



U. S. Department  
of Transportation

Federal Highway  
Administration

Federal Transit  
Administration

TRANSPORTATION PLANNING CERTIFICATION REVIEW

*OF THE*

METROPOLITAN PLANNING PROCESS FOR THE BOSTON  
TRANSPORTATION MANAGEMENT AREA

BOSTON REGION METROPOLITAN PLANNING  
ORGANIZATION

Final Report – May 2015

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## **INTRODUCTION**

This document describes the review and findings of the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) planning certification review of the transportation planning process in the Boston region, as conducted by the Boston Region Metropolitan Planning Organization (MPO).

## **FEDERAL TRANSPORTATION LAW**

The Boston Region MPO is required by federal law to conduct the metropolitan transportation planning process according to the requirements of the Moving Ahead for Progress in the 21st Century Act (MAP-21), signed into law on July 6, 2012. The United States Department of Transportation (U.S. DOT) is currently in the process of writing the Statewide and Metropolitan Planning Final Rule, which will set federal requirements for the transportation planning process. These requirements will update those currently found in 23 CFR Part 450, the metropolitan planning regulations, and will continue to be closely tied with the Clean Air Act Amendments of 1990 through the U.S. Environmental Protection Agency's (EPA) Air Quality Conformity Regulations.

## **TRANSPORTATION PLANNING IN THE BOSTON REGION**

The Boston Region MPO was originally designated in 1973, and is largest of eleven MPOs that serve the Boston, MA-NH-RI urbanized area. The Central Transportation Planning Staff (CTPS) provides staff support to the MPO. The Boston Region MPO covers 101 cities and towns and approximately 1,400 square miles in the Boston urbanized area, representing more than 3 million residents. Its policy board currently has 22 members and is chaired by the Secretary of the Massachusetts Department of Transportation (MassDOT). The first certification review and evaluation of the MPO's metropolitan transportation planning process was conducted in October 1995.

## **THE CERTIFICATION REVIEW PROCESS**

Federal regulation requires that the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) jointly review and evaluate the transportation planning process conducted in each Transportation Management Area (TMA), defined as an urbanized area with a population over 200,000. This "Certification Review" must be conducted at least once every four years. Certification reviews generally consist of four components: a "desk review" of MPO planning products and documents, a site visit and meeting with the MPO (including a public meeting), a final report by the Federal Review Team that summarizes the review and offers findings, and a letter transmitting the report and announcing the findings of the review.

Subjects of focus for a certification review include compliance with federal laws and regulations; the challenges and successes of the planning process; and the cooperative relationship between the MPO, the public, and other transportation planning stakeholders. The certification review process is only one of several methods used to assess the quality of the metropolitan planning process and compliance with applicable statutes and regulations. Other opportunities for review include routine oversight activities such as attendance at meetings, day-to-day interactions, review and

approval of work products, and coordination with the MPO on prior certification review recommendations.

Upon completion of the review and evaluation, FHWA and FTA must either:

1. Certify that the transportation planning process meets the requirements of 23 United States Code (U.S.C.) 134, 49 U.S.C. 5303, and other associated Federal laws;
2. Certify that the transportation planning process substantially meets Federal requirements with conditions tied to resolution of specific corrective actions;
3. Certify the transportation planning process with conditions and additional project and program restrictions, or;
4. Not certify the planning process and withhold funds if the process does not meet Federal requirements.

## THE 2015 BOSTON REGION MPO CERTIFICATION REVIEW

The Review Team sent a detailed questionnaire and request for documentation to the MPO in October of 2014. In November, MPO staff responded to this request with a professional, comprehensive, and well-organized report.

The on-site portion of this review of the MPO was conducted on December 10 and 11, 2014. MPO staff and board members participated in an active and wide-ranging discussion with the Review Team. Staff responded to questions about the planning process in a spirit of good faith and cooperation, and were receptive to recommendations and new ideas. The MPO and the Review Team collaborated to host a public meeting on January 15, 2015, at which members of the public and staff discussed the planning process of the MPO.

The Federal Review Team would like to commend the MPO staff for their positive attitude and exemplary professionalism in working with the Review Team to conduct this review. It is clear that the MPO is a high-performing organization that will continue to improve its administration of the transportation planning process in the years to come.

## ORGANIZATION OF THIS REPORT

This certification review report is organized around key transportation planning topic areas. Each report section presents the legal and regulatory basis for the review topic area, summarizes the observations of the Review Team, and lists the Team's major findings. Findings may include commendations, recommendations, or corrective actions. Commendations describe processes and products that are considered notable and identified as best practices. Recommendations identify practices that should be implemented to improve processes and planning products that already meet minimum Federal requirements. Corrective actions describe items that do not meet the requirements of the transportation statute and regulations—along with the actions that must be taken to attain compliance. Failure to address a corrective action may result in a more restrictive future certification and potential restriction or withholding of Federal funds.

# SUMMARY OF REVIEW FINDINGS

## RECOMMENDATIONS

### *UNIFIED PLANNING WORK PROGRAM*

**Recommendation:** The MPO should explore opportunities to expand its outreach to communities who may not have benefited from a significant planning activity, such as a safety, corridor, or congestion management study. It should make a special effort to engage communities that appear to have not benefitted from the planning program, and see if they have any technical needs related to safety, congestion, livability, or any other activity that the MPO can address through their work.

### *TRANSPORTATION IMPROVEMENT PROGRAM AND PROJECT SELECTION PROCESS*

**Recommendation:** The MPO should refine its TIP project selection and prioritization process, in consideration of the following:

- Developing a clear, mode-neutral process by which flexible funding programs such as CMAQ and STP may be allocated to both transit and highway projects.
- Expanding the definition of “Environmental Justice Area” beyond a simple threshold to one that reflects a range of low-income and minority population levels.
- Adding an additional criterion or criteria related to transportation infrastructure resiliency, alignment with hazard mitigation plans, and/or climate change adaptation.

**Recommendation:** The MPO should make a special effort to engage communities that appear to have not benefitted from the MPO Target Program, statewide road and bridge program, earmarks, or discretionary awards. There may be institutional barriers that prevent communities from accessing federal funding, and the staff should develop a strategy to assist those communities to develop eligible projects.

**Recommendation:** In order to improve transparency and public accessibility of the programming process, the MPO should include a general funding analysis as part of the introductory text of the TIP document. This analysis would present a basic overview of the projects proposed in the TIP, including summaries of data about project and/or funding allocation by mode, geographical area, and socioeconomic and demographic equity.

### *LIST OF OBLIGATED PROJECTS*

**Recommendation:** The MPO shall demonstrate a better link between the TIP and the list of obligated projects. The MPO shall publish a list of all projects funded with federal funds, including public transit projects, and this published list should be consistent with the format of the TIP. The MPO should also work cooperatively with responsible parties to develop the list to meet requirements of 23 CFR 450.314.

### *AIR QUALITY*

**Recommendation:** The Review Team recommends updating the current MOU between the MPOs, MassDOT, the Department of Environmental Protection (DEP), and providers of public

transportation, with the intent to recognize the reorganization of the various transportation agencies under the MassDOT umbrella. This agreement was signed in 1996 and there is a need to develop a new MOU that will recognize the roles of all agencies including MassDOT.

**Recommendation:** The Review Team recommends that the MPO consider utilizing the UPWP process to engage in a study to determine how the development of the SIP and the progress and advancement of SIP commitment projects has affected regional air quality. Possible contents could include an investigation into how the tool has been used in the past, how it has or could potentially be used to implement regional projects and priorities, and the prospect of exporting it to other regions, including areas that are in air quality attainment.

#### *MPO ORGANIZATIONAL STRUCTURE*

**Recommendation:** The MPO should work with the MetroWest and Cape Ann Regional Transit Authorities to ensure that these providers of public transportation are represented on the MPO board in a way that is satisfactory to all parties and satisfies the MAP-21 requirement for transit representation on MPO boards. The particular form of this representation should be determined cooperatively by the interested parties. Possible examples include: full or fractional representation on the board for each RTA; a single seat that rotates between the RTAs; a transit or intermodal “functional sub-region” representative similar to the geographical sub-region representatives already on the board; indirect representation through another MPO board member (e.g. MBTA or MassDOT) supplemented by voting membership for both RTAs on the Regional Transportation Advisory Council (RTAC); or some other form of representation agreed upon by all parties.

#### *INTER-AGENCY AGREEMENTS AND CONSULTATION*

**Recommendation:** The MPO should update its regional inter-agency MOU to include all MPOs in the Boston UZA, as defined by the 2010 U.S. Census.

**Recommendation:** In fulfillment of U.S. DOT Secretary Foxx’s *Models of Regional Planning Cooperation* Planning Emphasis Area, the MPO should work with its partner MPOs in the Boston urbanized area (starting with the Northern Middlesex MPO, Merrimack Valley MPO, and Old Colony MPO, which are the MPOs with the largest geographical portions of the Boston UZA) to better align regional transportation planning documents, such as the Metropolitan Transportation Plan (MTP), Unified Planning Work Program (UPWP), or Transportation Improvement Program (TIP). Best practices include explicitly referencing the planning documents and processes of neighboring MPOs; including each MPO’s planning document as a section in a combined region-wide planning document; or collaborating with neighboring MPOs to create integrated regional planning documents. These practices can help promote a more coordinated planning process, particularly for projects and corridors that cross MPO boundaries.

#### *INTERMODAL TRANSPORTATION COORDINATION*

**Recommendation:** The MPO should clearly present basic information about the modal breakdown of funds and projects programmed in the TIP and planned in the MTP. This information should be presented in a clear and attractive format as part of the TIP and MTP documents, so that members

of the public and agency stakeholders can easily gain a broad understanding of the region's transportation priorities.

#### *PUBLIC OUTREACH AND PUBLIC INVOLVEMENT*

**Recommendation:** The MPO should develop a procedure to ensure individuals and entities that are added to an email list all receive an introductory message with an explanation of the MPO and its processes and what they can expect to receive as part of the email list, etc. (as also discussed in the Title VI and Nondiscrimination Outreach and Access section of this report). Additionally, the Review Team recommends the MPO staff explore ways to reduce duplicative emails (e.g. individuals receiving the same information multiple times from the MPO because they are members of multiple email lists) while still ensuring full dissemination of information.

**Recommendation:** Regarding the disposition of public comments in its process, the MPO should consider the types of oral responses that warrant written responses. In addition, it should track the disposition of these responses and share them publicly in the same manner as written comments. The MPO should also pursue proactive methods to engage area citizen representation in all planning efforts including corridor and subarea planning studies and similar activities, for example through inclusion of residents in study advisory groups and so forth.

#### *TITLE VI NOTICE AND COMPLAINT PROCEDURES*

**Recommendation:** The MPO should continue to work with MassDOT's Title VI Specialist to revise its complaint procedure and form. Once complete, these documents should be translated into Spanish, Chinese, Portuguese, and any other languages indicated by the MPO's Language Access Plan, and posted to the MPO's web site. The MPO should plan any staff trainings that may be required to support the rollout of the updated complaint procedures. It is also recommended that this item be reviewed by an appropriate subcommittee of the proposed (MassDOT/FHWA/MPO) Title VI Working Group before it is adopted.

