



APPENDIX A

MPO MEMORANDUM OF UNDERSTANDING AND ADVISORY COUNCIL BYLAWS



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**MEMORANDUM OF UNDERSTANDING RELATING TO THE
COMPREHENSIVE, CONTINUING AND COOPERATIVE
TRANSPORTATION PLANNING PROCESS IN THE BOSTON
METROPOLITAN AREA**

**Approved by the Boston Region Metropolitan Planning Organization
July 7, 2011**

Massachusetts Department of Transportation

Massachusetts Bay Transportation Authority

Advisory Board to the MBTA

Massachusetts Port Authority

Metropolitan Area Planning Council

City of Boston

City of Newton

City of Somerville

Town of Bedford

Town of Braintree

Town of Framingham

Town of Hopkinton

Effective November 1, 2011

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**Memorandum of Understanding Relating to the
Comprehensive, Continuing and Cooperative
Transportation Planning Process in the
Boston Metropolitan Area**

1. INTRODUCTION

WHEREAS, the Massachusetts Department of Transportation (MassDOT), formerly the Executive Office of Transportation and Construction, has the statutory responsibility, under Chapter 25 of the Acts of 2009, An Act Modernizing the Transportation Systems of the Commonwealth, to conduct comprehensive planning for and to coordinate the activities and programs of the state transportation agencies and, under Chapter 161A of the General Laws, to prepare the capital investment program and plans of the MBTA in conjunction with other transportation plans and programs; and its Highway Division, formerly the Massachusetts Highway Department, has the statutory responsibility under this Chapter for the construction, maintenance and operation of state roads and bridges, and also has the responsibility under this Chapter for the ownership, administration, control, operation, and responsibility for maintenance, repair, reconstruction, improvement, rehabilitation, finance, refinance, use, and policing of the Massachusetts Turnpike and the Metropolitan Highway System in the vicinity of Boston and the surrounding metropolitan area; and

WHEREAS, the Massachusetts Bay Transportation Authority (“MBTA”) under the provisions of Chapter 161A of the General Laws, has the statutory responsibility to design and construct transit development projects, to determine the character and

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extent of services and facilities to be furnished, as well as to operate the public transportation system for the area constituting the MBTA; and

WHEREAS, the Advisory Board to the MBTA (“Advisory Board”) established under Chapter 161A of the General Laws is composed of the chief elected official, or designee, from each of the 175 cities and towns within the MBTA district, and is the body authorized by statute to review and advise the MBTA on its annual operating budget and the Program for Mass Transit; and

WHEREAS, the Metropolitan Area Planning Council (“MAPC”) comprises representatives from each of the 101 cities and towns in the Boston Metropolitan Region, gubernatorial appointees, and representatives of various state, regional, and City of Boston agencies; has statutory responsibility for comprehensive regional planning under MGL Chapter 40B; is the designated Economic Development District under Title IV of the Public Works and Economic Development Act of 1965; and promotes smart growth and regional collaboration in order to implement the current regional plan, *MetroFuture: Making a Greater Boston Region*; and

WHEREAS, the Massachusetts Port Authority (“Massport”) has the statutory responsibility, under St. 1956, c. 465 (Appendix to Chapter 91 of the General Laws), to plan, construct, own, and operate transportation and related facilities (including Logan Airport, Hanscom Field, Black Falcon Cruise Terminal, and the Conley Terminal), as may be necessary for the development and improvement of commerce in Boston and the surrounding metropolitan area; and

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WHEREAS, the municipalities in the Region, including the City of Boston, as the central city in the Region, and all other municipal governments, have an essential role in transportation planning and programming decisions; and

WHEREAS, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU); or its successors and Federal Highway Administration (“FHWA”) / Federal Transit Administration (“FTA”) joint planning regulations (23 CFR Part 450 and 49 CFR Part 613) require metropolitan areas to have a comprehensive, continuing, and cooperative transportation planning process (“3-C”) that results in plans and programs that consider all transportation modes and supports metropolitan community development and social goals. These plans and programs shall lead to the development and operation of an integrated, intermodal transportation system that facilitates the efficient, economic movement of people and goods;

WHEREAS, the Objectives of the 3-C Process are:

- a comprehensive, continuing, and cooperative transportation planning process resulting in plans, programs and operations consistent with the planning objectives of the metropolitan area.
- Comprehensive, including the effective integration of the various stages and levels of transportation planning and programming for the entire Region and examining all modes so as to assure a balanced planning effort. There is simultaneous analysis of various related non-transportation elements, such

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as land use, economic and residential development, demographics, sustainability, and equity within a total planning process.

- Continuing, affirming the necessity to plan for the short and long range needs of the regional transportation system, emphasizing the iterative character of the progression from systems planning to project planning, programming, operations and implementation. Frequent updating and re-evaluation of data and plans is necessary.
- Cooperative, requiring effective coordination among public officials at all levels of government, and inviting the wide participation of all parties, public or private, at all stages of the transportation planning process. A key objective of the process is to resolve issues and controversies by providing a forum for negotiation and consensus building. At the same time, the process is not intended to operate, and cannot operate, to dilute the ultimate authority or responsibility of those state, regional, or local public officials who, pursuant to statute or under contract, review and/or implement transportation plans, programs, and projects.
- Intermodal, and are intended to help provide the Boston region with the ability to maintain, manage and operate a multimodal transportation system that provides a high level of mobility and safety for people and freight, consistent with fiscal and environmental resources;

WHEREAS, in response to the FHWA/FTA Transportation Planning Certification Review Final Report of April 2004; and

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WHEREAS, the Signatories recognize that transportation planning and programming must be conducted as an integral part of and consistent with the comprehensive planning and development process, and that the process must involve the fullest possible participation by state agencies, regional entities, local governments, private institutions and other appropriate groups;

NOW, THEREFORE, the Signatories hereto jointly agree as follows:

2. COMPOSITION AND ROLES OF THE BOSTON REGION METROPOLITAN PLANNING ORGANIZATION (MPO)

The Boston Region MPO consists of the following entities:

- Massachusetts Department of Transportation, with three representatives appointed by the Secretary, at least one of which is from its Highway Division
- Massachusetts Bay Transportation Authority
- Advisory Board to the MBTA
- Massachusetts Port Authority
- Metropolitan Area Planning Council
- City of Boston, with two representatives
- Twelve other municipalities elected from the Boston Region:
 - four at-large (two cities and two towns), and

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- eight (no city or town designation) from, respectively, each of the eight Metropolitan Area Planning Council subregional groups, and
- The Regional Transportation Advisory Council

In addition, the Federal Highway Administration and the Federal Transit Administration are ex-officio, non-voting members.

Each elected municipality shall be represented by its chief elected official or their designee. The terms of office of the elected municipalities shall be three-years, except, in the initial implementation phase, for six members who will have one four year term (as specified in the Updated MPO Membership election Process, dated 6/30/11). The 101 municipalities of the Boston Region will elect the elected municipalities. Permanent member entities of the MPO are not eligible to run for an elected membership.

A. Officers

The Chair of the Boston Region MPO shall be the Secretary of MassDOT or the Secretary's designee. The Vice Chair shall be a municipal representative or an official of one of the two regional agencies and shall be elected to a one-year term by the MPO members by majority vote. This election shall take place at the first meeting after the election of Boston Region MPO elected municipal representatives.

The Chair or his/her official designee shall: set agenda with the advice and input of the Vice Chair; call meetings; preside at meetings; and disseminate timely information to members. The Vice Chair or his/her official designee

shall preside at meetings in the absence of the Chair or his/her official designee.

B. Records

The Central Transportation Planning Staff (CTPS) shall be the official custodian of the Boston Region MPO records. These records will be prepared and maintained by the CTPS, and shall be accessible in a central location.

C. Municipal Membership

The City of Boston is a permanent member. The process for nominating and electing the twelve other municipal members shall be approved by the Boston Region MPO to fulfill the objective of having a diverse membership. The municipal nomination and election process shall be administered by MAPC working jointly with the Advisory Board to the MBTA.

Election procedures should allow all municipalities an opportunity to be elected to the Boston Region MPO. Any changes to the election procedures shall be presented to the Boston Region MPO for approval.

D. The Regional Transportation Advisory Council (Advisory Council)

To accomplish the objectives of the 3-C process, the Boston Region MPO has established a special advisory committee, known as the Regional Transportation Advisory Council (Advisory Council). The Boston Region MPO shall support the Advisory Council by providing financial and staff support through the Boston Region MPO staff. The members of the Boston

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Region MPO shall support the Advisory Council individually by rendering institutional support and also by attending the Advisory Council meetings, as practical.

In setting policy and work priorities for said staff, the Boston Region MPO shall be advised by the Advisory Council and, subject to overall work priorities, shall provide information and analysis to the Advisory Council to assist the Advisory Council in advising on issues arising out of the 3-C process.

The principal mission of the Advisory Council is to foster broad and robust participation in the transportation planning process by bringing together concerned citizens, community-based organizations, Environmental Justice populations, business and institutional leaders, representatives of cities and towns, and state agencies.

The Advisory Council will best serve the Boston Region MPO and the public by acting as a primary mechanism for public input to the transportation planning process. To accomplish the Advisory Council mission, the Boston Region MPO acknowledges that:

- the Advisory Council is defined as a principal public outreach and education arm of the Boston Region MPO;
- The Chair of the Advisory Council will also chair any Public Participation Committee of the Boston Region MPO; and

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- The Advisory Council shall assist with the implementation of the public participation plan in cooperation with the agencies and staffs as designated in the Unified Planning Work Program (UPWP).

Boston Region MPO staff will provide ongoing support to the Advisory Council Chair to:

- Implement the Public Participation Plan and
- Further educate members of the public regarding activities of the Boston Region MPO and critical transportation issues generally.

Any additional specific revised functions, duties, and membership of the Advisory Council, proposed by the Boston Region MPO, shall be determined in cooperation with the Advisory Council.

E. Voting Rules

Votes of the Boston Region MPO on all certification documents and amendments to these documents shall be a two-thirds majority vote of those present and voting, provided that a quorum, at least twelve member representatives, is present. Other votes will be by majority, and require a quorum

3. FUNCTIONS AND ROLES OF THE BOSTON REGION MPO AND ITS COMMITTEES

A. Overview

The Boston Region MPO shall perform all functions as required by federal or state law including jointly adopting an annual unified transportation planning

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work program for the region, as well as such transportation plans, programs and conformity determinations as may from time to time be required of the Boston Region MPO by federal and state laws and regulations.

The Boston Region MPO shall be the forum for cooperative decision making by principal elected officials of general purpose governments in the Boston region, and shall endeavor to provide the federal government the views of “responsible local officials” of the Region where called for under federal law with respect to the initiation of certain transportation programs and projects.

In the resolution of basic regional transportation policy, the Boston Region MPO shall seek and consider the advice of the Advisory Council. In so doing, the Boston Region MPO shall provide the Advisory Council with information and analysis in the form of reports, briefings, and discussion concerning their plans, programs, and priorities so that the Advisory Council can carry out its functions in a timely fashion.

In addition to the advice of the Advisory Council, the MPO shall seek the involvement of members of the public and the many entities and organizations with interests and views relative to the Boston Region’s planning and programming. To facilitate this, the Boston Region MPO will post on its website, at least 48 hours in advance of meetings, all materials related to meeting action items, unless waived by unanimous consent of the Boston Region MPO. The Boston Region MPO will also meet quarterly at locations outside of the City of Boston.

The Boston Region MPO will consider geographic and demographic equity a goal when approving all certification documents. This means that after other factors, such as need, are used in evaluating and selecting projects, a final view toward geographic and demographic balance and fairness over the span of the document will be applied.

B. Planning and Programming

The Boston Region MPO is responsible for planning and programming financial resources for a multi-modal transportation system for the Boston region by conducting the federal metropolitan planning process (3C Process) for the region, as referenced in Section 1 of this Memorandum. This includes preparation of the fiscally constrained certification documents (Long-Range Transportation Plan, Unified Planning Work Program, and Transportation Improvement Program), and the Congestion Management Program and other studies supporting MPO decision-making.

The Unified Planning Work Program identifies the transportation planning studies conducted in the region, along with their funding amounts and sources, during a given federal fiscal year.

The Long Range Transportation Plan is the comprehensive transportation planning document for the MPO. It defines transportation visions, establishes goals and policies, and allocates projected revenue to regionally significant programs and projects.

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The Transportation Improvement Program lists projects programmed and expected to be funded over the immediate four-year period. It is developed annually.

The Signatories agree to the arrangements outlined in Section 4 for the allocation of federal and state funds. Nothing in this document shall preclude the Boston Region MPO's ability to use the provisions of SAFETEA-LU (and successors) to transfer funds between highway and transit uses.

