pages 6.5-6.20*
3. UPWP Document: *Chapter 9, Budget and Operating Summaries, Pages 9.1-9.11*

S. Johnston provided an overview of the UPWP document. The UPWP documents the study and analysis efforts of the MPO planning process. There are two main sources of funding for the work in the UPWP: Federal 3C Planning Funds and Non-3C Funds. Federal 3C Planning Funds come from two sources: the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA). Each includes a match from MassDOT. 3C funds usually total approximately \$5 million annually for MPO work. CTPS receives about 80% and MAPC about 20% of this funding. Non-3C Funds come from contracts between CTPS and agencies such as the MBTA, Massport, and MassDOT. The table below shows the breakdown of funds for FFY 2018.

| 3C Funds Programmed in Draft FFY 2018 UPWP | CTPS | MAPC |
|---|--------------------|--------------------|
| FHWA 3C PL | \$2,992,550 | \$701,596 |
| FTA Section 5303 | \$1,289,065 | \$327,297 |
| Total 3C Funds | \$4,281,615 | \$1,029,253 |

Agency contracts for FFY 2018 total almost \$1.6 million. The total budget recommended for the FFY 2018 UPWP is almost \$6.9 million.

There are ten new discrete studies recommended for funding and a new ongoing program, included in the table below.

| Discrete Study Title | Category |
|---|------------------------------------|
| <ul style="list-style-type: none"> • Bicycle Level of Service | Active Transportation |
| <ul style="list-style-type: none"> • Transportation Mitigation of Major Developments: Review of Strategies | Land Use, Environment, and Economy |
| <ul style="list-style-type: none"> • Safety and Operations Analysis at Selected Intersections • Addressing Safety, Mobility, and Access on Subregional Priority Roadways • Addressing Priority Corridors from the LRTP Needs Assessment • Potential Impacts of Connected and Autonomous Vehicles • Travel Alternatives to Regional Traffic Bottlenecks | Multimodal Mobility |
| <ul style="list-style-type: none"> • Community Transportation Program Development • Review of and Guide to Regional Transit Signal Priority | Transit |
| <ul style="list-style-type: none"> • MPO-staff generated research topics | Other Technical Support |

Vote

A motion to release the *Draft FFY 2018 UPWP* document for a 21-day public review period was made by the South West Advisory Planning Committee (Town of Medway) (Dennis Crowley) and seconded by the City of Boston (J. Gillooly). The motion carried.

**9. Action Item: Work Program for MBTA State Fiscal Year (SFY) 2018 National Transit Database (NTD): Data Collection and Analysis—
*Andrew Reker, MPO Staff***

The NTD is the primary source for statistics on transit systems in the United States. In support of the MBTA’s annual NTD submittal to FTA, MPO Staff will develop estimates of passenger-miles traveled and unlinked trips for the MBTA’s trackless trolley, heavy rail, and light rail modes. Staff will develop an estimate of the average trip length per passenger for the commuter rail and estimates of passenger-miles traveled and unlinked trips for contracted MBTA local bus service. Staff will review the MBTA’s Automatic Passenger Counter (APC)-derived passenger-miles traveled and boarding

estimates for the bus and rapid-bus modes. This project will be funded through a contract with the MBTA. The total cost of this project is estimated to be \$152,752.

Discussion

D. Mohler noted that Commuter Rail conductor counts have not been viewed as a reliable source of data. Annette Demchur (MPO Staff) clarified that this is not the only source from which staff will determine Commuter Rail ridership data. Micha Gensler (MBTA Advisory Board) asked that the work program be amended to state this clearly.

Vote

A motion to approve the work program for *MBTA State Fiscal Year (SFY) 2018 National Transit Database (NTD): Data Collection and Analysis* with the suggested amendment was made by the Metropolitan Area Planning Council (E. Bourassa) and seconded by the North Suburban Planning Council (City of Woburn) (Tina Cassidy). The motion carried.