#### *TITLE VI AND NONDISCRIMINATION DATA COLLECTION AND ANALYSIS*

**Recommendation:** The MPO should expand its data collection and analysis to encompass both environmental justice and Title VI/Nondiscrimination Program requirements. This data should include all protected persons based on race, color, national origin/LEP, age, gender, disability, and low-income. In addition, the MPO should establish definitions to identify populations in each of these categories that are meaningfully greater or above average, and no segment of the population should be excluded.

**Recommendation:** The MPO should collect and analyze data consistent with the protections under Title VI, the nondiscrimination statutes, and relevant executive orders. In its analysis, the MPO should consider the impacts to these populations in terms of access and equity with respect to each element of the program. Further, the MPO should develop a definition or metric for identifying each type of Title VI/nondiscrimination population where there is a concentration (above average) of people protected under the statutes and relevant executive orders, i.e. household incomes less than \$42,497, persons less than 18 years old, persons 65 or older, one of the five federally-recognized minority categories, etc.



**Recommendation:** The MPO should articulate the method and establish metrics to define its Title VI/ nondiscrimination populations. In addition, these populations, including what the MPO defines as “areas of concern” should be inclusive of the entire demographic, whether containing group living quarters or transient communities. The MPO should also develop a mechanism for evaluating these metrics to determine their accuracy and when adjustments are appropriate. For example, the MPO has currently defined a low-income individual as one who is living in a household where the income is 60% of the median household income in the planning region. The Massachusetts poverty guidelines on which this percentage was based apply only to a 4-person household. This should be clarified in the MPO’s definition, and the MPO should review its household data obtained through the Census Bureau to make sure it is consistent with this definition.

**Recommendation:** The MPO is strongly encouraged to develop a methodology for determining transportation impacts to Title VI/nondiscrimination populations. Specifically, a method for determining benefits and burdens and program distribution should be established. It is further recommended that the MPO adopt the relevant metrics found in MassDOT’s Phase II Analysis entitled, “Analysis of Federal Aid Highway Program Project Distribution and Title VI Populations in Massachusetts.” Given these metrics, the MPO should periodically conduct equity analyses. To advance this work, we further recommend that this item be reviewed by an appropriate subcommittee of the proposed (MassDOT/FHWA/MPO) Title VI Working Group before it is adopted.

#### *TITLE VI AND NONDISCRIMINATION OUTREACH AND ACCESS*

**Recommendation:** With respect to the MPO’s outreach and communication to organizations serving Title VI/nondiscrimination populations, the MPO should verify that its contacts on the Equity List are viable and sufficient to serve as conduits to the Title VI/nondiscrimination populations in the region. This list should include all known native American-serving organizations in the region, including those bordering the region. A system to consistently provide information and encourage participation through these groups should be established. This system should include both electronic and written communication for new and existing organizations. Where the MPO uses discretion in the type of information it releases, this should be done consistently for all organizations. In a continuing effort to encourage participation of the traditionally underserved, the MPO should introduce new contacts to the benefits/goals/objectives of outreach and advise existing contacts (Title VI/nondiscrimination organizations) periodically on how to “opt-in” for additional communications. In order to keep the contact data up-to-date in MassDOT’s online outreach tool, the MPO should regularly update its outreach database and share this information with MassDOT.

**Recommendation:** With regard the composition of the Advisory Council, the MPO should carry out a targeted outreach effort that seeks representation from Title VI/nondiscrimination populations. We believe an effort that entails collaboration with key organizations that serve Title VI/nondiscrimination populations would most likely produce results.

**Recommendation:** For projects advanced by municipalities, the MPO should provide training and establish criteria and a process that ensures project proponents are meeting their fundamental

obligations under Title VI. This process will further support the self-certifications made by the MPO in accordance with 23 CFR 450.334. The MPO is encouraged to seek assistance from the MassDOT Office of Civil Rights to identify an approach. To advance this work, we further recommend that this item be reviewed examined by an appropriate subcommittee of the proposed joint (MassDOT/FHWA/ MPO) Title VI Civil Rights Working Group before it is adopted.

#### *LIMITED ENGLISH PROFICIENCY (LEP)*

**Recommendation:** The MPO should revisit its Four-factor analysis to determine whether or not sufficient evidence exists that provides a reasonable basis for translating vital documents into only the top three Non-English Safe Harbor Languages. Based on this review, the MPO should either revise its analysis or expand its translation of vital documents, as needed. If the MPO believes it has sufficient evidence to support translations into only the top three Safe Harbor languages, this evidence should be documented.

**Recommendation:** The MPO should examine the contacts in its Transportation Equity Outreach Database to ensure adequate representation of organizations serving the other 21 Non-English Safe Harbor Language groups. This analysis will support further outreach and increase the frequency of contact with these groups. Consequently, the resulting level of contact will help determine the extent to which document translations in the remaining 21 LEP languages should be made available. To advance this work, it is recommended that this item be reviewed by an appropriate subcommittee of the proposed (MassDOT/FHWA/MPO) Title VI Working Group before it is adopted.

#### *MANAGEMENT AND OPERATIONS CONSIDERATIONS*

**Recommendation:** Financial planning for management and operations should be presented in the TIP. An analysis depicting the shortfall of revenue to properly operate and maintain the highway system should be completed for the highways portion of the MTP.

## COMMENDATIONS

#### *INTERMODAL TRANSPORTATION COORDINATION*

**Commendation:** The Ferry Compact is a well-conceived and timely initiative that provides a much-needed space for system-wide ferry transportation planning and visioning. As the Compact's work progresses, we encourage the MPO, MassDOT, and the MBTA to work together to ensure that the Ferry Compact visioning effort focuses on ways to better integrate ferry service with the region's public transit network.

#### *TITLE VI AND NONDISCRIMINATION OUTREACH AND ACCESS*

**Commendation:** The MPO has recently improved its procedures in the area of physical and communications access to public forums. In addition to establishing separate line-items in the UPWP budget for Title VI/LEP and ADA related activities, the MPO has developed procedures within its handbook to ensure meeting locations are accessible and that auxiliary aids and services are readily available or obtained by request with reasonable notice.

## *SAFETY*

**Commendation:** The MPO is commended for its ongoing support of safety as demonstrated through the region's goals and project prioritization process. The MPO conducts studies to identify and address safety issues, including pedestrian, bicycle, and freight related safety needs.

# **KEY METROPOLITAN PLANNING DOCUMENTS AND PROCESSES**

## **UNIFIED PLANNING WORK PROGRAM**

### *REGULATORY BASIS*

MPOs are required to develop Unified Planning Work Programs (UPWPs) in Transportation Management Areas (TMAs) to govern work programs for the expenditure of FHWA and FTA planning and research funds (23 CFR 450.308). 23 CFR 420.111 governs work programs required for the expenditure of FHWA highway planning and research funds. MPOs are required to develop UPWPs in cooperation with the State and public transit agencies. [23 CFR 450.308(c)]

### *OBSERVATIONS*

The MPO consults and coordinates with a large number of agencies to develop the UPWP, including the MassDOT divisions, MassPort, MBTA, MBTA Advisory Board, MAPC, and through outreach to member communities. The UPWP also includes routine items conducted every year such as the development of certification documents, monitoring and analysis of the Congestion Management Process, travel demand modeling, public involvement activities, ongoing technical assistance for communities, transit planning, livability, MPO initiatives, and other items.

Subsequent to the on-site review, the staff was asked to provide information on the distribution of studies funded with the MPO's planning funds (FHWA PL and FTA Section 5303) from FY 2008 to FY 2013. The distribution of planning of studies was requested to be shown by municipality and median household income.

The UPWP activities that the staff provided included data sets on corridor studies, sub-area studies, intersection analyses, transit network studies, and memos generated on community transportation technical assistance. This was further expanded to include studies, reports, technical memoranda, and workshops; the information was displayed by the amount of funds programmed and by municipality. Data was provided for studies that focused on one or several municipalities; studies with region wide applications were excluded. Studies or technical assistance that crossed municipal boundaries were prorated across all communities included.

The Review Team acknowledges that the 6-year timeframe reviewed is only a small snapshot in time. Twenty percent of the communities have received \$5,000 or less of "direct" or municipality-focused planning activity from the MPO during this period under review.

As an additional note, the UPWP contains a matrix (Table 1-1) cross-walking between U.S. DOT Planning Factors and UPWP projects. This is a good method for building transparency and

connectivity into the metropolitan planning process; there may be an opportunity to create a similar matrix outlining connections between MTP goals and UPWP projects.

### *FINDINGS*

**Recommendation:** The MPO should explore opportunities to expand its outreach to communities who may not have benefited from a significant planning activity, such as a safety, corridor, or congestion management study. It should make a special effort to engage communities that appear to have not benefitted from the planning program, and see if they have any technical needs related to safety, congestion, livability, or any other activity that the MPO can address through their work.

## METROPOLITAN TRANSPORTATION PLAN

### *REGULATORY BASIS*

Federal regulations require the development of the Metropolitan Transportation Plan (MTP) as a key product of the metropolitan planning process: The metropolitan transportation planning process shall include the development of a transportation plan addressing no less than a 20-year planning horizon. The transportation plan shall include both long-range and short-range strategies/actions that lead to the development of an integrated multimodal transportation system to facilitate the safe and efficient movement of people and goods to address current and future transportation demand. [23 CFR 450.322]

### *OBSERVATIONS*

MassDOT is advancing two major projects in the region, the I-90 Allston Interchange/West Station Multimodal Transportation Improvement Project and the Route 3 South Express Toll Lanes Project, that are not explicitly shown in the MTP. The MPO should ensure that these projects are financially viable and the revenues needed to implement these projects are clearly shown in the MTP. These major projects must be approved and supported by the MPO prior to any federal action by the FHWA.

It is recommended that the MPO work closely with MassDOT's Environmental Services section to ensure that environmental documents that are being developed for projects are approved by the MPO. Consistent with FHWA's guidance on the planning requirements and their relationship to the National Environmental Policy Act of 1969 (NEPA), each entire project described in a Record of Decision (ROD), Finding of No Significant Impact (FONSI), or Categorical Exclusion (CE) shall be consistent with the MTP prior to the FHWA approval of the environmental document for that project.

### *FINDINGS*

*The transportation planning process in the Boston Region is consistent with the federal requirements for this topic area.*

# TRANSPORTATION IMPROVEMENT PROGRAM AND PROJECT SELECTION PROCESS

## *REGULATORY BASIS*

The MPO is required, under 23 CFR 450.324, to develop a Transportation Improvement Program (TIP) in cooperation with the State and public transit operators. The TIP shall cover a period of at least four years, must be updated at least every four years, and must be approved by the MPO and the governor. If the TIP is updated more frequently, the cycle must be compatible with the State Transportation Improvement Program (STIP) development and approval process. [23 CFR 450.324(a)]

## *OBSERVATIONS*

The MPO adds transparency to the transportation programming process by clearly outlining the project selection process and providing a list of TIP evaluation criteria as part of the TIP document. The staff applies project evaluation criteria to the Target Program that consists of 35 questions which span six policy categories. The six policy categories are:

- System Preservation, Modernization, and Efficiency
- Livability and Economic Benefit
- Mobility
- Environment and Climate Change
- Environmental Justice
- Safety and Security

The Environmental Justice criteria (of which there are three) hinge on whether or not a project has effects in an “Environmental Justice Area” which is defined using a low-income or minority population threshold. Using this threshold, an area with a minority or low-income population slightly above the threshold (e.g. 30%) is treated the same as one with a very dense concentration of EJ populations (e.g. 90%).