C. Establishment of Committees and Task Forces

The Boston Region MPO shall appoint committees it determines necessary and task forces to accomplish its business and assign duties to them.

D. Central Transportation Planning Staff (CTPS)

The Boston Region MPO agencies shall contribute resources in the form of funds, staff, and other contributions, to support a unified inter-agency transportation planning staff, known as the Central Transportation Planning Staff ("CTPS"), to assist in carrying out the Region's 3-C process under the policy control of the Boston Region MPO.

CTPS shall provide planning services to the Boston Region MPO. From time to time, other parties may provide additional resources through the state planning program and through other resources. All work undertaken for the Boston Region MPO shall be in an approved UPWP. All work funded through federal financing for metropolitan transportation planning under 23 USC 104(f) and 49 USC 5338(g)(1) shall be approved by the Boston Region MPO

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in accordance with applicable rules provided that the cities and towns shall have a substantial role in the development of the UPWP particularly in the activities specified for metropolitan planning funds.

Since CTPS is not an agency, the Boston Region MPO retains a fiduciary agent for all of the Boston Region MPO's financial resources. MAPC is currently the fiduciary agent. While the CTPS staff shall be defined legally as employees of the fiduciary agent, they shall be administered according to policies established by the Boston Region MPO subject to applicable federal, state and local laws and regulations and to the availability of funds

At any time during which the fiduciary agent is a member of the Boston Region MPO, the role and actions of the fiduciary agent are distinguished from its role and actions as a policy member of the Boston Region MPO in that the fiduciary agent shall be limited to implementing actions of the Boston Region MPO subject to the applicable federal, state and local laws, and regulations and to the availability of funds.

The Boston Region MPO shall indemnify and hold the fiduciary agent harmless from liabilities occurring out of actions taken under its normal administration of the Boston Region MPO's activities. The Boston Region MPO and the fiduciary agent shall enter into an agreement detailing the financial and legal obligations of each party as determined by the Boston Region MPO.

All work not subject to federal transportation rules governing metropolitan planning funds must be approved by the Boston Region MPO for inclusion in the UPWP. CTPS may be selected by the sponsoring agency or other parties to deliver transportation planning services using these funds. The Boston Region MPO shall approve such requests provided it determines that: 1) CTPS has sufficient resources to complete such work in a capable and timely manner; and 2) by undertaking such work, CTPS neither delays completion nor reduces the quality of other work in the UPWP.

4. TRANSPORTATION IMPROVEMENT PROGRAM (TIP)

A. Overview

The Boston Metropolitan Region, made up of urban, suburban and rural communities, requires a balanced approach to transportation investment. The Boston Region MPO shall endorse annually a multi-year spending plan for federal highway and transit funding. This Transportation Improvement Program (TIP) shall reflect a multi-modal transportation program that responds to the needs of the region.

The TIP shall be the result of a cooperative, open, and informed process that balances local, regional, and state input and priorities and applies established Boston Region MPO policies and priorities in a fiscally constrained document. TIP development and programming shall be in full compliance with federal regulations and guidance. The TIP may include projects and programs addressing needs on the Interstate and National Highway Systems, repair of deficient bridges, support of inter- and intra-

regional mobility, community projects, multi-modal facilities, bicycle and pedestrian infrastructure, transportation enhancements, clean air and mobility, operations and management, and all forms of transit. The state, regional, and municipal members of the Boston Region MPO shall work in a unified, timely, and cooperative manner to develop and establish priorities for the TIP.

The Boston Region MPO shall maintain two lists of unfunded projects: a First Tier Projects list and a Universe of Projects list. These lists shall be compiled by the Boston Region MPO for information purposes and shall be included annually in an appendix to the TIP.

B. Establishment of Financial Constraint and Development of TIP Targets

Development of the statewide federal aid and non-federal aid highway funding estimate shall be cooperative and shall be discussed with a statewide group representing regional planning agencies and other MPOs; currently the Massachusetts Association of Regional Planning Agencies (MARPA) is this group.

An initial step in the financial constraint and TIP target development process shall be timely transmission to MARPA of federal funding information on obligation authority. In each TIP year, the state will propose its priorities for non-High Priority Projects, mega-projects, statewide infrastructure, change orders, planning, statewide CMAQ expenditures, and other items as needed. The estimated cost of these will be subtracted from the estimates of federal obligation authority of the state to show the estimated amount available for

federal funding for MPO targets in the state. This amount and the state match for this funding will be allocated among the MPOs based on the MARPA formula. The Boston Region MPO share of available federal and non-federal aid has provided the Boston Region MPO with 42.97% of available funds since 1991. This will be termed the TIP Target. The resulting targets, federal and state funding levels, and projects and programs and their cost estimates will be discussed with the Boston Region MPO and other members of MARPA at a meeting early in the TIP development process of each year. Boston Region MPO Staff shall accompany MAPC to these MARPA consultation meetings. The state will be responsible for explaining the derived targets and providing additional information as requested.

The Boston Region MPO shall use these numbers as the estimate of available funding. The Boston Region MPO's portion of federal and non-federal aid will be programmed in its constrained TIP and MassDOT shall seek to advertise projects in the region in that amount.

C. Prioritization Criteria

The Boston Region MPO has developed criteria to be used to evaluate projects considered for programming. These criteria are a means to inform the MPO's decisions for all elements of the TIP. These criteria are consistent with and advance the visions and policies adopted for the latest Long-Range Transportation Plan. The criteria shall be reviewed each year and updated and improved as needed.

MassDOT and other member entities implementing federally-funded transportation projects shall consider MPO priorities when setting their priorities.

D. Transit

It is the responsibility of the Boston Region MPO, working with the MBTA, MassDOT Rail and Transit Division, and other transit providers in the region, to coordinate regional transit planning and funding with other transportation modes within the Boston region. This work shall be conducted in full compliance with federal and state regulations. It shall include programming for all federally-funded transit modes and programs, including the federal Job Access and Reverse Commute and New Freedom Programs.

The MBTA's authorizing legislation directs that every five years the MBTA shall prepare and submit to the Massachusetts General Court its Program for Mass Transportation (PMT), a long-range, fiscally unconstrained plan that outlines a vision for regional mass transit and a process for prioritizing infrastructure investments. Implementation of this plan is through the five-year fiscally constrained Capital Investment Program (CIP), which is updated annually.

Boston Region MPO regulatory requirements call for development every four years of a 25-year fiscally constrained Long-Range Transportation Plan (LRTP) that defines a comprehensive plan and vision for the region's surface transportation network. Implementation of the LRTP with federal

transportation funds is through the Boston Region MPO's fiscally constrained TIP.

The Boston Region MPO and MassDOT and the MBTA will coordinate the parallel planning activities of the PMT/CIP and the LRTP/TIP and provide consistency between planned outcomes. This includes mutual consideration of visions and priorities articulated in each entity's transportation planning documents and project selection process. The MassDOT Rail and Transit Division will coordinate RTA investment with the MPO when setting priorities for programming.

E. Highway, Bridge, Bicycle, and Pedestrian

The TIP shall contain the Boston region's portion of all federal and state aid for each of the TIP's four federal fiscal years. It shall be prepared in accordance with federal regulation. It shall include programming for all roadway, bridge, bicycle, pedestrian projects and programs in the region, including costs for the Central Artery/Tunnel and the Accelerated Bridge Program. It shall include projects and programs that address the needs of truck and rail freight movement in the region.

1. Central Artery/Tunnel Project

The Boston Region MPO shall detail future federal aid payments for the Central Artery/Tunnel Project through FFY 2014 or until federal aid obligations to the project have been met.

2. Accelerated Bridge Program

The Boston Region MPO shall be informed of the commitments to Accelerated Bridge Program funding. All bridges leveraging federal aid via this program shall be listed in the appropriate TIP element. There shall continue to be a section in the TIP that details the amount of federal aid returning to the federal government for payment on this program until such time as full obligation repayment is received.

3. Road and Bridge Program

The Boston Region MPO shall have the ability to program projects for federal and non-federal aid. The ability to include non-federal funds in a TIP does not in any respect imply the application of federal standards, regulations or related requirements to state-funded projects, programs or initiatives. The fiscal year shall be from October 1st to September 30th for both federal and non-federal aid.

MassDOT Highway Division shall be responsible for administering the road and bridge elements of the TIP, which includes meeting the requirements for implementing them. These requirements include acquiring right of way, obtaining necessary permits and completing design review before or during the federal fiscal year in which projects are programmed so that they can be advertised in the federal fiscal year in which they are programmed.

F. Improvement of TIP-Related Information

1. Overview

All members of the Boston Region MPO recognize the importance of delivering timely, accurate and reliable information on projects and on the levels of transportation funding expected to be available to the region. This information is critical for the development of the financially constrained TIP. This information also provides a valuable resource for planning by the cities and towns in the region as future funding levels help inform local decision making about whether, or when, to invest local resources in project design and development.

At the same time, the Boston Region MPO recognizes that funding levels may be affected by circumstances beyond its control, such as changes in state or federal authorizations or appropriations; increased need for emergency or security-related expenditures; legislative requirements; or other unanticipated events. While the Boston Region MPO recognizes these contingencies may affect funding, it nonetheless needs to deliver a regional transportation program based on good project information and a realistic assessment of available funds.

2. TIP Project Information and Dissemination

The implementing agencies shall keep the Boston Region MPO informed of project status on a regular basis to support MPO planning and programming and to enable the Boston Region MPO to notify

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project sponsors of the outstanding issues that could cause the project to be deferred to a subsequent fiscal year. At least quarterly and on request, the implementing agencies shall submit this information to the Boston Region MPO Chair and staff for coordination and for distribution to the MPO members. This information shall include project status and other issues of interest to the MPO members and shall be compiled from all available resources, including municipalities, regional entities, state transportation agencies, and other sources. Boston Region MPO members shall provide needed and relevant information to Boston Region MPO staff for dissemination to the full Boston Region MPO. Staff shall utilize appropriate and up-to-date information systems for maintaining, processing, analyzing, and reporting information.

At the end of the federal fiscal year, the state agencies shall offer a full summary of how projects fared in the previous fiscal year before asking the Boston Region MPO to vote on the new TIP.

Boston Region MPO staff shall have primary responsibility for informing local governments regarding transportation funding and for collecting local input to the Boston Region MPO. All members of the Boston Region MPO, however, shall have a role in informing local governments about transportation aid and the programming process and in considering local input to the Boston Region MPO.

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The Boston Region MPO shall discuss and decide on the TIP development process for the upcoming TIP in the first quarter of each federal fiscal year. The process shall be documented in the TIP Development Memorandum to the MPO. The process shall provide for the collection of current information about projects to be considered for programming; review and possible revision of TIP project-selection criteria; application of the criteria in project evaluations; and maintenance of certain lists of projects, such as the set in use at the signing of this Memorandum of Understanding, the “First Tier” set of projects. (The First Tier Project List is in addition to the set of programmed projects and serves as the first resource pool from which to identify projects for programming. This list is comprised of projects that earn a high score based on the evaluation criteria but that might not meet fiscal-constraint standards or immediate-readiness factors.)

5. OPERATIONS PLAN

The Boston Region MPO shall adopt a revised operations plan, which shall detail the operations of the transportation planning system and the preparation of all certification documents for the Boston Region MPO. The Boston Region MPO shall be responsible for fully complying with all federal and state regulations governing the 3-C transportation planning process in the Boston metropolitan area.

The plan should, at a minimum, address the following functional areas:

- Administration and Finance;

- Programming;
- Policy; and
- Technical Products

6. REVIEW OF THIS DOCUMENT

This document shall be reviewed every year, beginning in April, by the Signatories. Upon execution of this Memorandum of Understanding and in an effort to enhance municipal understanding of the Boston Region MPO process, the Boston Region MPO shall circulate this document to the municipalities of the Boston Region MPO. Proposed amendments will be circulated to the public prior to consideration by the Boston Region MPO.

7. EFFECT OF MEMORANDUM

This Memorandum follows from: the Memorandum dated January 1973 and its Supplement dated March 1974; the Memorandum dated June 1976 and its Supplement dated May 1984; and the Memorandum dated November 1982; the Memorandum dated January 1997; and the Memorandum dated December 2001. However, in the event of any conflicts between this Memorandum and any previous Memoranda, this Memorandum shall prevail.

This Memorandum shall be effective as of November 1, 2011. Elected Municipal Signatories as of the date of the approval of this Memorandum shall serve in the new appropriate at-large or subregional designations established by this memorandum, until the end of their current term.

**Adopted 5/8/2002 and Amended 10/14/2009 and 9/12/2012
and 3/13/2013**

BYLAWS OF THE REGIONAL TRANSPORTATION ADVISORY COUNCIL

Article I - NAME

The organization will be known as the Regional Transportation Advisory Council, referred to as the Advisory Council.