10. Transit Asset Management and Performance Measurement—Michelle Scott, MPO Staff, Victor Rivas and Satyen Patel, MBTA Staff

In the context of the MPO’s Performance-Based Planning and Programming (PBPP), one of the MPO’s first tasks will be to establish regional targets for Transit Asset Management (TAM) performance measures. TAM prioritizes funding based on the condition of transit assets in order to achieve or maintain transit networks in a state of good repair (SGR). FTA’s TAM Rule went into effect on October 1, 2016. The table below summarizes the status of various federal performance measure rules, including the TAM rule.

| Rule | Measures | Final? | In effect? |
|--|--|---------------|-------------------|
| HSIP / Safety Performance | Highway Safety | Yes | Yes |
| Transit Asset Management | Transit Asset Condition | Yes | Yes |
| Pavement and Bridge Condition | Pavement and Bridge Condition | Yes | |
| NHS Performance/CMAQ/Freight | Freight Movement, Congestion Reduction, Environmental Sustainability | Yes | |
| Public Transportation Agency Safety Plan | Transit Safety | | |

The rule establishes requirements for transit agencies when reporting annually to the NTD. Transit providers must inventory their assets and implement TAM Plans. Transit providers and MPOs must develop targets for TAM performance measures. The MBTA,

Cape Ann Transportation Authority (CATA,) and MetroWest Regional Transportation Authority (MWRTA) are working towards setting targets. The MPO will use these to set TAM targets for the region. In the coming months, staff will update the MPO board on TAM activities and work to set targets for the MPO region.

The TAM rule distinguishes between two tiers of transit agencies based on the size and characteristics of their systems. The MBTA is a Tier I agency while CATA and MWRTA are Tier II agencies. The final TAM rule has nine general requirements for what agencies must include in their TAM Plans. The first four apply to both Tier I and Tier II agencies, while the last five apply only to Tier I.

1. Asset Inventory
2. Condition of Inventoried Assets
3. Description of Decision Support Tool
4. Prioritized List of Investments
5. Agency TAM and SGR Policy
6. Implementation Strategies for TAM Goals and Policies
7. List of Key Annual Activities for Plan Implementation
8. Identification of Resources to Carry out TAM Plan
9. Evaluation Plan for TAM Progress

The MBTA has a SGR Database and a Decision Support Tool that helps to meet the first four criteria. In 2017, the MBTA will update its Transit Asset Management Plan and work on implementation strategies. The MBTA must develop and report on targets for Performance Measures (PMs) related to equipment, rolling stock, infrastructure, and facilities, as shown in the table below.).

| Asset Category | Measures |
|-----------------------|--|
| Equipment | Percentage of [non-revenue] vehicles that have met or exceeded their Useful Life Benchmark (ULB) |
| Rolling Stock | Percentage of revenue vehicles that have met or exceeded their ULB |
| Infrastructure | Percentage of track segments with performance restrictions, by mode |
| Facilities | Percentage of assets with condition rating below 3.0 on FTA TERM Scale |

According to FTA, a ULB is the expected lifecycle of a capital asset for a particular transit provider's operating environment, or the acceptable period of use in service for a particular transit provider's operating environment.

The MPO must coordinate with states and transit agencies on TAM activities, PMs, and targets; establish agreed-upon local processes for target setting; and develop targets for the MPO region within 180 days of transit agencies setting targets. In the next few months, MPO staff will provide an update on this TAM target setting process. After October 1, 2018, the MPO must report PMs and targets in Long-Range Transportation Plans (LRTPs) and TIPs. Upcoming PBPP decisions for the MPO include identifying scenarios to study and related measures to track performance (June 2017), setting targets for federally required TAM measures (end of 2017, tentative) and federally required highway safety measures (2/27/2018, pending information on state deadlines), and choosing whether to establish other highway safety measures and targets (Winter 2017/2018).