The MPO has separate TIP project selection procedures for highway and transit modes. Although this is an effective procedure for mode-specific funding programs, it can create confusion around multi-modal programs such as the Congestion Mitigation and Air Quality (CMAQ) program or the Surface Transportation Program (STP). The region does have a history of flexing funds from these programs to transit, but the mode-flexible nature of these programs may not be widely understood, even within the MPO itself.

The MPO expressed concern about the need to plan for extreme weather events, sea level rise, and other impacts of climate change, and identified some resiliency and adaptation planning efforts being conducted by municipalities and agencies in the region. The MPO maintains a web-based All-Hazards mapping tool that is used to identify projects and transportation infrastructure that lie in natural hazard prone areas, including flood and hurricane surge zones. This tool is used during the TIP project evaluation process. Staff also pointed to a selection criterion in the Safety category that provides points for projects that address sea level rise or extreme weather. However, there was

general agreement that the region might benefit from a more robust incorporation of resiliency into the project selection process.

Subsequent to the on-site review, the staff was asked to provide information on the distribution of the MPO Target Program from FY 2008 to FY 2013. The Target Program, otherwise known as “regional target” is the MPO’s highway discretionary funding program. The distribution of TIP funding was requested to be shown by municipality and median household income.

The Review Team acknowledges that the 6-year timeframe reviewed is only a small snapshot in time. There are communities that may have received highway funding through the statewide road and bridge program under the direction of MassDOT, and there are other communities which have received earmarks and other discretionary awards.

At the on-site meeting, an MPO member discussed the challenges of getting a project funded through the MPO, and said communities often do not pursue federal funding because of the uncertainties of it becoming a TIP project. Communities are expected to finance the full cost of the design and the rights-of-way acquisition according to MassDOT’s policy.

Over 50% of the communities in the FY 2008 to FY 2013 timeframe of the TIP did not receive a project funded with the Target Program. There exists an opportunity for the staff to seek out communities that have not benefited from the highway program, and determine if there are any institutional barriers to their participation.

### *FINDINGS*

**Recommendation:** The MPO should refine its TIP project selection and prioritization process, in consideration of the following:

- Developing a clear, mode-neutral process by which flexible funding programs such as CMAQ and STP may be allocated to both transit and highway projects.
- Expanding the definition of “Environmental Justice Area” beyond a simple threshold to one that reflects a range of low-income and minority population levels.
- Adding an additional criterion or criteria related to transportation infrastructure resiliency, alignment with hazard mitigation plans, and/or climate change adaptation.

**Recommendation:** The MPO should make a special effort to engage communities that appear to have not benefitted from the MPO Target Program, statewide road and bridge program, earmarks, or discretionary awards. There may be institutional barriers that prevent communities for accessing federal funding, and the staff should develop a strategy to assist those communities to develop eligible projects.

**Recommendation:** In order to improve transparency and public accessibility of the programming process, the MPO should include a general funding analysis as part of the introductory text of the TIP document. This analysis would present a basic overview of the projects proposed in the TIP, including summaries of data about project and/or funding allocation by mode, geographical area, and socioeconomic and demographic equity.

## FINANCIAL PLANNING

### *REGULATORY BASIS*

The metropolitan planning statutes state that the long-range transportation plan and TIP (23 U.S.C. 134 (j) (2) (B)) must include a "financial plan" that "indicates resources from public and private sources that are reasonably expected to be available to carry out the program" and demonstrates fiscal constraint for these documents. Estimates of funds available for use in the financial plan must be developed cooperatively by the MPO, public transportation operator(s), and the State (23 CFR 450.322). This cooperative process must be outlined in a written agreement that includes specific provisions for developing and sharing information related to the development of financial plans that support the metropolitan transportation plan (23 CFR 450.314).

In addition, the regulations provide that projects in air quality nonattainment and maintenance areas can be included in the first two years of the TIP and STIP only if funds are "available or committed" (23 CFR 450.324 and 23 CFR 450.216). Finally, the Clean Air Act's transportation conformity regulations specify that a conformity determination can only be made on a fiscally constrained long-range transportation plan and TIP (40 CFR 93.108).

### *OBSERVATIONS*

The MPO's MOU states that funding estimates shall be cooperative and shall be discussed with a statewide group. Every year MassDOT seeks highway revenue funding guidance from FHWA for the TIP/STIP, and every four years for the MTP. MassDOT provides the Massachusetts Association of Regional Planning Agencies (MARPA) with estimates of highway revenue to be distributed among the MPOs. This MARPA formula provides the Boston Region MPO with 42.97% of highway funding after reductions for the statewide programs and the Accelerated Bridge Program GANS repayment. This formula has been in effect without change since 1991.

The MOU does not discuss how MTP revenues are developed. Reviewing the current MTP, *Paths to a Sustainable Region*, highway TIP projections are used for MTP development. The resulting MTP targets are then inflated through 2035 to develop the upper limits of the MPO's discretionary highway revenues.

The MTP describes in detail major highway and public transit investment through 2035. The MPO describes the major highway, maintenance, and bridge projects and the estimated funding associated with them. The MTP does not include an assessment of the amount of revenue needed to keep the federal aid system in a state of good repair.

The total amount of projected capital for public transit through 2035 is \$13.2M. The MTP does a good job of describing the projected use of capital funds through 2035 (\$12.06M). Similarly, it includes a good description of the anticipated operating and maintenance cost through the life of the plan. These estimates were developed using a 2008 MBTA transportation study. FTA does not provide financial guidance, but rather encourages MPOs to develop their own projects of funding reasonably expected to be available.

MassDOT is encouraged to work cooperatively with the MPO and providers of public transportation in the region to develop financial projections for use in the financial plan of the TIP and MTP. The methodology used to develop highway and transit financial projections could be further described in the financial plan sections of the MTP, TIP and in the MOU.

### *FINDINGS*

*The transportation planning process in the Boston Region is consistent with the federal requirements for this topic area.*

## LIST OF OBLIGATED PROJECTS

### *REGULATORY BASIS*

The MPO, transportation operators and the State must cooperatively develop a listing of projects for which Federal funds have been obligated in the previous year in accordance with 23 CFR 450.332. The listing must include all federally funded projects authorized or revised to increase obligations in the preceding program year and, at a minimum, the following for each project:

- *The amount of funds requested in the TIP;*
- *Federal funding obligated during the preceding year;*
- *Federal funding remaining and available for subsequent years;*
- *Sufficient description to identify the project or phase; and*
- *Identification of the agencies responsible for carrying out the project or phase.*

### *OBSERVATIONS*

The MPO prepares a list of obligated projects annually, and makes this information available to the public by posting it on their website. During our review the MPO provided the Review Team a copy of the FY 2013 project list. This project list is titled "FY 2013 List of Obligated Funds," and was produced by MassDOT's Federal Aid Programming Office.

The report details all financial transactions during the fiscal year. The report does not clearly depict obligations for projects in the FY 2013 TIP. It is uncertain how this information can be traced back to the FY 2013 MPO TIP. There were financial transactions that occurred outside of the FY 2013 window, and the obligation report should clearly show specific projects obligated in FY 2013.

The Annual List of Projects lacks detail as required in 23 CFR 450.322. The list does not show the amount of funding requested in the TIP. Certain significant project details are missing from the report including project sponsor, project description, project number and/or phase. Some instances will show nominal cost changes or nothing at all. Projects funded with FTA funds are not included despite being funded in the TIP.

The MPO does make efforts to show advance construct project information. Obligations such as planning studies such (e.g. PL and 5303) have also been included in the report.



## *FINDINGS*

**Recommendation:** The MPO shall demonstrate a better link between the TIP and the list of obligated projects. The MPO shall publish a list of all projects funded with federal funds, including public transit projects, and this published list should be consistent with the format of the TIP. The MPO should also work cooperatively with responsible parties to develop the list to meet requirements of 23 CFR 450.314.

## SELF-CERTIFICATIONS

### *REGULATORY BASIS*

The State and the MPO must self-certify to FHWA and FTA that the metropolitan planning process is being carried out in accordance with federal requirements. This self-certification is required under 23 CFR 450.334 to take place at least once every four years, in concurrence with submittal of the TIP/STIP. The applicable requirements that must be covered in this certification include:

1. 23 U.S.C. 134 and 49 U.S.C. 5303 and Sections 174 and 176(c) and (d) of the Clean Air Act (if applicable);
2. In nonattainment and maintenance areas, sections 174 and 176 (c) and (d) of the Clean Air Act, as amended (42 U.S.C. 7504, 7506 (c) and (d)) and 40 CFR part 93;
3. Title VI of the Civil Rights Act of 1964 and the Title VI assurance executed by each State;
4. 49 U.S.C. 5332, prohibiting discrimination on the basis of race, color, creed, national origin, sex, or age in employment or business opportunity;
5. Section 1101(b) of SAFETEA-LU and 49 CFR Part 26, regarding involvement of DBE in U.S. DOT-funded planning projects;
6. 23 CFR Part 230, regarding the implementation of an equal employment opportunity program on Federal and Federal-aid highway construction contracts;
7. ADA and U.S. DOT regulations governing transportation for people with disabilities [49 CFR Parts 27, 37, and 38];
8. Older Americans Act as amended, prohibiting discrimination on the basis of age, and Section 324 of Title 23 U.S.C., regarding the prohibition of discrimination based on gender;
9. Section 504 of the Rehabilitation Act of 1973 and 49 CFR Part 27, regarding discrimination against individuals with disabilities; and
10. All other applicable provisions of Federal law (e.g., while no longer specifically noted in a self-certification, prohibition of use of Federal funds for “lobbying” still applies and should be covered in all grant agreement documents (see 23 CFR 630.112).

A Certification Review by FTA and FHWA of the planning process in TMAs is required at least once every four years, in addition to the required self-certification by the MPO and State.

### *OBSERVATIONS*

The Boston Region MPO TIP and UPWP both include a self-certification section, which consists of a synopsis of the necessary provisions as stated above, followed by the signatures of the MPO board members.

## *FINDINGS*

*The transportation planning process in the Boston Region is consistent with the federal requirements for this topic area.*

## CONGESTION MANAGEMENT PROCESS

### *REGULATORY BASIS*

The State(s) and the MPO must develop a systematic approach for managing congestion through a process that “provides for safe and effective integrated management and operation of the multimodal transportation system. The Congestion Management Process (CMP) applies to transportation management areas (TMAs) based on a cooperatively developed and implemented metropolitan-wide strategy of new and existing transportation facilities eligible for funding under 23 U.S.C. and title 49 U.S.C. Chapter 53 through the use of travel demand reduction and operational management strategies.” (23 CFR 450.320(a))

### *OBSERVATIONS*

The CMP in the Boston region shows evidence that it is an important component of the overall transportation planning process. The Review Team noted that the CMP uses a sound framework for analysis and demonstrates integration with the UPWP, MTP, and TIP. The staff ranks congested corridors and other problem locations (e.g. intersections) using CMP data. For a project to appear in the TIP, it must pass set criteria, which includes a CMP analysis. The TIP evaluation criteria awards additional points for projects in CMP-identified areas. This linkage to the TIP is a critical characteristic of a mature and robust CMP.