Article II - PURPOSE

The Regional Transportation Advisory Council advises the Boston Region Metropolitan Planning Organization (MPO) on transportation policy and planning. The Advisory Council provides a forum for broad public participation in the transportation planning process.

Article III - MEMBERSHIP

Membership shall consist of a broad and balanced spectrum of providers and users of any form of transportation. Individuals are welcome to participate in all meetings of the Advisory Council, but membership is limited to public and private organizations and governmental units, including state agencies and municipalities (entities).

Member entities shall designate in writing one representative and up to two alternates. Representatives and alternates should be empowered by the entities they represent to cast votes on matters before the Advisory Council. Entities may be admitted to membership by vote of the existing members. Continuing membership shall depend on active participation, defined as attendance at the majority of Advisory Council meetings in a federal fiscal year. As used herein, the term "member" refers to an entity, and the terms "representative" and "alternate" refer to individuals designated by a member entity.

All MPO member entities, except the Advisory Council, shall be non-voting members of the Advisory Council. Individual persons who represent any MPO entity cannot be a voting designee at the Advisory Council. The list of all current members will be maintained on the MPO website.

Article IV - OFFICERS

The Officers shall be a Chair and a Vice Chair.

The Chair shall be the primary contact for the Advisory Council, shall set agendas and call and preside at the meetings.

As provided in the MPO's Memorandum of Understanding of July 7, 2011: The Advisory Council is a voting member of the MPO. The Chair, representing the Advisory Council, will attend, participate, and vote in MPO meetings.

The Vice Chair shall serve in the absence of the Chair and shall replace the Chair in case of a vacancy in that office. The Vice Chair shall actively participate in meetings of the MPO and will vote only in the absence of the Chair.

In the absence of both the Chair and Vice Chair, the Chair may appoint a member of the Advisory Council who is a past Chair to represent and vote for the Advisory Council at any MPO meeting.

Article V - MEETINGS

The Advisory Council will meet monthly as determined by the Chair with at least seven days notice of the time and agenda provided to the representatives. Special meetings may be called by the Chair with seven days notice. All meetings are open to the public.

The conduct of the meetings shall be governed by Robert's Rules of Order; however, parliamentary discretion shall be vested in the Chair. The Chair shall recognize all attendees wishing to be heard, and shall grant the floor, except in the discussion of a motion on the floor, where the Chair shall have discretion.

Article VI - QUORUM

One third of the voting members shall constitute a quorum. A simple majority of members present and voting is necessary for passage of all motions.

Article VII - MOTIONS

Motions will be accepted only if moved and seconded by voting members' designated representatives or alternates participating in a representative's absence.

Article VIII - VOTING

Each voting member shall have one vote, to be cast by its designated representative, or in case of absence, by an alternate.

Article IX - COMMITTEES

The Chair shall appoint committees to assist in carrying out the business of the Advisory Council. Only Advisory Council voting members may vote on committees. Reports by committees shall be submitted to the Chair for report to the Advisory Council. The Chair shall publish a list of existing committees and their membership in December. The following committees will be established, as well as other committees deemed appropriate by the Chair of the Advisory Council, with members appointed by the Chair unless otherwise provided by these bylaws.

An **Executive Committee** shall consist of the Chair, the Vice Chair, the immediate past Chair, and Chairs of all standing committees. The Executive Committee shall be authorized to act in place of the full Advisory Council on any matters arising between Advisory Council meetings that require immediate action. Any actions so taken shall be reported to the Advisory Council at its next meeting. In the case of officer vacancies, the Executive Committee shall nominate replacements for election at the next occurring Advisory Council meeting, and the Executive Committee nominees shall serve until those elections.

A **Membership Committee** shall be chaired by the Vice Chair of the Advisory Council and shall include at least one representative each from a citizen advocacy organization, a municipality, and a regional or state agency. The Membership Committee should assess the breadth of representation on an ongoing basis and report annually to the Chair changes that should be made in Advisory Council membership, if any.

Committees shall be appointed by the Chair to review and offer recommendations on each of the following plans and programs: the Long-Range Transportation Plan, the Transportation Improvement Program, and the Unified Planning Work Program.

An **Election Committee** shall be appointed by the Chair prior to yearly elections of officers, and shall be chaired by the immediate past Chair of the Advisory Council, if available. Election Committee membership shall include a voting member from a citizen advocacy organization, a municipality, and, if possible, a regional or state agency.

Article X - ELECTIONS

The Election Committee will commence its election process each year at the July Advisory Council meeting.

The Election Committee will encourage members to seek election and will organize and administer the election, supported by staff.

The Election Committee will receive nominations and will submit the names of all candidates for Chair and Vice Chair at the September Advisory Council meeting.

Advisory Council Bylaws

Adopted 5/8/2002 and Amended 10/14/2009 and 9/12/2012 and 3/13/2013

Additional nominations from the floor, accepted by the nominee, will be accepted during the September meeting and nominations will be closed as of the adjournment of the September meeting. The Election Committee will prepare a list of candidates and their statements and circulate this list to voting members prior to the October Advisory Council meeting.

Elections shall be held in October, and the Officers' terms shall begin November 1.

Article XI - AMENDMENTS

These bylaws may be amended by a two-thirds majority vote of members present and voting at a meeting of the Advisory Council. Specific notice of the proposed amendment shall be provided to members at least seven days in advance of the meeting, in order to have representation available to vote at the meeting.



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APPENDIX B

COMPLAINT PROCEDURES



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Boston Region Metropolitan Planning Organization Title VI Nondiscrimination Complaint Procedure

Title VI of the Civil Rights Act of 1964 prohibits discrimination on the basis of race, color, or national origin by agencies that receive any federal financial assistance. Two Executive Orders and related statutes further define populations that are protected under the umbrella of Title VI. Executive Order 12898 is concerned with environmental justice for minority and low-income populations. Executive Order 13166 is concerned with providing equal access to services and benefits for individuals with limited English proficiency (LEP). Additional federal laws prohibit discrimination in other categories, including age, sex, and disability. Title VI requires that recipients of federal assistance do not discriminate against the protected populations, whether their aid is received directly or through contractual means. Massachusetts General Law extends these protections to prevent discrimination on the basis of religion, military service, ancestry, sexual orientation, or gender identity or expression.

In order to comply with 49 CFR Section 21.9(b), the Boston Region Metropolitan Planning Organization (MPO) maintains the following procedure for receiving, investigating, addressing, and tracking Title VI complaints.

1. Submittal of Complaints

Any individual who believes that he or she, or any specific class of persons, has been subjected to discrimination or retaliation, as prohibited by Title VI of the Civil Rights Act of 1964, as amended, and related federal and state statutes, by the Boston Region MPO in its role of planning and programming federal funds may file a written complaint. Complaints filed under a federal law—on the basis of race, color, national origin, language, sex, age, disability, or income—must be filed no later than 180 calendar days after the date on which the person believes the discrimination occurred. Complaints filed under a Massachusetts General Law—on the basis of religion, military service, ancestry, sexual orientation, or gender identity or expression—must be filed no later than 300 calendar days after the date on which the person believes the discrimination occurred.

Written complaints shall be submitted to:

Title VI Specialist
Boston Region Metropolitan Planning Organization
State Transportation Building
10 Park Plaza, Suite 2150
Boston, MA 02116-3968

Complaints shall be in writing and shall be signed by the complainant and/or the complainant's representative. A request for assistance in providing a written complaint may be made through the Title VI Specialist. Complaints shall set forth as completely as possible the facts of and circumstances surrounding the alleged discrimination and shall include the following information:

- Name, address, and phone number of the complainant.
- Basis of alleged discrimination (for example, race, color, or national origin).
- The alleged victim of discrimination.
- The date(s) on which the alleged discriminatory event(s) occurred.
- Name(s) of alleged discriminating individual(s) and/or organization(s).
- A written statement of the complaint, including detailed description of the alleged discriminatory act(s), names, dates, times, and witnesses.
- Whether the complaint is also being filed with other agencies (state, local, or federal).
- Whether a lawsuit has been filed regarding this complaint.
- Complainant's signature and the date.
- Written consent that allows an investigator to share complainant's name and other personal information with other parties. (Doing so will assist with the investigation and resolution of the complaint.)

In the case where a complainant is unable or incapable of providing a written statement and has no designee to do so, a verbal complaint of discrimination may be made through the Title VI Specialist. Verbal complaints may be submitted (either in person, by telephone at (857) 702-3700, or via a recording) to the Title VI Specialist. The Title VI Specialist will transcribe the verbal allegations and provide the complainant with the written document for confirmation, revision, and a signature before processing. In cases where the complainant will be assisted in converting an oral complaint into a written complaint, the complainant is required to sign the written complaint.

Written complaints may also be submitted to:

MassDOT Title VI Coordinator
10 Park Plaza, Suite 3800

Boston, MA 02116

Departmental Office of Civil Rights
U.S. Department of Transportation
1200 New Jersey Avenue
Washington, DC 20590

2. Review of Complaint

Upon receipt of the complaint, the Title VI Specialist shall review it, in consultation with the MPO Director of Policy and Planning. This review may include: 1) accepting a prima facie complaint; 2) seeking additional information from the complainant if it is unclear that the complainant alleges a prima facie case; 3) procedurally dismissing the complaint for untimeliness, inadequate details, or lack of response from the complainant; or 4) referring the complaint to the Chair of the MPO, or the responsible implementing agency. Upon completion of the review, the Title VI Specialist shall report to the MPO chair with recommendations for possible action to address the complaint:

- Identifying remedial actions available to provide redress.
- Identifying improvements to the MPO's processes relative to Title VI and environmental justice.

3. Responding to Complaints

The Title VI Specialist shall issue a written response to the complainant no later than 60 days after the date on which the Title VI Specialist received the complaint. If more time is required, the Title VI Specialist shall notify the complainant of the estimated time frame for completing the review and response.

If a complaint concerns agencies other than the Boston Region MPO, the Title VI Specialist will seek permission from the complainant to forward his/her complaint to appropriate individuals at those agencies.

4. Appeals

The complainant may appeal the Title VI Specialist's response to the complaint. Appeals must be in writing and submitted to either of the following no later than 30 days after the date of the written response:

MassDOT Title VI Coordinator
10 Park Plaza, Suite 3800

Boston, MA 02116

Departmental Office of Civil Rights
U.S. Department of Transportation
1200 New Jersey Avenue
Washington, DC 20590

In the case where a complainant is unable or incapable of providing a written appeal and has no designee to do so, a verbal appeal to a complaint of discrimination decision may be made through the Title VI Specialist. Verbal appeals may be submitted (either in person, by telephone at 857-702-3700, or via a recording) to the Title VI Specialist. The Title VI Specialist will transcribe the verbal appeal and provide the complainant with the written document for confirmation, revision, and a signature before processing. In cases where the complainant will be assisted in converting an oral appeal into a written appeal, the complainant is required to sign the written appeal.

These procedures do not deny the right of the complainant to file formal complaints with other state or federal agencies, or to seek private counsel. These procedures are part of an administrative process that does not include punitive damages or compensatory remuneration for the complainant.

MPO staff will forward complaints and responses to those complaints to the Massachusetts Department of Transportation's (MassDOT) Office of Diversity and Civil Rights.

The MPO shall maintain a list of complaints, lawsuits, and investigations alleging discrimination on the basis of race, color, or national origin. The list shall include filing date(s), allegation summaries, status of the investigation, lawsuit or complaint, and actions taken by the MPO. The list of complaints, investigations and resolutions will be forwarded to MassDOT's Office of Diversity and Civil Rights. The MPO shall maintain a summary of all civil rights compliance review activities conducted during the latest three-year period.