Discussion

E. Bourassa asked whether bridges owned by the MBTA are considered assets that must be inventoried. V. Rivas responded that the MBTA owns and maintains 476 bridges and will invest \$500 million over next five years in bridges.

J. Gillooly noted that it seemed likely the MPO's role would be to help the MBTA, CATA, and MWRTA meet targets by understanding proposed project impacts on TAM and prioritizing investments during the TIP process. He asked if there would be a tool to manage information on TAM to support future TIP discussions. V. Rivas responded that this is the spirit of the rule. FTA has been concerned that funds are not being invested in system preservation at the rate needed to achieve SGR. He said that the MBTA is working on and will have mechanisms to measure how investments will impact performance. S. Patel added that FTA's expectation is that the TAM Plan will be in alignment with the MBTA's Capital Investment Plan (CIP).

D. Crowley asked about costs associated with meeting these requirements and whether it means less money for capital improvements or transit operations, particularly for smaller agencies. V. Rivas replied that the rule indicates clearly that federal formula funds for capital investment can be used for implementation of the TAM Plan and stressed that having a TAM system in place is good business practice that will allow the MBTA to make sound investment decisions.

D. Mohler asked which agency—the MWRTA or the MBTA—is responsible for accounting for Framingham Station in their TAM plan. Daniel Fitch, MWRTA, explained

that the MBTA still has direct capital responsibility for the station and would be responsible for reporting on it.

11. Core Capacity Constraints Study—*Bill Kuttner and Bruce Kaplan, MPO Staff*

The *Core Capacity Constraints* study examines the capacity of road and transit facilities in the core area of the MPO region, relates these capacities to current and projected levels of traffic and ridership, and determines the location and severity of congestion and crowding. Travel demand is projected to increase significantly by 2040. Staff began with the 2012 Base-Year travel demand, and projected it to 2040, while estimating crowding and congestion expected in 2040.

Staff projected significant demographic growth and associated new travel demand within the study area and the rest of the metropolitan region. Much of this growth is based on a set of specific large projects. Staff estimated the transportation impacts of 72 large-impact development projects on 7 transportation subsystems: Roadways, Bus-Vehicle Services, Commuter Rail, Red Line, Orange Line, Green Line, and Blue Line.

Some of the findings of these analyses include:

Roadways

In the Base Year, about 25 percent of major study-area roadways are congested during the AM peak period, and about 39 percent are congested during the PM peak. These percentages are projected to increase to 34 and 51 percent by 2040. About 24 percent of this increase may be attributed to the 72 selected large-impact projects.

Red Line

The Red Line has the highest capacity of the four rapid transit lines, and experiences meaningful crowding today on commutes from Quincy and Braintree. This is largely a consequence of this branch being served by only half of the Red Line trains. Future growth, especially from the selected large-impact projects, will exacerbate crowding.

Orange Line

The Orange Line has meaningful crowding today on commutes from the north. Congestion on these commutes will increase by 2040, and the selected large-impact projects will result in severe crowding.

Green Line

Crowding on the Green Line depends to a large degree on how many of its four branches operate at any particular point in the system. Crowding in the Base Year is almost entirely during the PM peak period, eastbound on the E branch at Prudential,

and westbound from Park Street to Kenmore. Crowding in 2040 is expected to become severe throughout the Green Line tunnel system primarily as a result of the 72 selected large-impact projects.

Blue Line

There is virtually no crowding on the Blue Line today under normal circumstances. In 2040, a small amount of crowding is expected crossing from Maverick to downtown Boston in the AM and returning in the PM. None of this crowding will be a result of the 72 large-impact projects.

Bus-Vehicle Services

A sufficient number of bus trips are operated in the study area to accommodate travel demand with very little unacceptable crowding. The year-2040 ridership was estimated only for the system as a whole, and the impact of just the large-impact projects has not been calculated. Ridership growth may be accommodated with more trips or larger vehicles.