The structure of the CMP essentially follows the recommended FHWA guidelines and serves the MPO as a sound planning tool with its corridor-based approach, data collection focus (e.g. the use of INRIX data for monitoring), and toolbox of strategies for analysis purposes. The regional travel demand model is an important analytical tool.

The goals adopted by the MPO’s CMP are 1) improve efficiency, 2) increase mobility, and 3) improve safety. The range of performance measures is varied and should be useful as the profession transitions to a performance based planning and programming approach. Through the variety of measures, the duration, extent, intensity, and variability of congestion are measured. New performance measures are considered on an ongoing basis; for example, the use of new INRIX data led to new performance measures now included.

The MPO has developed two interactive, web-based dashboards: an Express-Highway Performance Dashboard and an Arterial Performance Dashboard. These dashboards provide a snapshot of the system based on select highway performance measures. They provide visualization of the data as well as accessible data tables.

In 2012 the MPO established a permanent Congestion Management Process Committee. The Committee has eight members including representatives of local municipalities and the State. The presence of a CMP Committee to shepherd relevant activities is an effective feature. As the CMP

continues to mature, the staff should continue to pursue opportunities to link output from the CMP to future updates of the MTP and to TIP preparation and project selection activities. The staff is commended for their continued CMP development work activities.

The MPO staff is encouraged to work on further refining this important analytical tool. Particularly, some additional consideration of the role freight plays in the CMP is suggested. Also, as strategies are deemed feasible for congestion mitigation in certain corridors, tracking their progress towards acceptance and implementation will be important to gauging the overall effectiveness of the CMP.

### *FINDINGS*

*The transportation planning process in the Boston Region is consistent with the federal requirements for this topic area.*

## AIR QUALITY

### *REGULATORY BASIS*

For MPOs that the EPA classifies as air quality nonattainment or maintenance areas, many special requirements apply to the metropolitan planning process. Section 176 (c)(1) of the Clean Air Act Amendments of 1990 (CAAA) states: "No metropolitan planning organization designated under section 134 of title 23, United States Code, shall give its approval to any project, program, or plan which does not conform to an implementation plan approved or promulgated under section 110." The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and subsequent federal transportation statutes have included provisions responding to the CAAA mandates.

In nonattainment or maintenance areas, if the MPO is not the designated agency for air quality planning under section 174 of the Clean Air Act, there shall be a written agreement between the MPO and the designated air quality planning agency describing their respective roles and responsibilities for air quality related transportation planning.

### *OBSERVATIONS*

The Boston region is in attainment for Nitrogen Dioxide (NO<sub>2</sub>), Particulate Matter (PM<sub>2.5</sub> & PM<sub>10</sub>), and for the 2008 8-Hour Ozone standard. The region contains two Carbon Monoxide (CO) air quality maintenance areas: one encompassing the cities of Boston, Cambridge, Chelsea, Everett, Malden, Medford, Quincy, Revere, and Somerville, and another in Waltham.

The Boston Carbon Monoxide Area (Boston, Cambridge, Chelsea, Everett, Malden, Medford, Quincy, Revere, and Somerville) has a maintenance plan in place with a State Implementation Plan (SIP) approved 2010 motor vehicle carbon monoxide emission budget in place requiring a regional emission analysis for any carbon monoxide conformity determination of the Boston CO Area. The Waltham maintenance area is under an EPA-approved limited maintenance plan. Under the limited maintenance plan a regional emissions analysis for CO is not required; however, all other transportation conformity requirements under 40 CFR 93.109 (b) continue to apply to the Waltham maintenance area.

A new transportation conformity determination for carbon monoxide is required for the FY 2016-2019 TIP in Central Massachusetts MPO (Worcester); Pioneer Valley MPO (Springfield); Boston Region MPO (Waltham and Boston Area) and Northern Middlesex MPO (Lowell).

The Boston Region MPO is part of an air quality MOU, entitled "Concerning the Conduct of Transportation Air Quality Planning and Implementation of the State Implementation Plan." This is an agreement among the Massachusetts MPOs, the Massachusetts Department of Environmental Protection (DEP), the Executive Office of Transportation and Construction (now MassDOT), the RTAs, the MBTA, and the Massachusetts Port Authority. This MOU was last signed in 1996 and has not been updated since then.

The Boston region has proactively used the SIP as a tool to implement transit projects as mitigations for the Central Artery/Tunnel project (known as "The Big Dig"). While certain SIP commitment projects have been characterized locally as burdensome, there is no doubt that the SIP mechanism has delivered several valuable projects that would not otherwise have been built. The MPO has an opportunity to reflect on how the SIP has historically been used and to analyze its successes and failures as an informative case study.

#### *FINDINGS*

**Recommendation:** The Review Team recommends updating the current MOU between the MPOs, MassDOT, the Department of Environmental Protection (DEP), and providers of public transportation, with the intent to recognize the reorganization of the various transportation agencies under the MassDOT umbrella. This agreement was signed in 1996 and there is a need to develop a new MOU that will recognize the roles of all agencies including MassDOT.

**Recommendation:** The Review Team recommends that the Boston MPO consider utilizing the UPWP process to engage in a study to determine how the development of the SIP and the progress and advancement of SIP commitment projects has affected regional air quality. Possible contents could include an investigation into how the tool has been used in the past, how it has or could potentially be used to implement regional projects and priorities, and the prospect of exporting it to other regions, including areas that are in air quality attainment.

## **COORDINATED, COOPERATIVE, AND COMPREHENSIVE PLANNING PROCESS**

### **CONSULTATION AND THE 3C PLANNING PROCESS**

#### *REGULATORY BASIS*

Federal regulation (23 CFR 450.306) defines the scope of the metropolitan planning process, describing it as "continuous, cooperative, and comprehensive", and outlining eight planning factors that must be addressed:

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.
2. Increase the safety of the transportation system for motorized and non-motorized users.
3. Increase the security of the transportation system for motorized and non-motorized users.
4. Increase the accessibility and mobility of people and for freight.
5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns.
6. Enhance the integration and connectivity of the transportation system, across and between modes, people and freight.
7. Promote efficient system management and operation.
8. Emphasize the preservation of the existing transportation system.

The regulation goes on to describe ways in which the transportation planning process should be coordinated with other agencies and processes.

23 CFR 450.316(b-e) requires MPOs to consult with agencies and officials responsible for other planning processes when developing MTPs and TIPs. 23 CFR 450.322(f-g) further elaborates on this requirement, specifically as it relates to environmental mitigation. The MPO should engage in a consultation that includes (1) comparison of the MTP with State conservation plans or maps, if available, or (2) comparison of the MTP with inventories of natural or historic resources, if available.

#### *OBSERVATIONS*

The Eight Planning Factors are listed in the MTP under the "Foundation of Visions and Policies" section. The Planning Factors are incorporated in the TIP via the MPO Visions and Policies, which informed the TIP project selection process evaluation criteria. The planning factors are also incorporated into the UPWP through its selection criteria, and relationships between UPWP activities and the planning factors are explicitly identified in Chapter 1 of the UPWP.

The MPO's Regional Transportation Advisory Council, which includes voting seats for the Executive Office of Energy and Environmental Affairs, the Department of Conservation and Recreation, and the Executive Office of Elder Affairs, among other agencies and organizations, provides opportunities for interagency information sharing and informal consultation. Other agencies with land use planning and related responsibilities, such as the Metropolitan Area Planning Council (MAPC) and the Boston Redevelopment Authority, have full voting membership on the MPO policy board.

#### *FINDINGS*

*The transportation planning process in the Boston Region is consistent with the federal requirements for this topic area.*

## MPO ORGANIZATIONAL STRUCTURE

### *REGULATORY BASIS*

Federal legislation (23 U.S.C. 134(d)) requires the designation of an MPO for each urbanized area with a population of more than 50,000 individuals. When an MPO representing all or part of a TMA is initially designated or redesignated according to 23 CFR 450.310(d), the policy board of the MPO shall consist of (a) local elected officials, (b) officials of public agencies that administer or operate major modes of transportation within the metropolitan area, including representation by providers of public transportation, and (c) appropriate State transportation officials. The voting membership of an MPO that was designated or redesignated prior to December 18<sup>th</sup>, 1991, will remain valid until a new MPO is redesignated. Redesignation is required whenever the existing MPO seeks to substantially change the proportion of voting members representing individual jurisdictions or the State or the decision-making authority or procedures established under MPO bylaws.

The addition of jurisdictional or political bodies into the MPO or of members to the policy board generally does not require a redesignation of the MPO.

### *OBSERVATIONS*

The Boston Region MPO was first designated in 1973, and consisted of just four members. Since that time, the MPO board has evolved through multiple restructurings to be broader and more inclusive, and now consists of:

- Massachusetts Department of Transportation (3 seats)
- Massachusetts Bay Transportation Authority (1 seat)
- Massachusetts Port Authority (1 seat)
- Metropolitan Area Planning Council (1 seat)
- Regional Transportation Advisory Council (1 seat)
- MBTA Advisory Board (1 seat)
- City of Boston (2 seats)
- At-Large Cities (2 seats)
- At-Large Towns (2 seats)
- Towns and Cities Representing Sub-Regions (8 seats)

The planning and analysis work of the MPO is performed primarily by the Central Transportation Planning Staff (CTPS). The CTPS and the MPO also coordinate closely with the Metropolitan Area Planning Council (MAPC), which is the land use planning agency for the Boston region.

MAP-21 specifies that MPOs designated or redesignated after December 18<sup>th</sup>, 1991 must include representatives of public transit on the MPO board. The Boston Region MPO includes representation of the major provider of public transportation for the region, the MBTA. However, two additional smaller transit providers, the MetroWest Regional Transit Authority (MWRTA) and the Cape Ann Transportation Authority (CATA), operate in the region and are not directly represented on the board. These agencies have expressed some concern that, given the vast

difference in scale between their agencies and the MBTA, their needs may not be fully represented by the current arrangement.

### *FINDINGS*

**Recommendation:** The MPO should work with the MetroWest and Cape Ann Regional Transit Authorities to ensure that these providers of public transportation are represented on the MPO board in a way that is satisfactory to all parties and satisfies the MAP-21 requirement for transit representation on MPO boards. The particular form of this representation should be determined cooperatively by the interested parties. Possible examples include: full or fractional representation on the board for each RTA; a single seat that rotates between the RTAs; a transit or intermodal “functional sub-region” representative similar to the geographical sub-region representatives already on the board; indirect representation through another MPO board member (e.g. MBTA or MassDOT) supplemented by voting membership for both RTAs on the Regional Transportation Advisory Council (RTAC); or some other form of representation agreed upon by all parties.