APPENDIX C

MPO NOTICE SAMPLES



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Figure C-1
Title VI/Non-discrimination Notice on the Boston Region MPO's Website




Figure C-2
Non-discrimination Notice Posted at the MPO Office Entrance



Figures C-3
Non-discrimination Notice in Multiple Languages at MPO Reception Area



**Figure C-4
Non-discrimination Notice in MPO Conference/Meeting Room**


**BOSTON REGION
MPO
METROPOLITAN PLANNING ORGANIZATION**

Additional information

To request additional information regarding Title VI and related federal and state nondiscrimination obligations, please contact:

Title VI Specialist
 Boston Region MPO
 10 Park Plaza, Suite 2190
 Boston, MA 02118
 617-752-3700
 TTY: 617-476-4191
publicaffair@mbrpo.org

Complaint Filing

To file a complaint alleging a violation of Title VI or related federal nondiscrimination law, contact the Title VI Specialist (below) within 180 days of the alleged discriminatory conduct. To file a complaint alleging a violation of the state's Public Accommodation Law, contact the Massachusetts Commission Against Discrimination within 300 days of the alleged discriminatory conduct at:

Massachusetts Commission Against Discrimination (MCAD)
 One Antonian Place, 9th Floor
 Boston, MA 02109
 617-694-6000
 TTY: 617-694-6100

Notice of Nondiscrimination Rights and Protections to Beneficiaries

Federal "Title VI/Nondiscrimination" Protections

The Boston Region Metropolitan Planning Organization (MPO) operates all programs, services, and activities in compliance with federal nondiscrimination laws including Title VI of the Civil Rights Act of 1964 (Title VI), the Civil Rights Restoration Act of 1987, and related statutes and regulations. Title VI prohibits discrimination in federally assisted programs and requires that no person (the United States or anyone else), on the grounds of race, color, or national origin (including limited English proficiency), be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination in any program or activity receiving federal assistance. Related federal nondiscrimination laws administered by the Federal Highway Administration, the Federal Transit Administration, or both prohibit discrimination on the basis of age, sex, and disability. These protected categories are combined with the Boston Region MPO's Title VI Program, consistent with federal interpretation and enforcement. Additionally, the Boston Region MPO provides language access to its programs, services, and activities to individuals who have limited English proficiency, in compliance with US Department of Transportation and guidance on Federal Executive Order 12816.

State Nondiscrimination Protections

The Boston Region MPO also complies with the Massachusetts Public Accommodation Law, M.G.C. 272E, § 2A, which prohibits making any distinction, discrimination, or restriction in admission or participation in a place of public accommodation based on race, color, religious creed, national origin, sex, marital status, disability, or ancestry. Like Title VI, the Boston Region MPO complies with the Governor's Executive Order 516, section 4 requiring all programs, activities, and services provided, performed, received, delivered, funded, regulated, or conducted for by the state shall be conducted without unlawful discrimination based on race, color, sex, gender, ancestry, sexual orientation, gender identity or expression, HIV or AIDS, ancestry related origin, ancestry related status (including Veteran's status), or background.

查詢詳情或索取更多資訊，請聯絡：波士頓地區大都會區域計畫組織（Boston Region MPO）的
 第六條專員。電話：617-752-3700

如果您想對聯邦政府所資助的任何計畫或服務提出投訴，請在發生歧視行為後 180 天內，聯絡
 波士頓地區大都會區域計畫組織（Boston Region MPO）的第六條專員。電話：617-752-3700。

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 波士頓地區大都會區域計畫組織（Boston Region MPO）的第六條專員。電話：617-752-3700。

**Figure C-5
Email Footer**





APPENDIX D

BOSTON REGION MPO 2017 LANGUAGE ASSISTANCE PLAN



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1 INTRODUCTION

It is the policy of the Boston Region MPO that LEP persons are neither discriminated against nor denied meaningful access to and participation in the programs, activities, and services provided by the MPO. The MPO has developed this Language Assistance Plan (LAP) to ensure that staff employs appropriate strategies to assess needs for language services, to implement language services that provide meaningful access to the MPO's transportation-planning process, and to publish information regarding these services without placing undue burdens on the MPO's resources.

Title VI of the Civil Rights Act of 1964 prohibits discrimination by federal agencies and recipients and subrecipients of their financial assistance on the basis of national origin, which is signified by LEP. Further, EO 13166, "Improving Access to Services for Persons with Limited English Proficiency," was signed on August 11, 2000, directing federal agencies, as well as recipients of federal financial assistance (such as MPOs), to provide meaningful language access for LEP persons to agency services. In response to these regulations, the United States Department of Transportation (USDOT) published policy guidance in 2005 for its recipients of financial assistance, describing recipients' responsibilities to provide meaningful access to LEP persons by identifying the factors they must consider when doing so.

To fulfill these responsibilities, the MPO has developed a LAP based on USDOT and FTA guidance, which it updates every three years. As specified in FTA Circular 4702.1B, the LAP considers the following four factors when determining language needs of LEP persons served by the MPO:

- Factor 1: The number and proportion of LEP persons eligible to be served by or likely to encounter a program, activity, or service of the recipient
- Factor 2: The frequency with which LEP individuals come in contact with the program, activity, or service
- Factor 3: The nature and importance of the program, activity, or service provided by the recipient to people's lives
- Factor 4: The resources available to the recipient, and their costs

2 DETERMINING LANGUAGE NEEDS

The following discusses each of the four factors listed above and describes the results of the analysis completed for each factor in the MPO region.

2.1 Factor 1: Number and Proportion of LEP People in the Boston Region MPO

Persons with limited English proficiency are those who, according to self-reported responses in the American Community Survey (ACS), speak English “well,” “not well,” or “not at all.” (Non-LEP individuals are those who report speaking English “very well.”) The MPO uses data from the 2010–2014 ACS¹⁰ to determine the number of LEP persons five years of age and older living within the MPO region. According to these data, 10.4% (311,134 people) of the MPO population of 2,985,274 who are five years of age and older are considered to have limited English proficiency. The largest proportion of LEP persons speak Spanish (33.9%), followed by Chinese (16.0%), and Portuguese (11.2%). Altogether, LEP speakers of these three languages represent almost two-thirds (61.1%) of the MPO’s LEP persons.¹¹

USDOT guidance also specifies circumstances that signify strong evidence of a recipient’s compliance with their written translation obligations. If a recipient provides written translation of vital documents into languages that meet certain thresholds—called “Safe Harbor languages”—then their obligation is likely to be considered to have been met. Safe harbor languages are those non-English languages that are spoken by LEP persons (of those legible to be served or likely to be affected or encountered by the recipient) who make up at least 5% of the population, or 1,000 individuals, whichever is less. In the MPO’s region, Safe harbor languages include speakers of the languages in Table 1. Figures 1 through 7 at the end of the LAP show the distribution of LEP persons by transportation analysis zone (TAZ), the distribution of LEP speakers of the six most commonly spoken safe harbor languages, and the distribution of LEP speakers of all 19 safe harbor languages. Because the cost of providing translations for all 19 safe harbor languages is prohibitive, and as the top-four languages make up almost 70 percent of all LEP persons in the region, the MPO is focusing its resources on those languages: Spanish, Chinese (both simplified and traditional, Portuguese, and French/Haitian Creole.

10 Because ACS data must be adjusted to the 2010 census population and household totals, the MPO will continue to use 2010–2014 ACS data until 2020 census data is released as it is the last ACS release that contains 2010 survey data.

11 Data suppression inherent to language tables in the ACS causes LEP totals from these data to differ from those in the ACS tables from which overall English language proficiency are derived. The total LEP population from the language tables is 310,999, while the LEP estimate is 311,134 from the English language proficiency tables. To address this issue, the MPO uses overall English language proficiency totals when calculating the LEP population for the region, and uses the language LEP population when identifying safe harbor languages.

TABLE 1
Safe Harbor Languages Spoken in the Boston Region MPO

Language	LEP Population ^a	Pct. of LEP Population ^b	Pct. of MPO Population
Spanish	105,380	33.9%	3.5%
Chinese	49,909	16.0%	1.7%
Portuguese	34,795	11.2%	1.2%
French Creole	21,566	6.9%	0.7%
Vietnamese	15,086	4.9%	0.5%
Russian	11,761	3.8%	0.4%
Arabic	9,747	3.1%	0.3%
Italian	7,792	2.5%	0.3%
French	5,796	1.9%	0.2%
Korean	5,330	1.7%	0.2%
Greek	3,701	1.2%	0.1%
Mon-Khmer, Cambodian	3,145	1.0%	0.1%
Japanese	2,749	0.9%	0.1%
Hindi	2,063	0.7%	0.1%
Polish	1,747	0.6%	0.1%
Armenian	1,627	0.5%	0.1%
Gujarati	1,562	0.5%	0.1%
Tagalog	1,376	0.4%	0.0%
Persian	1,247	0.4%	0.0%
Total LEP Safe Harbor Language Speakers	286,379	92.1%^c	9.6%
Total LEP Population	310,999	100.0%	10.4%
Total Population ≥ Five-Years-Old	2,985,333	N/A	100.0%

^a Out of the population that is five years of age and older. LEP includes those who self-identify as speaking English “well,” “not well,” and “not at all.” Non-LEP individuals are those who report speaking English “very well.”

^b The total LEP population used in this column is 310,999. Note that this differs from the LEP estimate given on the previous page, 311,134. See Footnote 2 for an explanation.

^c 7.9% of LEP persons do not speak a safe harbor language.

LEP = Limited English Proficiency. N/A = Not applicable or available.

Source: American Community Survey, 2010–2014.

2.2 Factor 2: Frequency of Contact

The MPO has infrequent and unpredictable contact with LEP individuals, largely because of the nature of MPO programs and activities. The most frequent avenues for contact are the MPO website, *TRANSREPORT* blog, and announcements that are emailed and/or tweeted to individuals and organizations that are in the MPO's Transportation Equity contacts database.

Other probable occasions for contact with LEP persons are events such as the MPO's public workshops, open houses, and other MPO events, many of which are held in concert with developing the MPO's certification documents. The MPO makes an effort to identify and reach out to minority and LEP populations during this development process. Demographic maps are used to identify whether a public meeting is near LEP populations and determine the languages into which outreach materials might need to be translated.

2.3 Factor 3: Nature and Importance of the MPO's Programs, Services, and Activities

The MPO plans and programs funds for future transportation projects within the Boston region. While the MPO does not provide transportation service or implement improvements directly, and although denial or delay of access to the MPO's programs and activities would not have immediate or life-threatening implications for LEP persons, transportation improvements resulting from the MPO's planning and programming decisions have an impact on all residents' mobility and quality of life.

Input from all stakeholders is critical to the transportation-planning process, so the MPO invests considerable effort to conduct inclusive public engagement. The MPO encourages and helps the public to understand the transportation-planning process and provides many opportunities for the public to participate and comment through a variety of activities, which are described fully in the MPO's Public Participation Plan.

The MPO conducts public engagement for its three certification documents and their related planning initiatives—the one-year Unified Planning Work Program (UPWP), the five-year Transportation Improvement Program (TIP), and the 20-year-plus Long-Range Transportation Plan (LRTP). As such, development of these documents offers opportunities for the public to comment on the use of federal funds for planning studies and capital projects, and for the MPO to reach out to LEP persons and organizations that serve them to ensure that they have the opportunity to provide input.

As a result of these planning processes, selected projects receive approval for federal funding and progress through the project stages of planning, design, and construction under the responsibility of local jurisdictions (including municipalities), state transportation agencies, and regional transit authorities. These implementing agencies have their own policies in place to ensure opportunities for LEP persons to participate in the process that shapes where, how, and when a specific project is implemented. In addition, MPO staff is looking for opportunities to inform local project proponents of their LEP and other Title VI responsibilities during their project-selection and planning processes.

Some of the MPO's documents and outreach materials are considered vital to the public for understanding and participating in the transportation-planning process, such as

- MPO Notice to Title VI Beneficiaries
- MPO complaint procedures
- Complaint form
- Consent/release forms for complaints
- Documents that describe the MPO transportation-planning process
- Executive summaries of the three certification documents: the LRTP, TIP, and UPWP
- Meeting notices: generally prepared for out-of-Boston MPO meetings, and all MPO-sponsored meetings, workshops, forums, and other public engagement events. These may include physical notices (flyers), as well as electronic notices such as Twitter and email messages and website "banners"

2.4 Factor 4: Resources Available to the Recipient

Based on the number and type of meetings for which written materials need to be translated, the MPO has budgeted sufficient funds to translate vital documents into the three languages most widely spoken by LEP individuals, as described above. The budget also includes sufficient funds to translate documents into other languages, as needed, for public outreach or to accommodate requests. To date, only a few individuals have made such requests.

The MPO's policy is to provide translation services when they are requested. Although the MPO has advertised the availability of interpreters, none have been requested to date. While the MPO has been able to provide language translation services with existing resources thus far, the region is dynamic and continues to attract diverse ethnic and cultural populations. Therefore, the MPO will continue to monitor the need

for translation and interpretation services based on factors one through three of the Four-Factor Analysis and the number of requests received, and will determine whether the current policy needs to be adjusted because of resource constraints.

3 PROVIDING LANGUAGE ASSISTANCE

3.1 Oral Language Assistance

Notices for all MPO meetings state that translation services (including American Sign Language) are available at public meetings upon request, with advance notice. The number of LEP residents in the Boston region, along with their infrequent interaction with the MPO, has meant that the MPO is rarely asked to provide oral language services. This, however, does not necessarily mean that there is no need for translation among the region's population or that this need will not be made known in the future. Therefore, MPO staff is continuing to explore ways to ensure that future language needs will be met and to encourage LEP persons to engage with the MPO's transportation-planning process.