Commuter Rail

Crowding is not a widespread problem in the commuter rail system. Standardizing on larger, bi-level coaches will allow future ridership growth.

Mitigation Strategies

Staff investigated options for mitigating increased demand on the system. Three types of mitigation—traffic systems management, transportation demand management, and transit mitigation—represent distinct approaches. The recent construction of the Assembly Orange Line station by the Assembly Row developers is an example of a significant improvement to the transportation system financed through a mitigation agreement with a developer. The construction of a new station near a new development conforms to current mitigation practices in Massachusetts. The new station makes transit an attractive mode for users of the new development, which is the express purpose of the new station. However, these new users travel throughout the transit system, contributing to congestion across the entire network.

With new legislation, funding mechanisms such as value-capture or impact fees could allow funds derived from a new development to be used in parts of the transit system not directly related to the development itself. Even with this flexibility, the funds derived from a single developer would be insufficient to expand the entire system's capacity meaningfully. Ultimately, user fees and broad-based revenue sources will be required to add capacity to the region's transportation systems.

Conclusions

Congestion will increase significantly by 2040, even in a scenario without the completion of the 72 large-impact projects. The 72 large-impact projects impact the Green and Orange lines most dramatically. System-wide transit crowding traditionally has not been considered a transportation mitigation measure concerning development. Under Massachusetts state law, even the most ambitious mitigation programs are closely tied to specific individual developments. Examples of more comprehensive mitigation programs exist in other states, but will require legislation in order to implement such programs in Massachusetts.

Discussion

J. Monty noted that the level of detail in the study related to the stresses on capacity should also be translated to the options for mitigation.

E. Bourassa agreed that follow-up work quantifying which mitigation strategy offers the best deal for municipalities would be welcome. E. Bourassa asked representatives from the City of Boston whether the current Transportation Access Plan Agreement (TAPA) process asks developers to quantify the impacts of development on specific transit capacity. Under Massachusetts law, currently, municipalities cannot simply impose impact fees on developers. Jim Fitzgerald (City of Boston) (Boston Planning & Development Agency) replied that it is standard for the City to require developers to look at transit capacity, and that BPDA staff are working to quantify this.

T. Bennett added that methodologies do not currently include the impacts of multiple developments on the system as a whole, which is a valuable part of this work for municipalities.

T. Bent noted that this discussion is important given that there weren't a lot of tools for the City of Somerville during negotiations with developers related to the Green Line Extension.

J. Monty asked the board to consider next steps for developing a comprehensive look at mitigation strategies.

K. Quackenbush noted that a major proponent of this study was State Senator William N. Brownsberger, who may be able to work on next steps at a legislative level. Senator Brownsberger thanked the MPO board for the acknowledgement and for funding the study.

12. Fairmount Line Station-Access Analysis—Casey-Marie Claude, MPO Staff

C. Claude presented an overview of this study. The *Fairmount Line Station-Access Analysis* study builds upon BPDA work to improve non-motorized transportation options within the neighborhoods surrounding the Fairmount Line, specifically regarding the safety and comfort of residents walking and bicycling to Fairmount Line stations. Apart from South Station, there are currently seven Fairmount Line stations, with plans to add an eighth. Using the ActiveTrans Priority Tool (APT), five stations were selected for analysis: Newmarket, Four Corners/Geneva Avenue, Talbot Avenue, Morton Street, and the planned Blue Hill Avenue station. MPO staff traveled through the selected station areas along Boston Bike Network roadways and the Fairmount Greenway path, noting the conditions of bicycle and pedestrian amenities. MPO staff assessed bicycle facilities, bike racks, pedestrian signals, sidewalks, curb ramps, detectable warnings, and pavement markings.