## INTER-AGENCY AGREEMENTS AND CONSULTATION

### *REGULATORY BASIS*

In accordance with 23 U.S.C. 134 and 23 CFR 450, MPOs must consult with agencies and officials responsible for other planning processes when developing TIPs and MTPs, and must carry out a planning process that is "continuing, cooperative and comprehensive" (3C). This includes establishing memorandums of understanding (MOUs) identifying the mutual roles, responsibilities, and procedures governing their cooperative efforts. These agreements must identify the designated agency for air quality planning under the Clean Air Act and address the responsibilities and situations arising from there being more than one MPO in a metropolitan area. Furthermore, the MPO should engage in consultation that includes (1) comparison of the MTP with State conservation plans or maps, if available, or (2) comparison of the MTP with inventories of natural or historic resources, if available.

On April 23, 2014, U.S. DOT Secretary Anthony Foxx outlined three Planning Emphasis Areas for 2015. These are not regulations, but rather are topic areas that MPOs and State DOTs are encouraged to focus on when conducting their planning processes and developing their planning work programs. One of these Emphasis Areas is *Models of Regional Planning Cooperation*, which reads:

*Promote cooperation across MPO boundaries and across State boundaries where appropriate to ensure a regional approach to transportation planning. This is particularly important where more than one MPO or State serves an urbanized area or adjacent urbanized areas. The cooperation could occur through the metropolitan planning agreements..., through the development of joint planning products, and/or by other locally determined means.*

### *OBSERVATIONS*

The MPO maintains several MOUs which describe its roles and responsibilities in relation to other agencies and authorities with planning responsibilities in the region:

- The MPO's member MOU, signed on July 7, 2011 among the then-current members of the MPO, which outlines the composition and roles of the MPO, the functions of the various committees and of CTPS, and the transportation programming process.
- A regional inter-agency MOU, dated September 9, 2003, between the Boston Region MPO and the adjacent Boston-area MPOs of Merrimack Valley MPO, Northern Middlesex MPO, Old Colony MPO, and the Southeastern Massachusetts MPO.
- A transit MOU, dated February 8, 2012, between the MPO and the region's smaller transit providers, CATA and MWRTA.
- A commonwealth-wide air quality MOU, dated July 31, 1996, among all of the MPOs and State Departments of Environment and Transportation. (See Air Quality Section for further discussion of this MOU.)

The 2010 Census updated the Boston urbanized area (UZA) boundary to cover portions of several MPOs not currently covered under the regional inter-agency MOU described above. These include Montachusett MPO and Central Massachusetts MPO in Massachusetts; Rockingham Planning Council, Southern New Hampshire Planning Council, and Nashua Regional Planning Council in New Hampshire; and the Rhode Island Statewide Planning Council in Rhode Island.

The MPO's Regional Transportation Advisory Council, which includes voting seats for the Executive Office of Energy and Environmental Affairs, the Department of Conservation and Recreation, and the Executive Office of Elder Affairs, among other agencies and organizations, provides opportunities for interagency information sharing and informal consultation. Other agencies with planning responsibilities (e.g. the Metropolitan Area Planning Council and the Boston Redevelopment Authority) have full voting membership on the MPO policy board.

The FTA Urbanized Area Formula funding program (Section 5307) "split agreement" process allocates federal transit funding among the ten transit agencies whose service areas include parts of the Boston urbanized area, three of which operate service within the boundaries of the Boston Region MPO. The Boston Region MPO is not directly involved in the coordination of this split agreement. There may be an opportunity for the MPO to facilitate the split of transit funds so as to better meet transit capital investment needs, which tend to vary dramatically from year to year, especially for small agencies.

### *FINDINGS*

**Recommendation:** The MPO should update its regional inter-agency MOU to include all MPOs in the Boston UZA, as defined by the 2010 U.S. Census.

**Recommendation:** In fulfillment of U.S. DOT Secretary Foxx's *Models of Regional Planning Cooperation* Planning Emphasis Area, the MPO should work with its partner MPOs in the Boston urbanized area (starting with the Northern Middlesex MPO, Merrimack Valley MPO, and Old Colony MPO, which are the MPOs with the largest geographical portions of the Boston UZA) to better align regional transportation planning documents, such as the MTP, UPWP, or TIP. Best practices include explicitly referencing the planning documents and processes of neighboring MPOs; including each MPO's planning document as a section in a combined region-wide planning document; or collaborating with neighboring MPOs to create integrated regional planning documents. These



practices can help promote a more coordinated planning process, particularly for projects and corridors that cross MPO boundaries.

## INTERMODAL TRANSPORTATION COORDINATION

### *REGULATORY BASIS*

Federal regulation makes clear the need for coordination across modes during the transportation planning process. According to 23 CFR 450.306, the scope of the metropolitan planning process must include:

- Consideration of both motorized and nonmotorized users;
- Enhancing the integration and connectivity of the transportation system, across and between modes, for people and freight; and
- Preparation of the coordinated public transit-human services transportation plan in coordination with the metropolitan transportation planning process.

MAP-21 has clarified that the MPO itself must consist of "officials of public agencies that administer or operate major modes of transportation in the metropolitan area, *including representation by providers of public transportation.*" (49 USC 5303)

Furthermore, 23 CFR 450.316 calls for a planning process that incorporates input from public transit riders, pedestrians, bicyclists, providers of private transportation, and airports; and 23 CFR 450.322 specifies that the MTP should include consideration of "pedestrian walkways and bicycle facilities."

### *OBSERVATIONS*

The transportation system of the Boston Region is extremely multi-modal, and this is largely reflected in the MPO's planning process. Modal operators with seats on the MPO board include the MBTA (bus, subway, commuter rail, paratransit, ferry), MassDOT (highways, rail and transit, community and human services transportation), and MassPort (airport, seaport). There are two Regional Transit Authorities (RTAs) in the region, CATA and MWRTA, and neither are members of the MPO board, though CATA has a seat on the MPO's Regional Transportation Advisory Council (RTAC). Along with CATA, groups representing bicycling, walking, ridesharing, seaports, freight rail, and private bus all have voting seats on the RTAC.

The MTP extensively references transit, bicycle, and pedestrian needs along with highway needs in its visions, goals, and objectives. Bicycle, pedestrian, and transit projects are programmed in the TIP as well, though the exact amount programmed for each mode is not easy to ascertain from the TIP document.

Ferry services in the region are not fully integrated into the larger transportation system, and lack easy-to-use connections to other modes. Some routes are operated under contract by the MBTA (e.g. Charlestown, Hingham, Hull), while others are municipally operated (e.g. Salem). The various services do not benefit from an integrated fare structure or scheduling policy.

At the time of this review, the State is leading an effort to develop a vision for ferry transportation in the Commonwealth, known as the Ferry Compact. So far this work has been focused on cataloguing existing services. A report is being developed which will also identify potential outstanding needs.

### *FINDINGS*

**Recommendation:** The MPO should clearly present basic information about the modal breakdown of funds and projects programmed in the TIP and planned in the MTP. This information should be presented in a clear and attractive format as part of the TIP and MTP documents, so that members of the public and agency stakeholders can easily gain a broad understanding of the region's transportation priorities.

**Commendation:** The Ferry Compact is a well-conceived and timely initiative that provides a much-needed space for system-wide ferry transportation planning and visioning. As the Compact's work progresses, we encourage the MPO, MassDOT, and the MBTA to work together to ensure that the Ferry Compact visioning effort focuses on ways to better integrate ferry service with the region's public transit network.

## PUBLIC OUTREACH AND PUBLIC INVOLVEMENT

### *REGULATORY BASIS*

The MPO is required, under 23 CFR 450.316, 23 CFR 450.322(f-g), and 23 CFR 450.324(b) to engage in a metropolitan planning process that creates opportunities for public involvement, participation and consultation throughout the development of the MTP and the TIP.

### *OBSERVATIONS*

The MPO adopted a new Public Participation Plan (PPP) on October 16, 2014 which serves as the foundation for all public outreach and involvement the MPO conducts. The PPP identifies a vision and guidelines for public outreach activities, and it documents the types of opportunities that are available for participation in the region's transportation planning and decision-making process. Additionally, the PPP specifies the process and schedules used to conduct public involvement on the MPO's key certification documents.

The MPO makes heavy use of web-based tools for public involvement and outreach. This includes an assortment of email lists, an email newsletter, the MPO's main website, web-based mapping tools, and other tools. All notices for MPO-sponsored meetings or release of documents for public comment are sent through some or all of the email lists and are posted on the website. Individuals or entities are added to the various email lists for a variety of reasons, but newly-added recipients may not be receiving sufficient information to help them understand what the MPO is, what the MPO does, why they are receiving the emails they get, and how to request further information.

Additionally, the MPO recognizes that providing public information to people who are not comfortable with technology or do not use the internet is still important. Press releases are sent to print media in addition to some radio and television outlets. MPO staff is currently working on an

approach to more effectively use local libraries to serve as an additional source of information on the MPO's activities and documents.

The MPO and MPO committee meetings are all open to the public. The MPO has recently begun holding one meeting each quarter outside of Boston, in a different sub-region each time. This practice received praise from members who felt it provided an excellent opportunity for a more regional perspective. Additionally, the MPO sponsors a variety of public meetings each year which may be workshops, general information sessions, information sessions specific to a certification document, forums, or other special topic discussions.

In regards to how the MPO documents and responds to public comments, we find that the process for tracking and responding to written comments is commendable; however, the manner in which oral comments are handled could be more consistent. A summary table of written comments is provided to the MPO, and a copy, which then includes the MPO's response, is also provided back to those who submitted written comments. Whereas the disposition of written comments is tracked and communicated in writing to each commenter, oral comments are acknowledged in public forums, recorded, and later summarized for use by MPO staff and reported on to the MPO at public meetings. Only written comments receive a direct response from the MPO. While it may not be necessary to follow-up in writing to each comment, there will be times when this is appropriate, especially when such comments implicate equity or access concerns. General comments received by staff on an ongoing basis are provided to the appropriate program or project manager for a response.

Evaluation forms are available at most meetings, giving attendees an opportunity to provide feedback on meeting effectiveness. Staff also reviews and tracks sign-in sheets from meetings to identify who is participating and who may be missing. The most in-depth evaluation of the outreach process occurs when the MPO periodically updates its PPP. As a part of the year-long process for the most recent update to the PPP in 2014, the MPO held a series of public meetings and solicited input from the public via both web-based and print surveys on how people felt the outreach process was working. The responses indicated most respondents preferred receiving information via email and providing comments via email, public meeting, or the website.

It can be difficult to explain the planning process to members of the general public and advocacy groups who may not have much experience in transportation or planning. Staff has made an effort to reduce the use of jargon and uses visualization techniques to convey information, including information on the MPO's processes, projects, and plans. Where appropriate, the staff tailors information to specific audiences or geographic sub-regions.

The Review Team heard concerns from the public that the many layers of the planning process and the various jurisdictions involved make it difficult for citizens and local neighborhood groups to be involved in the process. Area citizens may have valuable experiences and local knowledge to contribute to corridor and subarea planning studies, but the process for doing so is not clear or transparent to interested citizens. It is incumbent on the MPO to be proactive in reaching out to citizens who are affected by any planning studies or related efforts.