3.2 Written Language Assistance

The MPO uses "safe harbor" thresholds to identify languages for which written translations may be needed. Recipients are not required to provide written translations of vital documents for all safe harbor languages; however, if they do so, the FTA will consider it to be strong evidence of compliance with the recipient's written translation obligations.

To accommodate LEP individuals, the MPO translates vital documents into, at minimum, the three languages most widely spoken by LEP individuals: Spanish, Chinese (simplified), and Portuguese. As resources allow, the MPO will translate additional vital documents into: Chinese (traditional) and French Creole. The MPO does not currently translate vital documents into all of the safe harbor languages for several reasons: 1) the MPO does not come into contact with LEP persons on a frequent or regular basis; 2) translation is a resource-intensive effort; and 3) within the MPO region, the top-four safe harbor languages make up 68 percent of the LEP population. Further, the Notice to LEP Beneficiaries was developed for use by all Massachusetts MPOs by the Massachusetts Department of Transportation (MassDOT). MassDOT also provided translations of the notice in six languages: Spanish, Chinese (traditional and simplified), Portuguese, Haitian Creole, Russian, and Vietnamese. The MPO's complaint form is currently translated into ten languages in addition to English; the MPO is waiting for MassDOT to provide a standard complaint procedure that also is translated into these languages.

This approach may not meet all language needs. Analyses of language data show that whereas many LEP speakers of the six most common safe harbor languages are concentrated in urban areas, especially in Boston, speakers of the other 15 languages tend to be more geographically dispersed. With that in mind, the MPO’s policy is to identify language needs for areas in which it conducts outreach—for example, public meetings for the LRTP, TIP, or UPWP—and provide written translations in other languages as necessary. To aid in this approach, staff are committed to identifying LEP persons and languages they speak in locations where staff are holding public events.

3.3 MPO Website

In order to accommodate website translation needs, the MPO website hosts Google Translate, a browser-based tool that translates website content into more than one hundred languages, including all safe harbor languages within the MPO region. In order to meet accessibility requirements for individuals with low or no vision, MPO documents are posted on the website as PDF files and in HTML, which allows them to be read aloud by a screen reader, and enables the use of Google Translate for all documents on the website.

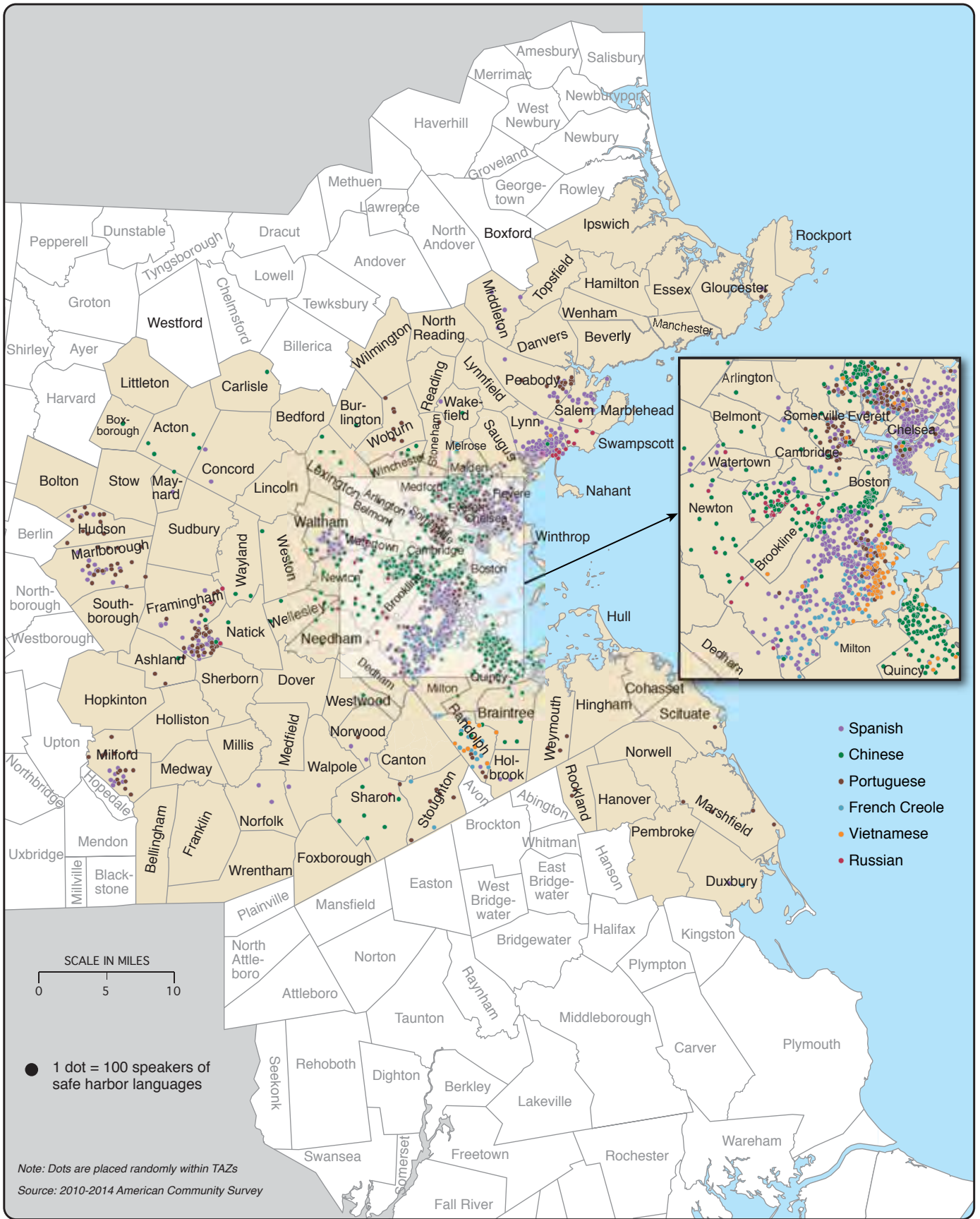
4 MONITORING AND UPDATING THE PLAN

The MPO continues to monitor the changing language needs of the region and to update language-assistance services as appropriate. Staff tracks the number of requests for language assistance and actively looks for ways to expand the participation of LEP persons in its transportation-planning process. The MPO has not received any requests for oral language assistance in the past three years. However, this does not mean that there will not be a need in the future. The MPO advertises its language-assistance services through its communications avenues, including email notifications and the MPO website. The MPO’s LAP will be revised as new LEP data become available, and as the needs of the MPO’s LEP communities change.

5 TRAINING STAFF

The MPO has developed a *CTPS¹² Non-discrimination Handbook* to ensure consistency among staff members when interacting with and providing services to populations protected under the Americans with Disabilities Act and Title VI. Information included in the handbook covers the following topics: producing accessible documents and web content, making meetings accessible, training, and communicating appropriately with persons with a disability and LEP persons.

¹² The Central Transportation Planning Staff (CTPS) is staff to the Boston Region MPO.

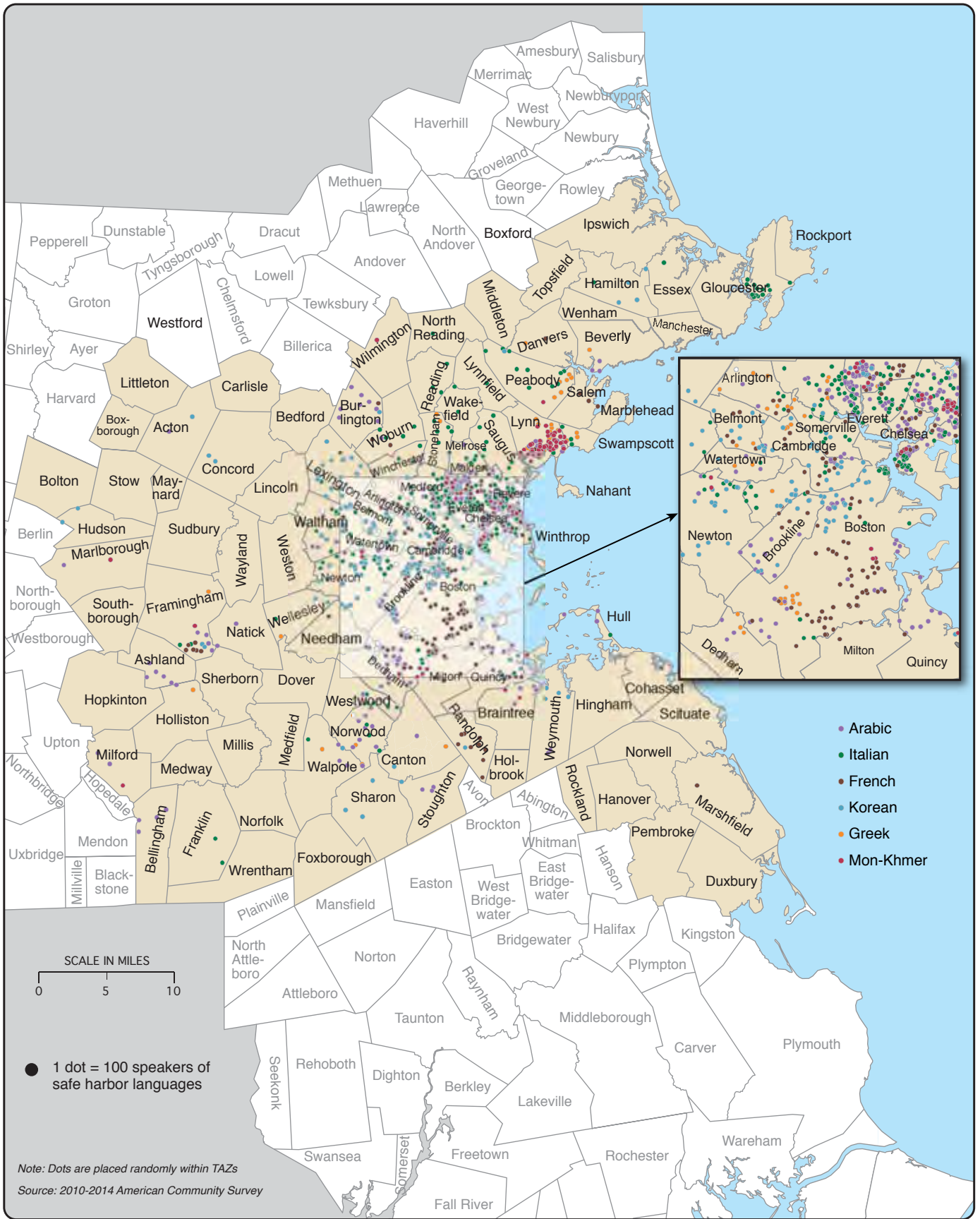


BOSTON
REGION
MPO



Figure 1A
Speakers of Safe Harbor Languages:
Spanish, Chinese, Portuguese, French
Creole, Vietnamese, and Russian

Boston Region MPO
 2017 Language
 Assistance Plan



BOSTON
REGION
MPO



Figure 1B
Speakers of Safe Harbor Languages:
Arabic, Italian, French,
Korean, Greek, and Mon-Khmer