C. Claude noted that the City of Boston can use this information to guide its efforts to improve bicycle and pedestrian access to the Fairmount Line. Staff's suggestions include: buffered or separated bicycle facilities wherever feasible, inverted U and post and ring bike racks, wider sidewalks and paved routes with separate zones that house poles and other utilities, green space as a buffer between pedestrians and vehicle traffic, sidewalks and paths that can accommodate two wheelchairs passing or riding side-by-side, curb ramps with detectable warnings, adequate lighting, visible crosswalk markings, and pedestrian signals with countdown displays that provide sufficient time for pedestrians. By suggesting improvements to bicycle and pedestrian facilities, the study seeks to increase the transportation options available to those who live within walking and bicycling distance of Fairmount Line stations. In turn, this may lead to greater employment opportunities and better access to amenities for people within the vicinity of the five Fairmount Line stations.

Discussion

J. Fitzgerald thanked C. Claude and MPO staff for the work.

13. Members Items

D. Mohler noted that FHWA's MPO consolidation rule has been repealed by both houses of Congress.

Steve Olanoff reported that the groundbreaking for the Dedham Street corridor project took place on the morning of this meeting.

J. Monty reported that there will be a Congestion Management Process Committee meeting on May 18 prior to the MPO meeting.

J. Gillooly announced that the next public meeting for the Rutherford Avenue/Sullivan Square project will take place on the evening of May 18. At this meeting the City will announce a preferred design concept for the project.

14. Adjourn

A motion to adjourn was made by the Metropolitan Area Planning Council (E. Bourassa) and seconded by At-Large City (City of Everett) (J. Monty). The motion carried.

Attendance

| Members | Representatives and Alternates |
|--|---|
| At-Large City (City of Everett) | Jay Monty |
| At-Large City (City of Newton) | David Koses |
| At-Large Town (Town of Arlington) | Laura Wiener |
| At-Large Town (Town of Lexington) | Richard Canale |
| City of Boston (Boston Planning & Development Agency) | Jim Fitzgerald |
| City of Boston (Boston Transportation Department) | Jim Gillooly |
| | |
| Federal Highway Administration | Nelson Hoffman |
| Federal Transit Administration | |
| Inner Core Committee (City of Somerville) | Tom Bent |
| Massachusetts Department of Transportation | David Mohler |
| | |
| MassDOT Highway Division | John Romano |
| | |
| Massachusetts Bay Transportation Authority (MBTA) | Victor Rivas |
| Massachusetts Port Authority | Laura Gilmore |
| MBTA Advisory Board | Micha Gensler |
| Metropolitan Area Planning Council | Eric Bourassa |
| MetroWest Regional Collaborative (Town of Framingham) | |
| Minuteman Advisory Group on Interlocal Coordination (Town of Bedford) | Richard Reed |
| North Shore Task Force (City of Beverly) | Denise Deschamps |
| North Suburban Planning Council (City of Woburn) | Tina Cassidy |
| Regional Transportation Advisory Council | Tegin Bennett |
| South Shore Coalition (Town of Braintree) | |
| South West Advisory Planning Committee (Town of Medway) | Dennis Crowley |
| Three Rivers Interlocal Council (Town of Norwood/NVCC) | Steve Olanoff |

Other Attendees Affiliation

| | |
|------------------|-----------------------|
| Jason Desrosier | Allston-Brighton CDC |
| Bryan Pounds | MassDOT-OTP |
| Paul Moyer | Boston Resident |
| Michael Small | |
| Satyen Patel | MBTA Asset Management |
| John Gendall | MassDOT Highway D6 |
| Tom Kadzis | City of Boston |
| Carl Seglem | Boston Resident |
| Daniel Fitch | MWRTA |
| Joy Glynn | MWRTA |
| Martyn Roetter | NABB |
| Kristin C. Field | NABB |
| Steve Olanoff | TRIC |

MPO Staff/Central Transportation Planning Staff

Karl Quackenbush, Executive Director
Casey-Marie Claude
Lourenço Dantas
Róisín Foley
Bruce Kaplan
Bill Kuttner
Anne McGahan
Elizabeth Moore
Jen Rowe
Michelle Scott