## *FINDINGS*

**Recommendation:** The MPO should develop a procedure to ensure individuals and entities that are added to an email list all receive an introductory message with an explanation of the MPO and its processes and what they can expect to receive as part of the email list, etc. (as also discussed in the Title VI and Nondiscrimination Outreach and Access section of this report). Additionally, the Review Team recommends the MPO staff explore ways to reduce duplicative emails (e.g. individuals receiving the same information multiple times from the MPO because they are members of multiple email lists) while still ensuring full dissemination of information.

**Recommendation:** Regarding the disposition of public comments in its process, the MPO should consider the types of oral responses that warrant written responses. In addition, it should track the disposition of these responses and share them publicly in the same manner as written comments. The MPO should also pursue proactive methods to engage area citizen representation in all planning efforts including corridor and subarea planning studies and similar activities, for example through inclusion of residents in study advisory groups and so forth.

## TITLE VI NOTICE AND COMPLAINT PROCEDURES

### *REGULATORY BASIS*

49 CFR 21.9(d); 28 CFR 35.107; 23 CFR 200.9(b)(3); FTA C4702.1B, Chapter III, 5 & 6.

### *OBSERVATIONS*

The MPO has adopted, with appropriate revisions, MassDOT's Title VI Notice to Beneficiaries. This is a comprehensive notification that includes a description of both Federal and State protections against discrimination. The notice is relatively easy to locate and prominently displayed on the MPO's website. At the bottom of the notice webpage, there are links to translations in seven different languages. The MPO has incorporated Title VI notice language into its monthly TransReport newsletter. Electronic and hardcopy public meeting announcements include an abbreviated Title VI notice with instructions for requesting reasonable accommodations and language services to participate in the event. Also, meeting announcements are translated into four languages and posted to the MPO's online events calendar.

Within the notice there is a link to the MPO's complaint procedures. These procedures are somewhat general and do not sufficiently describe the steps and authority to investigate the various types of complaints covered under the process. The MPO must create a uniform process that recognizes both FTA and FHWA protections applicable to each element of the planning program. MassDOT's Title VI Specialist is currently developing a Title VI/Nondiscrimination Complaint Process template for use by sub-recipients. It is anticipated this will be available by the spring of 2015.

The current complaint procedures and forms have only been translated in Spanish. The MPO's Four Factor Analysis identifies this document as "vital" and states that such documents are formally translated into Spanish, Chinese, and Portuguese and posted on its website. Given the anticipated

release of a complaint process template by MassDOT, we understand the MPO's rationale for the delay in providing further translations of its current process.

### *FINDINGS*

**Recommendation:** The MPO should continue to work with MassDOT's Title VI Specialist to revise its complaint procedure and form. Once complete, these documents should be translated into Spanish, Chinese, Portuguese, and any other languages indicated by the MPO's Language Access Plan, and posted to the MPO's web site. The MPO should plan any staff trainings that may be required to support the rollout of the updated complaint procedures. It is also recommended that this item be reviewed by an appropriate subcommittee of the proposed (MassDOT/FHWA/MPO) Title VI Working Group before it is adopted.

## TITLE VI AND NONDISCRIMINATION DATA COLLECTION AND ANALYSIS

### *REGULATORY BASIS*

49 CFR 21.9 (b); 23 CFR 200.9(b)(4); 28 CFR Part 42.406; FTA C4702.1B, Chapter V, 2.e.

### *OBSERVATIONS*

Under its Transportation Equity Program, the MPO seeks to consider the needs of traditionally underserved populations, while ensuring minority and low-income communities are treated equitably in the provision of transportation services and projects.

Based on a review of the MPO's key documents and its responses in the Request for Materials, we find that its data collection and demographic analysis are somewhat limited and not consistently applied across all elements of the program. Specifically, the references given to protected populations considered in the planning process vary from "minority and low-income" or "environmental justice communities" to "minority, LEP, elderly, and low-income." We also note that consideration of persons with disabilities within the MPO's documents is stated in terms of communication and physical access to public forums, rather than populations that may be served or impacted.

With regard to data collection and analysis, the MPO defines two categories consistent with the environmental justice requirements: minority and low-income. Specifically, the MPO currently uses one definition for identifying a minority transportation analysis zone (TAZ)—a geographic area with a composite minority population above 27.8% (region average). In addition, the MPO has established a low-income threshold of \$42,497 (60% of the MPO's region median income). However, the MPO has not articulated a metric for identifying populations where there is a meaningfully greater (or above average) concentration of low-income persons or households. Likewise, it was not clear that the MPO had defined Title VI/Nondiscrimination populations indicative of age, gender, and disability. With respect to data concerning age, the MPO's documentation primarily relates to "elderly" populations (over age 65), whereas the Age discrimination Act of 1975 applies to all ages. It does not appear that other age brackets have been established to identify transportation impacts relevant to each.

While the MPO has conducted an analysis regarding usage and investment by “race and income” for highway and transit systems within the region, it seeks to conduct an in-depth geographic or community-focused analysis of transportation investments. Including an analysis of benefits and burdens with respect to Title VI/Nondiscrimination populations.

Additionally, we are concerned about the MPO’s definition for *areas of concern*. The MPO states:

*For outreach purposes, the MPO has identified what it calls areas of concern, which are clusters of TAZs that meet the MPO’s income or minority criteria. In general the TAZs in these clusters have to have at least 200 low-income or minority residents each. TAZs with populations that meet the thresholds and that contain group living quarters with changing populations (prisons and college dorms) but small numbers of households, are excluded.*

While this approach might seem practical, it could cause small but significant Title VI/nondiscrimination populations to be excluded. Furthermore, it is unclear how this definition relates to how the MPO identifies whether or not these populations are meaningfully greater. For example, it is unclear how the minimum requirement of 200 low-income or minority residents compares to a percentage, such as 28.7%, to determine that these populations are above average.

#### *FINDINGS*

**Recommendation:** The MPO should expand its data collection and analysis to encompass both environmental justice and Title VI/Nondiscrimination Program requirements. This data should include all protected persons based on race, color, national origin/LEP, age, gender, disability, and low-income. In addition, the MPO should establish definitions to identify populations in each of these categories that are meaningfully greater or above average, and no segment of the population should be excluded.

**Recommendation:** The MPO should collect and analyze data consistent with the protections under Title VI, the nondiscrimination statutes, and relevant executive orders. In its analysis, the MPO should consider the impacts to these populations in terms of access and equity with respect to each element of the program. Further, the MPO should develop a definition or metric for identifying each type of Title VI/nondiscrimination population where there is a concentration (above average) of people protected under the statutes and relevant executive orders, i.e. household incomes less than \$42,497, persons less than 18 years old, persons 65 or older, one of the five federally-recognized minority categories, etc.

**Recommendation:** The MPO should articulate the method and establish metrics to define its Title VI/ nondiscrimination populations. In addition, these populations, including what the MPO defines as “areas of concern” should be inclusive of the entire demographic, whether containing group living quarters or transient communities. The MPO should also develop a mechanism for evaluating these metrics to determine their accuracy and when adjustments are appropriate. For example, the MPO has currently defined a low-income individual as one who is living in a household where the income is 60% of the median household income in the planning region. The Massachusetts poverty guidelines on which this percentage was based apply only to a 4-person household. This should be

clarified in the MPO's definition, and the MPO should review its household data obtained through the Census Bureau to make sure it is consistent with this definition.

**Recommendation:** The MPO is strongly encouraged to develop a methodology for determining transportation impacts to Title VI/nondiscrimination populations. Specifically, a method for determining benefits and burdens and program distribution should be established. It is further recommended that the MPO adopt the relevant metrics found in MassDOT's Phase II Analysis entitled, "Analysis of Federal Aid Highway Program Project Distribution and Title VI Populations in Massachusetts." Given these metrics, the MPO should periodically conduct equity analyses. To advance this work, we further recommend that this item be reviewed by an appropriate subcommittee of the proposed (MassDOT/FHWA/MPO) Title VI Working Group before it is adopted.

## TITLE VI AND NONDISCRIMINATION OUTREACH AND ACCESS

### *REGULATORY BASIS*

23 CFR 450.316; 28 CFR Part 35, Subparts B & E; FTA C4702.1B, Chapter III, 8.

### *OBSERVATIONS*

The MPO's outreach efforts are broad and include the following: holding MPO meetings outside of the Boston area once quarterly; reaching out to municipalities that have not advanced projects through the planning process; and outreach to organizations serving protected groups to encourage their participation in the Transportation Equity Forum, MTP focus group, and surveys.

While these and other efforts undertaken by the MPO are commendable, the MPO's documented practice concerning communications suggests that outreach is limited to groups that are located in a minority TAZ and the information provided to these organizations is related to equity concerns, notice regarding the availability of key documents, and solicitations for comment. Based on the discussion during the on-site review, it remains unclear that all organizations serving Title VI/nondiscrimination populations, regardless of their location, are being contacted early and often about regional transportation issues and opportunities to participate. Likewise, there doesn't appear to be any targeted use of the Equity List to reach protected populations in areas served or impacted by planned projects. Despite the MPO's efforts to provide some organizations with information it feels is of primary importance, there is no apparent process to introduce new organizations or to periodically contact all listed organizations with instruction on how to opt-in for additional communications.

With regard to representation on the Advisory Council, we note that there are no organizations or "Advocacy Groups" that seek to represent Title VI/nondiscrimination populations. This absence requires a comprehensive outreach and education effort to identify key organizations and leaders across the demographics of the planning region. We believe the MPO's efforts to actively solicit the participation of stakeholders across the Title VI/nondiscrimination populations would help to develop trust, understanding, and awareness of opportunities to participate among a broader Title VI/nondiscrimination constituency leading to increased participation.

On a related note and considering the primary recipient's oversight role, the fact that MassDOT ODCR coordinated efforts to identify diverse and viable stakeholder contacts across each planning region is an encouraging step. The FHWA and the FTA understand that ODCR provided each MPO, including the Boston Region MPO, with comprehensive lists of registered not-for-profit organizations that the MPOs culled for contacts that weren't currently included in outreach activities. Crucially, this information is being relayed back to ODCR for incorporation into the online outreach map tool MassDOT is concurrently developing. The MPO has vetted new contacts from the database provided by ODCR to ensure that they are appropriate for the Transportation Equity List. However, there appears to be no outreach to newly identified groups with introductory correspondence describing transportation planning and opportunities to participate (as also discussed in the Public Outreach and Public Involvement section of this report). In addition, the MassDOT Title VI Specialist indicated that additional analysis was necessary to ensure that the listed organizations were sufficient to reach all Title VI/nondiscrimination populations within the planning region.

Regarding the question of opportunities for participation and consultation by State, local, and tribal agencies, the MPO included in its response, "There are no tribal governments within the boundaries of the Boston Region MPO area." This response is concerning, as while there are no "tribal governments" within the planning region, there are many other Native American organizations including federally and non-federally recognized tribes with an interest in the Boston region that should be included in the Equity Contact List. The MPO should have regular contact with these organizations as part of its regional outreach strategy. Further, there may be instances where the MPO will need to conduct broader outreach with Native American organizations concerning projects that cross planning region boundaries.