Boston Region MPO
2017 Language
Assistance Plan

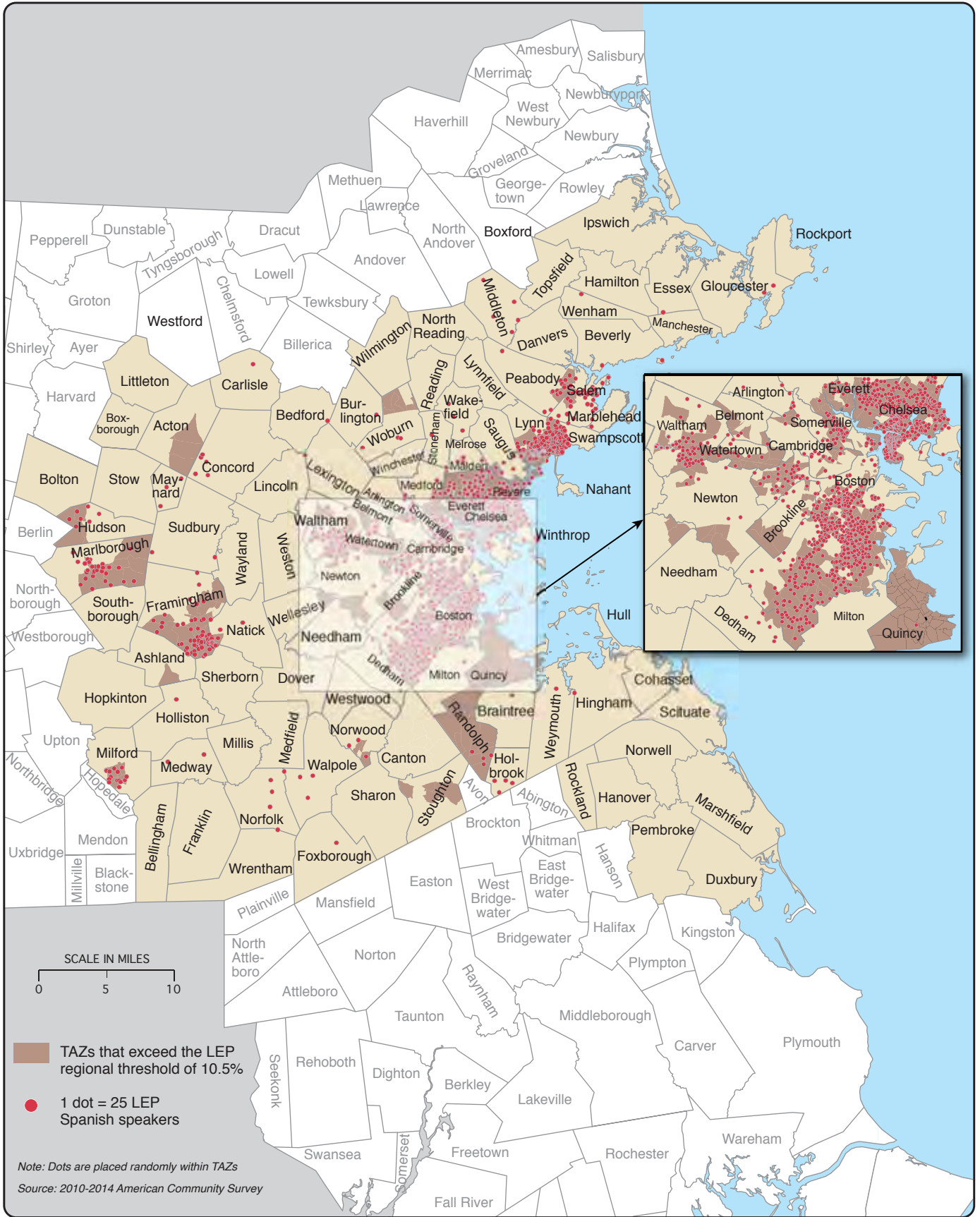


BOSTON
REGION
MPO



Figure 1C
Speakers of Safe Harbor Languages:
Japanese, Hindi, Polish, Armenian,
Gujarati, Tagalog and Persian

Boston Region MPO
2017 Language
Assistance Plan

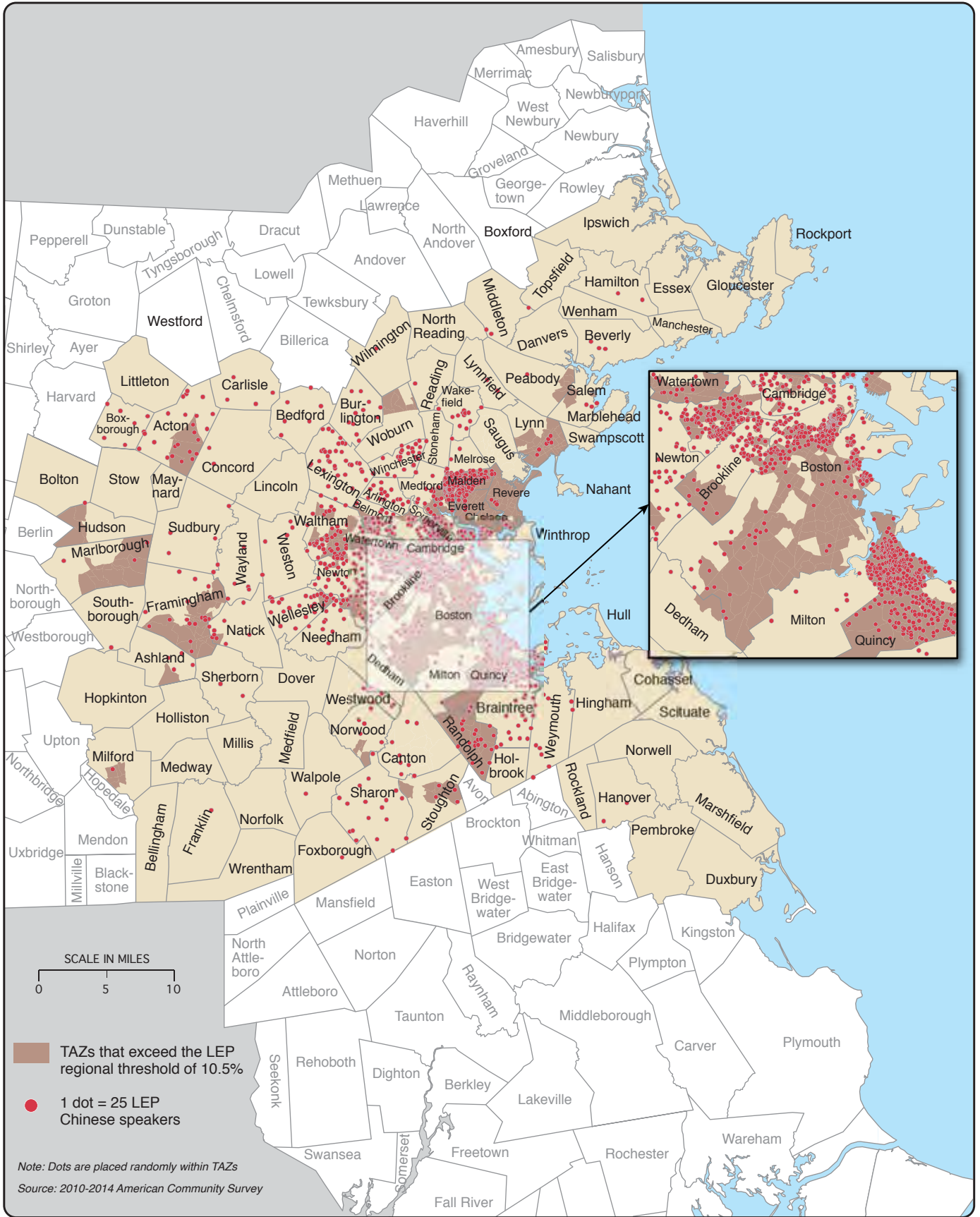


BOSTON
REGION
MPO



Figure 2
Spanish Speakers with
Limited English Proficiency

Boston Region MPO
2017 Language
Assistance Plan

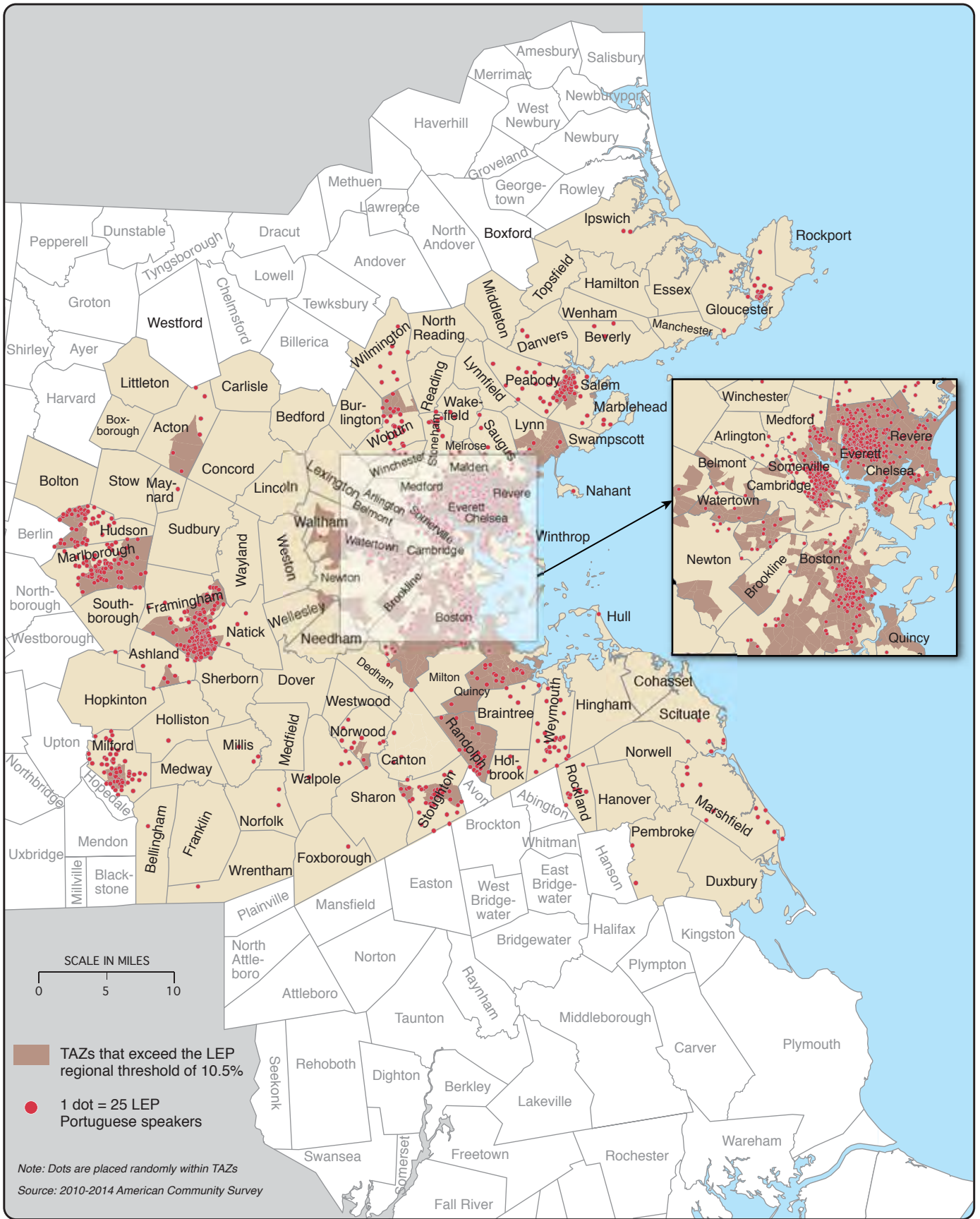


BOSTON
REGION
MPO



Figure 3
Chinese Speakers with
Limited English Proficiency

Boston Region MPO
2017 Language
Assistance Plan

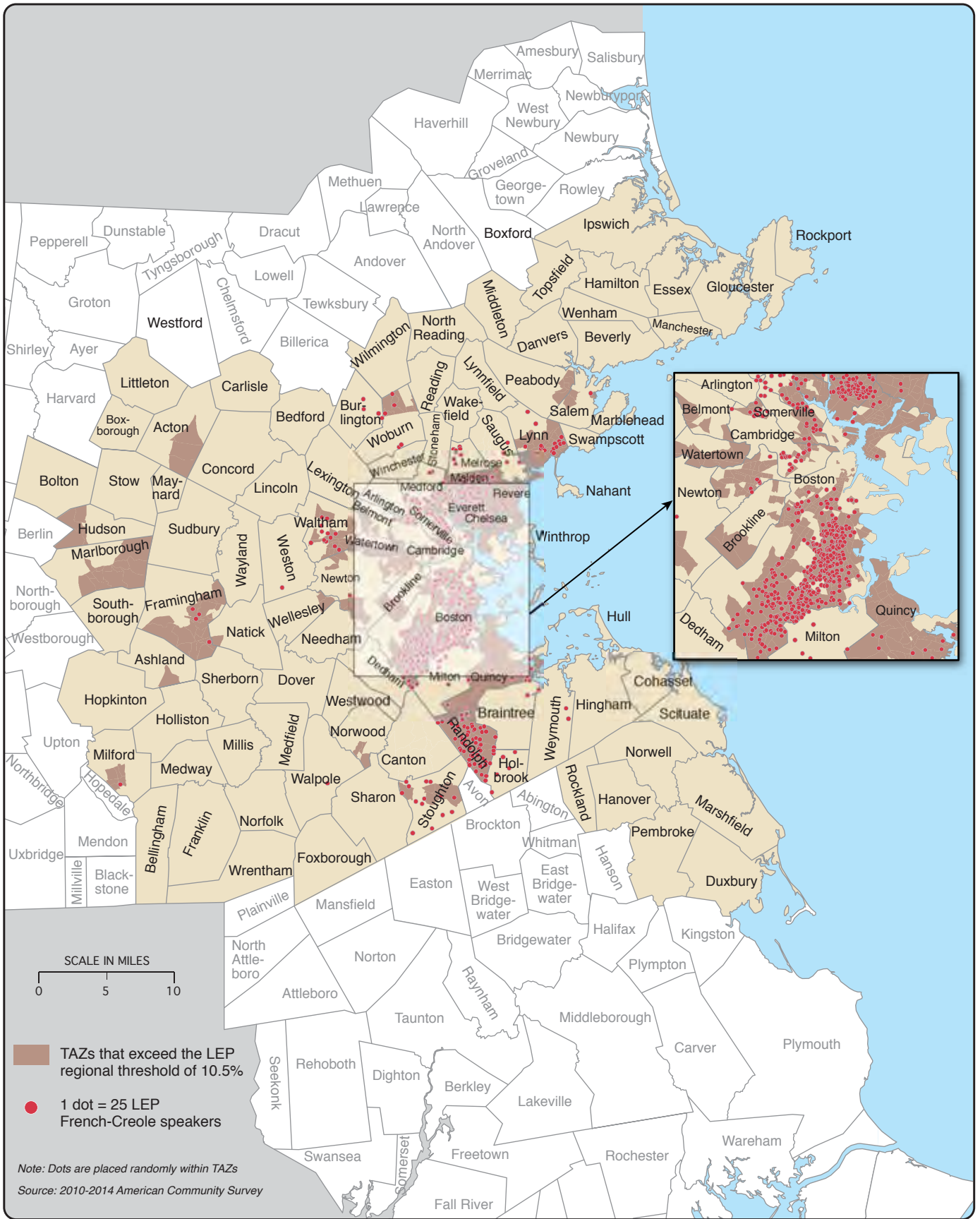


**BOSTON
REGION
MPO**



Figure 4
Portuguese Speakers with
Limited English Proficiency

Boston Region MPO
2017 Language
Assistance Plan

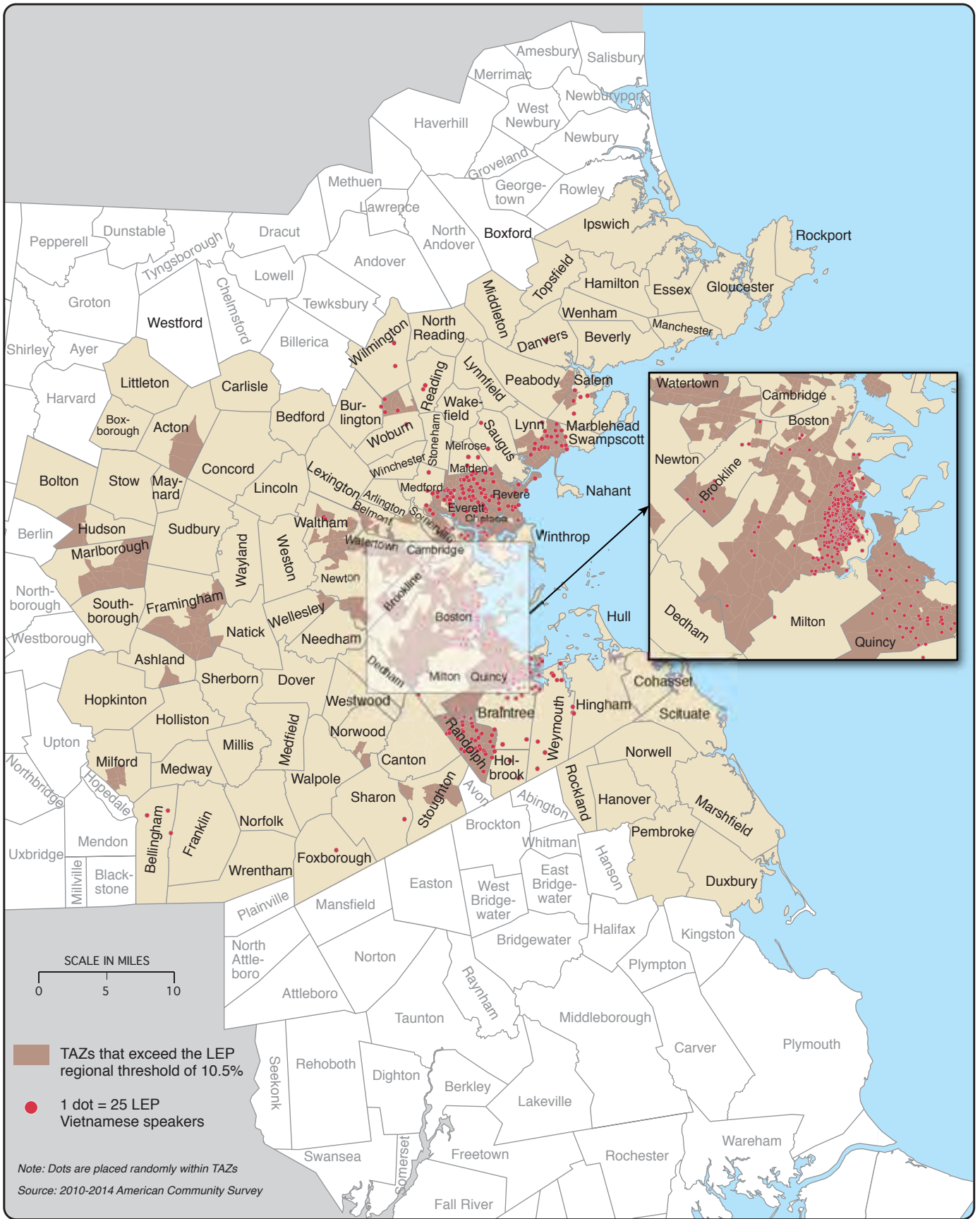


BOSTON
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Figure 5
French-Creole Speakers with
Limited English Proficiency