### *FINDINGS*

**Recommendation:** With respect to the MPO's outreach and communication to organizations serving Title VI/nondiscrimination populations, the MPO should verify that its contacts on the Equity List are viable and sufficient to serve as conduits to the Title VI/nondiscrimination populations in the region. This list should include all known native American-serving organizations in the region, including those bordering the region. A system to consistently provide information and encourage participation through these groups should be established. This system should include both electronic and written communication for new and existing organizations. Where the MPO uses discretion in the type of information it releases, this should be done consistently for all organizations. In a continuing effort to encourage participation of the traditionally underserved, the MPO should introduce new contacts to the benefits/goals/objectives of outreach and advise existing contacts (Title VI/nondiscrimination organizations) periodically on how to "opt-in" for additional communications. In order to keep the contact data up-to-date in MassDOT's online outreach tool, the MPO should regularly update its outreach database and share this information with MassDOT.

**Recommendation:** With regard the composition of the Advisory Council, the MPO should carry out a targeted outreach effort that seeks representation from Title VI/nondiscrimination populations.



We believe an effort that entails collaboration with key organizations that serve Title VI/nondiscrimination populations would most likely produce results.

**Recommendation:** For projects advanced by municipalities, the MPO should provide training and establish criteria and a process that ensures project proponents are meeting their fundamental obligations under Title VI. This process will further support the self-certifications made by the MPO in accordance with 23 CFR 450.334. The MPO is encouraged to seek assistance from the MassDOT Office of Civil Rights to identify an approach. To advance this work, we further recommend that this item be reviewed examined by an appropriate subcommittee of the proposed joint (MassDOT/FHWA/ MPO) Title VI Civil Rights Working Group before it is adopted.

**Commendation:** The MPO has recently improved its procedures in the area of physical and communications access to public forums. In addition to establishing separate line-items in the UPWP budget for Title VI/LEP and ADA related activities, the MPO has developed procedures within its handbook to ensure meeting locations are accessible and that auxiliary aids and services are readily available or obtained by request with reasonable notice.

## LIMITED ENGLISH PROFICIENCY (LEP)

### *REGULATORY BASIS*

EO 13166; U.S. DOT Policy Guidance Concerning Recipients' Responsibilities to Limited English Proficient (LEP) Persons, FTA C4702.1B, Chapter III, 9.; 23 CFR 450.316(a)(1)(iv)

### *OBSERVATIONS*

The MPO has conducted a Four Factor Analysis and developed a Language Access Plan. In addition, the MPO has estimated its annual costs of delivering translation and interpretation services and has established a budget line item in its annual operating budget.

It was noted that the MPO's table of "Non-English Safe Harbor Languages in the Boston Region MPO" contained 24 LEP language groups; however, the MPO has committed to providing translations of vital documents for only the top three LEP language groups (Spanish, Chinese, and Portuguese). Unfortunately, the MPO's Four Factor Analysis does not sufficiently support this approach. For example, Factor 2 of the analysis states that the MPO "has infrequent and unpredictable contact with LEP individuals," yet the MPO provided no anecdotal evidence concerning contact, or the extent to which it should have contact with specific LEP groups. While the MPO mentions its most frequent avenues for contact and the venues where contact can be expected, there's no discussion about the major LEP-serving organizations or LEP groups that the MPO has targeted or should be targeting based on geographic areas of concern evidenced through studies and project locations in the MTP and TIP.

Regarding Factor 3, it would be helpful to offer a public perspective regarding the significance and benefits of participating in the planning process. As efforts to conduct targeted outreach continue, undoubtedly more LEP populations will enter planning discussions. Consequently, the MPO will have an ability to obtain direct feedback concerning the transportation planning issues or activities of greatest importance to these populations.

In short, the anecdotal or statistical evidence that indicates that the other 21 LEP groups are rarely encountered or served by the program is insufficient, so the MPO has not established a reasonable basis to limit its translation of vital documents into the top three (3) languages.

### *FINDINGS*

**Recommendation:** The MPO should revisit its Four-factor analysis to determine whether or not sufficient evidence exists that provides a reasonable basis for translating vital documents into only the top three Non-English Safe Harbor Languages. Based on this review, the MPO should either revise its analysis or expand its translation of vital documents, as needed. If the MPO believes it has sufficient evidence to support translations into only the top three Safe Harbor languages, this evidence should be documented.

**Recommendation:** The MPO should examine the contacts in its Transportation Equity Outreach Database to ensure adequate representation of organizations serving the other 21 Non-English Safe Harbor Language groups. This analysis will support further outreach and increase the frequency of contact with these groups. Consequently, the resulting level of contact will help determine the extent to which document translations in the remaining 21 LEP languages should be made available. To advance this work, it is recommended that this item be reviewed by an appropriate subcommittee of the proposed (MassDOT/FHWA/MPO) Title VI Working Group before it is adopted.

## **PLANNING FOCUS AREAS**

### **ENVIRONMENTAL MITIGATION**

#### *REGULATORY BASIS*

The specific requirements for environmental mitigation are set forth in connection with the MTP in 23 CFR 450.322 (f)(7). However, the basis for addressing environmental mitigation is detailed in sections addressing consultation (23 CFR 450.316 and 23 CFR 450.322).

#### *OBSERVATIONS*

The MPO reviews multiple environmental factors to aid in the project selection process including Areas of Critical Environmental Concern (ACEC), Special Flood Hazard Areas (FEMA Q3 floodplains), Wetlands, Water Supply and Wellhead Protection Areas, Protected Open Space, Natural Heritage and Endangered Species Program Priority Habitats, Air Quality, and Brownfield and Superfund Sites. Additionally, the Metropolitan Transportation Plan (MTP) maps depicting the locations of these factors throughout the MPO area are overlaid with the locations of all recommended MTP projects to determine early on what environmental resources may be impacted by those projects.

As part of the MTP development process, the MPO holds Environmental Focus Group meetings. While these are mainly attended by air quality agencies, representatives from all Federal/state

environmental resource agencies in the state are invited. These environmental resource agencies are also given the opportunity to review/comment on the MTP.

The MPO has also developed a Needs Assessment Application which is available to the public on the MPO website. The application is critical to the development of the MTP and allows users to see how the MPO's transportation system interacts with the environment by importing GIS mapping data layers from various state environmental agencies through the MassGIS website. Examples of available data layers include historic properties, protected recreational and open spaces, wetlands, etc. The MPO is a partner with MassGIS and receives updates whenever any data layers are updated, ensuring that the MPO always has the most up-to-date information.

The Review Team has concluded that the MPO has made a good effort to address the intent of the environmental mitigation regulation, through its MTP and Needs Assessment Tool.

### *FINDINGS*

*The transportation planning process in the Boston Region is consistent with the federal requirements for this topic area.*

## LIVABILITY AND SUSTAINABILITY

### *REGULATORY BASIS*

Federal statute encourages land use-transportation linkages through the requirement that MPOs must coordinate transportation planning process with agencies responsible for "planned growth," resource management, and other planning activities in the region (23 CFR 450.316). Furthermore, metropolitan planning regulations (23 CFR 450.306) require that the scope of the transportation planning process include consideration of both "motorized and non-motorized users", and that planning must "Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns."

In addition, the Federal Partnership for Sustainable Communities (consisting of U.S. DOT, EPA, and HUD) has identified six "livability principles" to guide stakeholder agencies:

- Provide more transportation choices;
- Promote equitable, affordable housing;
- Enhance economic competitiveness;
- Support existing communities;
- Coordinate policies and leverage investment; and
- Value communities and neighborhoods

### *OBSERVATIONS*

The Boston Region is at the center of a variety of livability and sustainability efforts at all levels: local, regional, institutional, and state.

At the MPO level, over the past several years, both MPO and MAPC staff have participated in livable community technical assistance workshops that are supported in the UPWP. In addition, sustainability and Livability principles are incorporated into the MTP through the plan's visions and policies, which include Livability, Environment, and Climate Change, among others. These same principles help guide projects programmed in the TIP via the project selection and evaluation criteria, which include Livability/Economic Benefit (29 of 164 possible points) and Climate/Environment (25 of 164 possible points) categories. Once the new MTP has been adopted, the TIP project selection criteria will be updated to align with the new vision statement and goals and objectives.

The State of Massachusetts is also spearheading ambitious efforts to address climate change. The Global Warming Solutions Act (GWSA), signed into law in August of 2008, created a framework for reducing GHG emissions. The GWSA sets a target of 25% reduction in GHG emissions by 2020 (relative to 1990 levels) and 80% by 2050. Implementation of the GWSA is outlined in the Massachusetts Clean Energy and Climate Plan for 2020, which outlines policies for reducing transportation GHG emissions. These policies include smart growth and sustainable land use planning to reduce VMT, as well as MassDOT's GreenDOT initiative.

GreenDOT defines sixteen sustainability goals aimed at reducing the environmental impact of the commonwealth's transportation system. These include three transportation policy and planning goals:

- Design a multi-modal transportation system;
- Promote healthy transportation and livable communities; and
- Triple bicycling, transit, and walking mode share.

Massachusetts MPOs, including the Boston Region MPO, will need to account for these policies and goals in their TIPs and MTPs. The Massachusetts Department of Environmental Protection (DEP) may be empowered to find these documents in non-concurrence if they don't contribute to GHG reduction. Regulations are being finalized at the time of this report, the comment period having closed in November, 2014. MPOs will also have to harmonize potentially conflicting goals, such as between increasing non-SOV mode-share and reducing automobile congestion.

In the context of these ambitious legislative and policy goals, the Boston Region MPO is currently working on an update to the region's MTP. The draft goals for the MTP set a bold vision for addressing climate change, identifying objectives for mode shift, VMT reduction, improved transit system performance, etc. However, the draft "universe of projects" contains only 18% (combined) transit, bicycle, and pedestrian improvements. Although this universe does not represent the final list of projects that will be identified in the MTP and program in subsequent TIPs, it does raise questions about possible misalignment between stated MTP goals and allocation of funds through the project selection process.

## *FINDINGS*

*The transportation planning process in the Boston Region is consistent with the federal requirements for this topic area.*

## PERFORMANCE-BASED PLANNING & PROGRAMMING

### *REGULATORY BASIS*

Performance based planning and programming (PBPP) refers to the application of performance management within the planning and programming processes of transportation agencies to achieve desired performance outcomes for the multimodal transportation system. This includes a range of activities and products undertaken by a transportation agency together with other agencies, stakeholders, and the public as part of a 3C (cooperative, continuing, and comprehensive) process. It includes development of: metropolitan transportation plans (MTPs), other plans and processes (including those Federally-required, such as Strategic Highway Safety Plans, Asset Management Plans, the Congestion Management Process, Transit Agency Asset Management Plans, and Transit Agency Safety Plans, as well as others that are not required), and programming documents, including State and metropolitan Transportation Improvement Programs (STIPs and TIPs). PBPP attempts to ensure that transportation investment decisions are made—both in long-term planning and short-term programming of projects—based on their ability to meet established goals.

Moving Ahead for Progress in the 21st Century (MAP-21) placed increased emphasis on performance management within the Federal-aid highway program and transit programs, and requires use of performance-based approaches in statewide, metropolitan, and non-metropolitan transportation planning. As the rulemaking process to implement PBPP is progressing in tandem with this particular certification review, this discussion topic is important to create awareness and help practitioners transition to these approaches in their own planning and programming activities.

### *OBSERVATIONS*

The Boston Region MPO seems well poised for the transition to a performance based planning and programming approach over the next several years. The conversation with planning partners has begun and the staff is spearheading several efforts to mainstream a PBPP approach. They have drafted a PBPP framework as it might apply to the regional planning process. The staff discussed planning activities to develop the next 2040 MTP for the region which is intended to lay the groundwork for a performance based approach.

The MPO should continue to proactively pursue its good-faith efforts to implement performance-based planning in cooperation with MassDOT and other MPOs, despite the absence of a final rulemaking on the subject from FTA/FHWA. FTA and FHWA will work with the MPO upon passage of the final rulemaking to reconcile any discrepancies between the federal rule and MPO practices.

The staff described a scenario planning approach for the next MTP update which will examine two or three alternative investment strategies; this was conducted in winter of 2015 and the results informed MPO policy and decision making for the Plan. This type of analysis will assist the MPO staff in conducting similar analytical tasks when the PBPP requirements are final. Through the PBPP, staff will monitor progress toward meeting MPO goals for which performance targets have been set, and will track trends for other performance indicators.

The Review Team also noticed that in the latest TIP, Chapter 4 is entitled “Tracking and Demonstrating Progress Using Performance Measures.” This information raises the profile of performance measures and informs stakeholders of actions underway and proposed to ensure the Region is ready for the future. The evolution towards a performance based planning and programming seems to be well underway. The Review Team encourages the Boston Region MPO staff to enhance these types of activities and continue a vigorous conversation on PBPP with MassDOT and the other MPOs in the State.

### *FINDINGS*

*The transportation planning process in the Boston Region is consistent with the federal requirements for this topic area.*

## MANAGEMENT AND OPERATIONS CONSIDERATIONS

### *REGULATORY BASIS*

Federal statute 23 U.S.C. 134 (h)(1)(G) requires the metropolitan planning process to include the consideration of projects and strategies that will “*promote efficient system management and operation.*” Furthermore, 23 U.S.C. 134(i)(2)(F) specifies that “*Operational and management strategies to improve the performance of existing transportation facilities to relieve vehicular congestion and maximize the safety and mobility of people and goods*” be included in the MTP.

Additionally, 23 CFR 450.322 and 324 require that the financial plan for the MTP and TIP include “*system-level estimates of costs and revenue sources that are reasonably expected to be available to adequately operate and maintain Federal-aid highways and public transportation.*”

### *OBSERVATIONS*

The consideration of management & operations is outlined by the goals and action items described in the MTP. The MPO has three goals for system management and operations: *System Preservation, Modernization, and Efficiency; Mobility; and Safety*. Each goal area is summarized by listing the specific MPO policies and short term action items to addressing each goal.

For the first goal, *System Preservation, Modernization, and Efficiency*, the MPO envisions reducing the dependency on automobile use and increasing mass transit ridership. They also intend to have a transportation system that is accessible to all users. The policies that support these goals include the use of ITS technology, maintaining assets in a state of good repair, and identifying funding strategies.

The section continues to describe the efforts made by its responsible agencies and the actions needed to achieve this goal. As an example for bridge maintenance, the section describes the relationship MassDOT and local municipalities have in evaluating and preserving bridge condition. Bridge evaluation criteria are described but it is unclear what the MPO’s role is in prioritizing and maintaining bridges in the region. Greater effort should be placed on describing the MPO’s role in influencing system condition.

To promote the mobility of people and goods, the MTP's *Mobility* goal supports user access to jobs, education, health services, and recreational activities. It also accommodates the consideration of freight mobility. Specific policies outlined include strengthening connections, improving frequency, supporting demand management, and addressing congestion. The MTP describes mobility for highways, transit, freight, and non-motorized transportation modes. The Congestion Management Process (CMP) is a tool used to develop recommendations for improving mobility. It provides the MPOs a set of strategies for improving traffic flows, including demand response, signal timing improvements, and HOV considerations. The MPO uses the CMP process for deciding both long term and short term transportation improvement projects. Freight bottleneck improvements are listed in the MTP as a result of the CMP and State Freight Plan.

Operational and management goals to promote safety are identified in the Safety and Security goal of the MTP. The MPO provides safety scoring criteria for selecting projects in the TIP. The MPO uses the Equivalent Property Damage Only (EPDO) index which identifies the most severe accidents in the region. Safety studies are conducted regularly through the Unified Planning Work Program. In general, the MPO partners with outside agencies to coordinate safety efforts such as MassDOT Strategic Highway Safety Plan, U.S. Dept. of Homeland Security for hazard response, and MBTA who have installed security surveillance improvements throughout their operations.

Financial planning for operations and management is presented in the MPO's MTP but not in their TIP. The MPO does a good job depicting the shortfall of revenue to properly operate and maintain the MBTA system through 2035, but a similar analysis is needed for the highway portion of the MTP. The MPO should work with the State and public transit providers in developing system level operation and maintenance estimates for all four years of the TIP.

The MPO concludes the MTP by describing several options on how operations and management efforts could be measured using performance measures. It should be noted that currently for the upcoming MTP update, the MPO has drafted proposed measures such as safety, congestion and system preservation. These efforts have been recognized and the metrics proposed will allow for sound operational and management considerations.

### *FINDINGS*

**Recommendation:** Financial planning for management and operations should be presented in the TIP. An analysis depicting the shortfall of revenue to properly operate and maintain the highway system should be completed for the highways portion of the MTP.

## FREIGHT PLANNING

### *REGULATORY BASIS*

23 U.S.C. 134 (a) and 23 CFR 450.306(4), 450.316(a), 450.316(b), 450.104 - Metropolitan transportation planning section indicates that:

*It is in the national interest to encourage and promote the safe and efficient management, operation, and development of surface transportation systems that will serve the mobility needs of people and freight and foster economic growth and development within and between States and urbanized areas,*

*while minimizing transportation related fuel consumption and air pollution through metropolitan and Statewide transportation planning processes identified in this chapter; and encourage the continued improvement and evolution of the metropolitan and Statewide transportation planning processes by MPOs, State departments of transportation, and public transit operators as guided by the planning factors identified in subsection (h) and section 135(d).*

#### **OBSERVATIONS**

The MPO has made significant strides toward integrating freight in the transportation planning process. Freight is represented on the MPO through MassPort (maritime and airport operations) membership on the MPO Policy Board, and through a freight subcommittee of the Regional Transportation Advisory Council. This group advises the MPO on freight-related matters and is made up of key stakeholders including the Massachusetts Motor Carrier Association.

The MPO addresses freight in all three of its planning certification documents: the UPWP, the TIP, and the MTP. The MPO has considered freight interests by developing freight-related project selection criteria in its UPWP, and has used the UPWP to fund areas of freight concern within the community such as truck accidents and access issues. The TIP's project selection criteria provide points to projects that improve or complete an MPO or State-identified freight movement issue, or which improve freight-related safety issues. Finally, the MTP includes several freight goals including reducing delays on the freight network, maintaining and modernizing the freight network, improving freight connections, and protecting freight assets from climate change.

The MPO is staying updated as new national performance measures are developed in 2015, and is gathering freight data to assess how transportation projects improve mobility and safety for trucks in the region. The MPO is exploring ways to obtain better freight data for the region. Federal guidance has encouraged MPOs to consider developing their own performance metrics in lieu of a final rule making being promulgated. Therefore the MPO is examining truck crash data and congestion management for the new MTP.

The MPO maintains an extensive mailing list of freight stakeholders to inform of upcoming freight issues. Senior staff with a focus on the topic have advanced freight planning efforts in the region. Datasets are maintained by staff and include crash data and vehicle classifications which feed into the travel demand model. The MPO has built close relationships with outside freight operators, including shippers. The MPO participated in the State Freight Plan committee during the last update in 2010.

The MPO recognizes the need to take action on freight. In 2013, the MPO released a memorandum entitled Proposed Freight Planning Action Plan for the MPO. This memorandum outlines five action plan goals to address the region's freight needs. A proactive approach which recognizes the MPO's own expertise gaps and challenges, this action plan will serve as a framework for enhanced freight planning in the region.

The MPO's work in freight meets the intent of the planning regulations; however, staff needs to be cognizant of any upcoming FHWA policy initiatives in this area.



## *FINDINGS*

*The transportation planning process in the Boston Region is consistent with the federal requirements for this topic area.*

## SAFETY

### *REGULATORY BASIS*

49 U.S.C. 5303 requires MPOs to consider safety as one of the eight planning factors. As stated in 23 CFR 450.306, the metropolitan transportation planning process provides for consideration and implementation of projects, strategies, and services that will increase the safety of the transportation system for motorized and non-motorized users.

### *OBSERVATIONS*

Safety is considered throughout the MPO's planning processes including a safety goal in the MTP, safety elements in the TIP project evaluation criteria, and a range of UPWP planning activities and corridor studies. In particular, the TIP evaluation scoring methodology includes nine different elements for awarding points to projects under the Safety and Security category. This includes points that can be awarded to projects that address freight, bicycle, and pedestrian related safety issues, along with points for removing at-grade railroad crossings, addressing sites with high crash incidence, and others. Safety performance measures are also incorporated in the region's congestion management process (CMP).

The MPO also has substantial experience conducting and participating in road safety audits. The MPO conducted the Safe Access to Transit for Pedestrians and Bicyclists study in 2012 that evaluated four MBTA stations: Oak Grove, Braintree (Red Line), Morton Street, and Riverside (Green Line). Staff will continue this type of work this year in a study that will look at bike and pedestrian access at up to four stations on the Fairmount Line. A traditionally siloed approach to safety for roads and for transit has overlooked facilities that provide the transition between roadways and transit. This has meant that crosswalks and sidewalks in the vicinity of transit services have been underdeveloped in many places and constitute a substantial safety risk. The MPO, like many other agencies, continues to work towards ways to more systematically provide appropriate and safe infrastructure for bicyclists and pedestrians around transit facilities.

MassDOT led an update of the Massachusetts Strategic Highway Safety Plan (SHSP) that was completed in 2013. Of the 15 emphasis areas in the updated SHSP—each categorized as a strategic, proactive or emerging area—the MPO has identified six emphasis areas to focusing on: intersections, lane departures, bicycles, pedestrians, truck-involved crashes, and data systems. These were selected primarily because they seemed to be in the purview of the MPO (i.e. primarily infrastructure-related). MPO staff has actively participated in working groups for some of these emphasis areas and is also a member of the state's Traffic Records Coordinating Committee.

On the subject of data collection and quality, MPO staff described in the meeting the difficulties surrounding bicycle and pedestrian mode share and crash data. This data is not as universally collected as highway or transit data, and is less likely to be compatible with MPO or municipal

databases. An example given was Framingham, whose database was described as being unequipped to account for bicycle or pedestrian crashes.

### *FINDINGS*

**Commendation:** The MPO is commended for its ongoing support of safety as demonstrated through the region's goals and project prioritization process. The MPO conducts studies to identify and address safety issues, including pedestrian, bicycle, and freight related safety needs.