Boston Region MPO
2017 Language
Assistance Plan

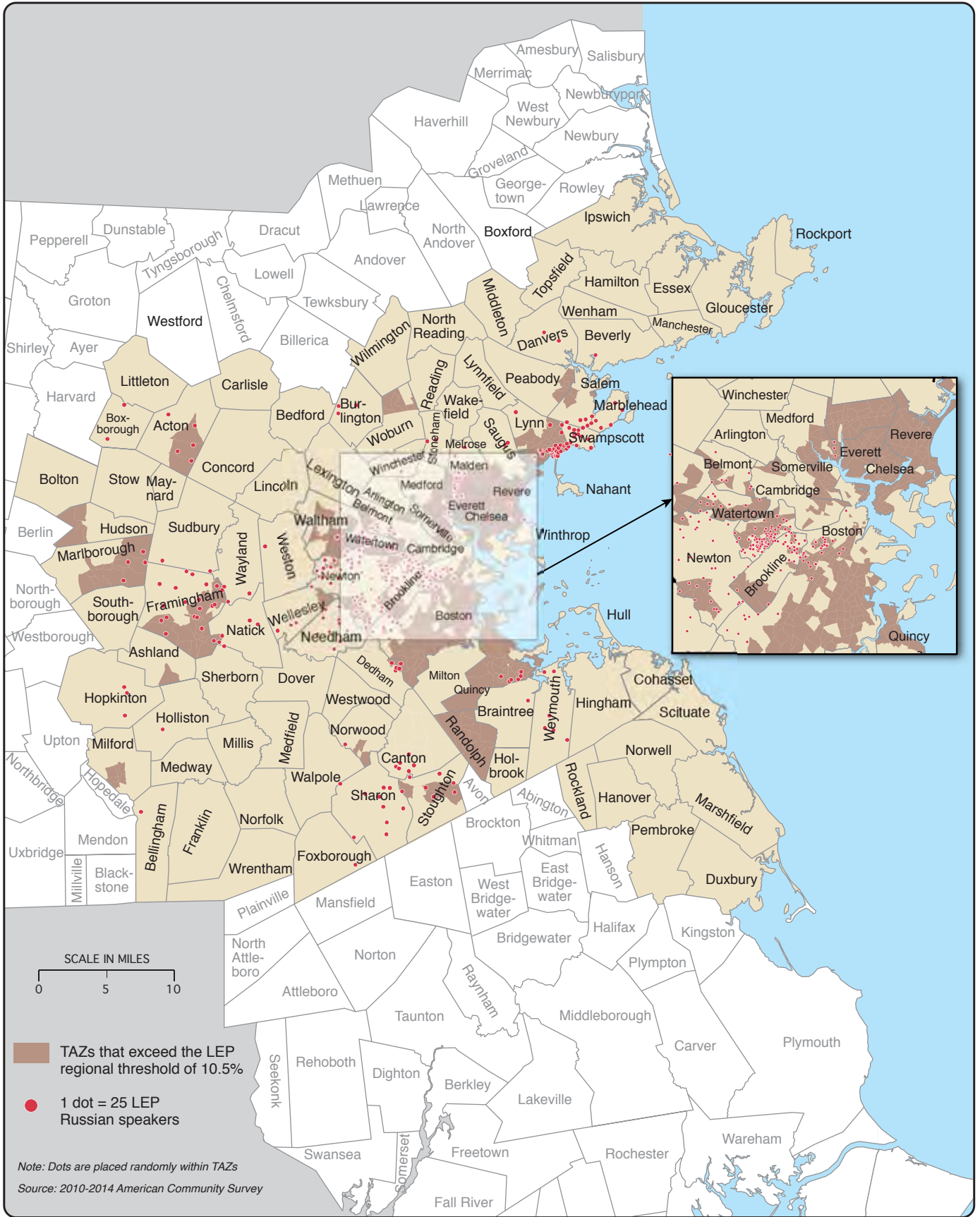


**BOSTON
REGION
MPO**



Figure 6
Vietnamese Speakers with
Limited English Proficiency

Boston Region MPO
2017 Language
Assistance Plan



BOSTON
REGION
MPO



Figure 7
Russian Speakers with
Limited English Proficiency

Boston Region MPO
2017 Language
Assistance Plan

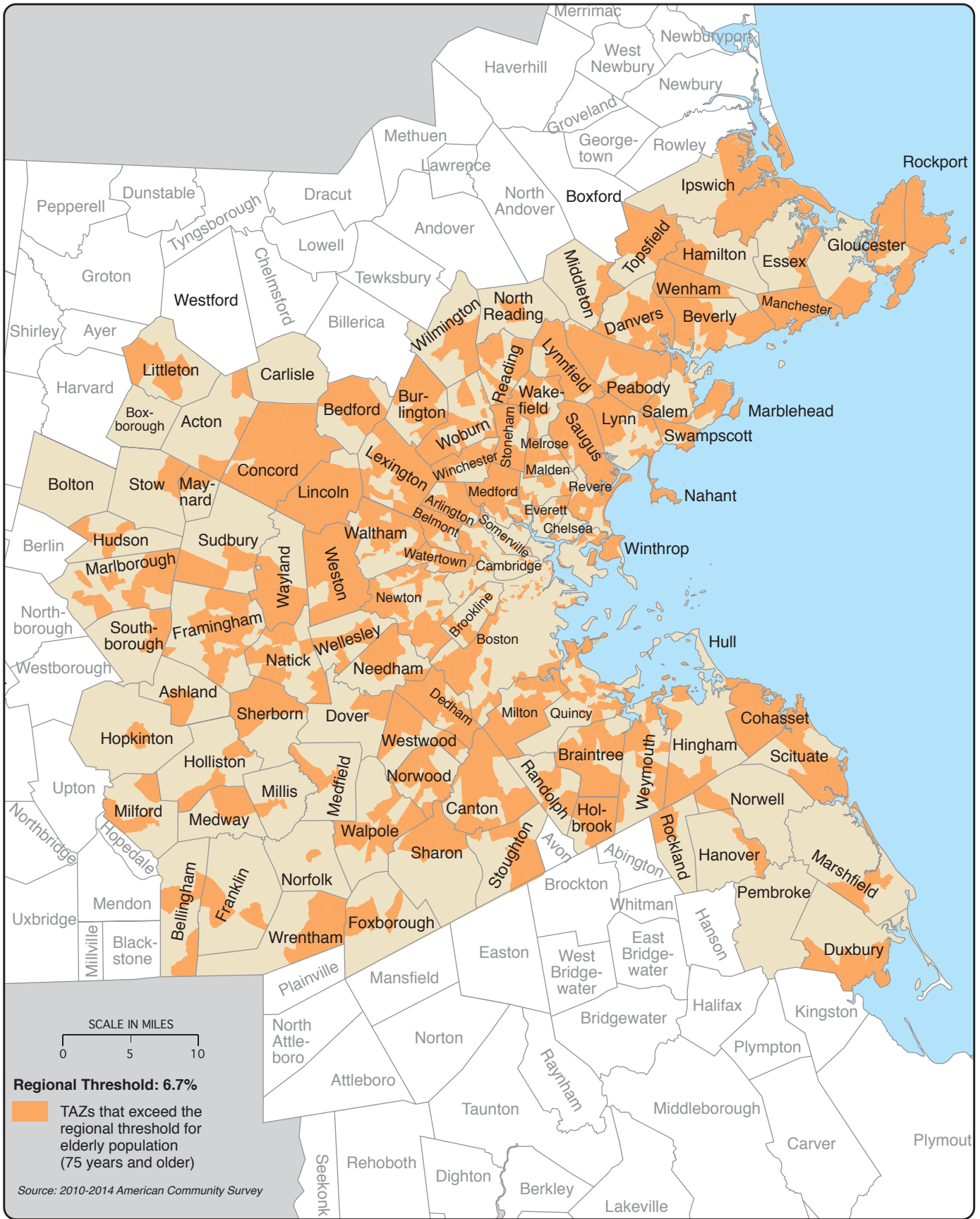


APPENDIX E

TRANSPORTATION EQUITY PROGRAM MAPS



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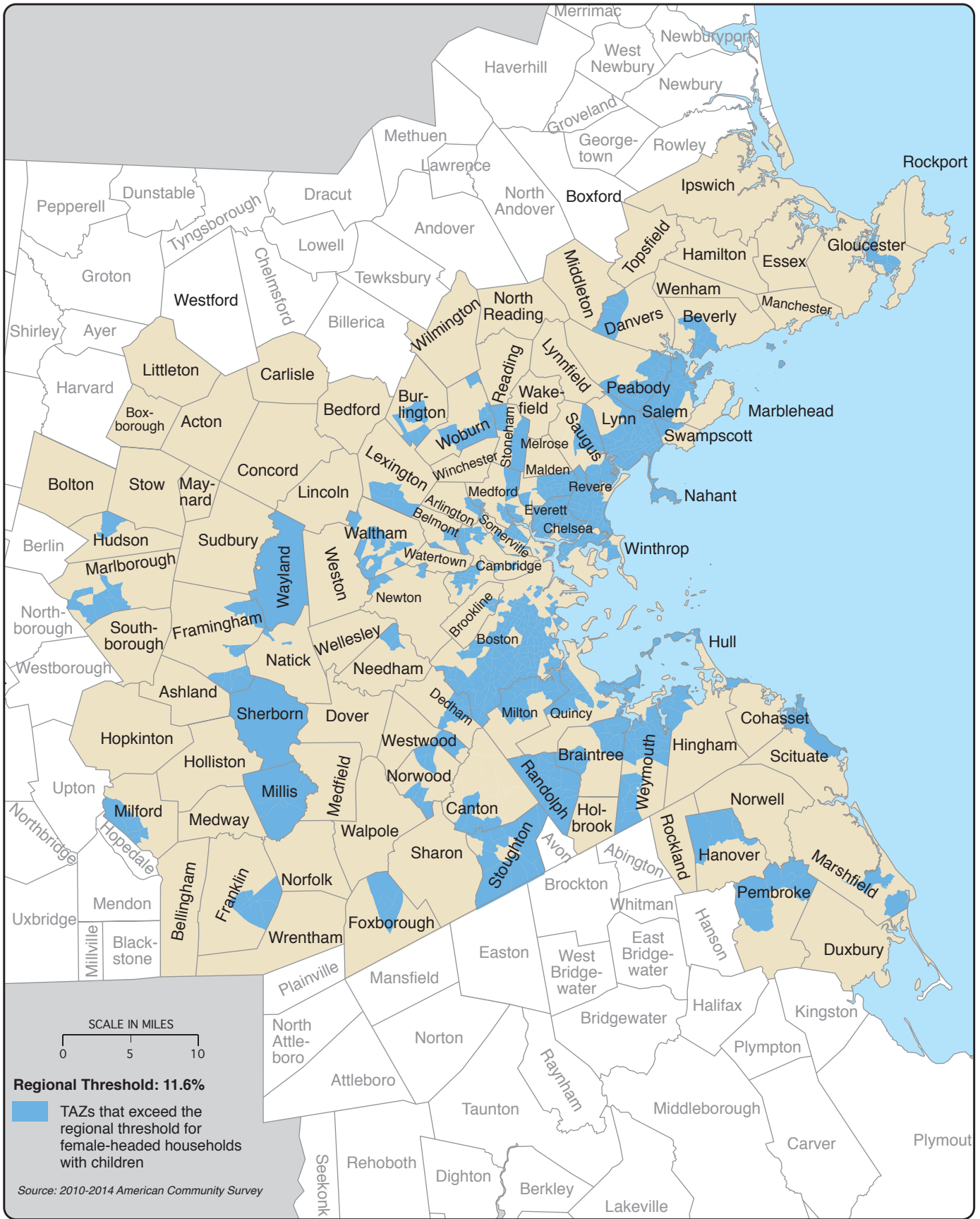


BOSTON
REGION
MPO



Figure E-1
Elderly
Transportation Analysis Zones

2017 Title VI
Triennial Report

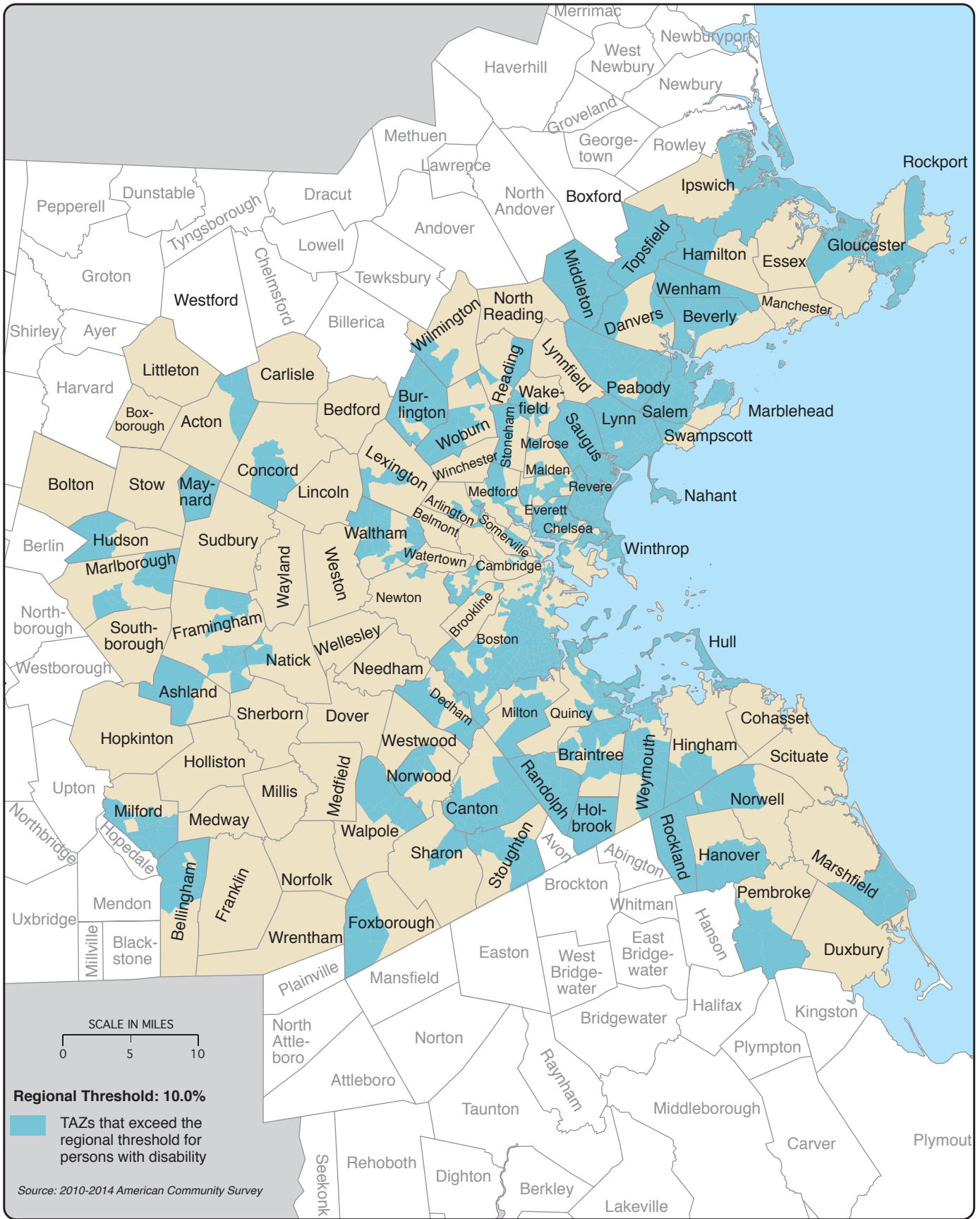


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Figure E-2
Female-Headed Households with
Children Transportation Analysis Zones

2017 Title VI
Triennial Report

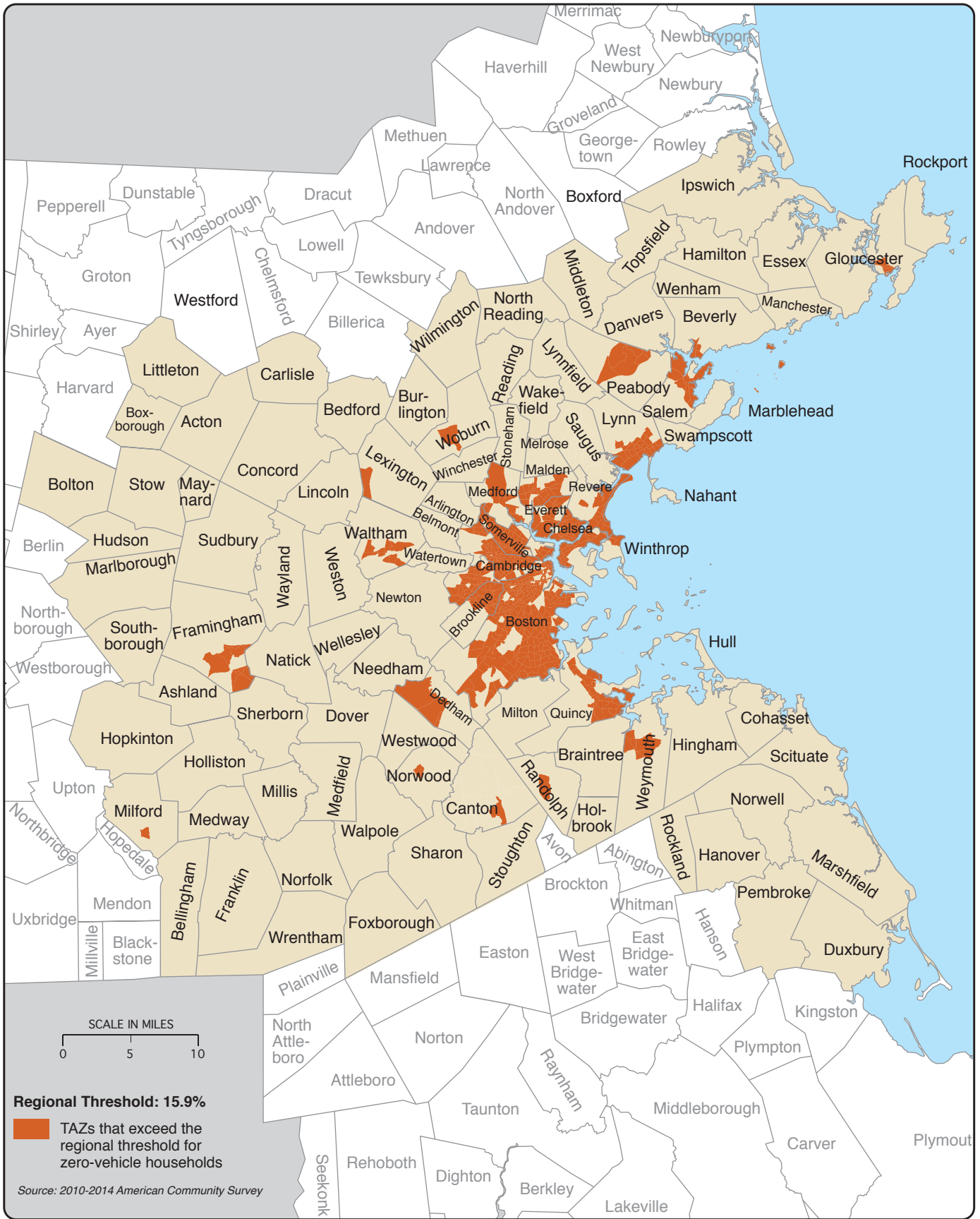


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Figure E-3
Persons with Disability
Transportation Analysis Zones

2017 Title VI
Triennial Report

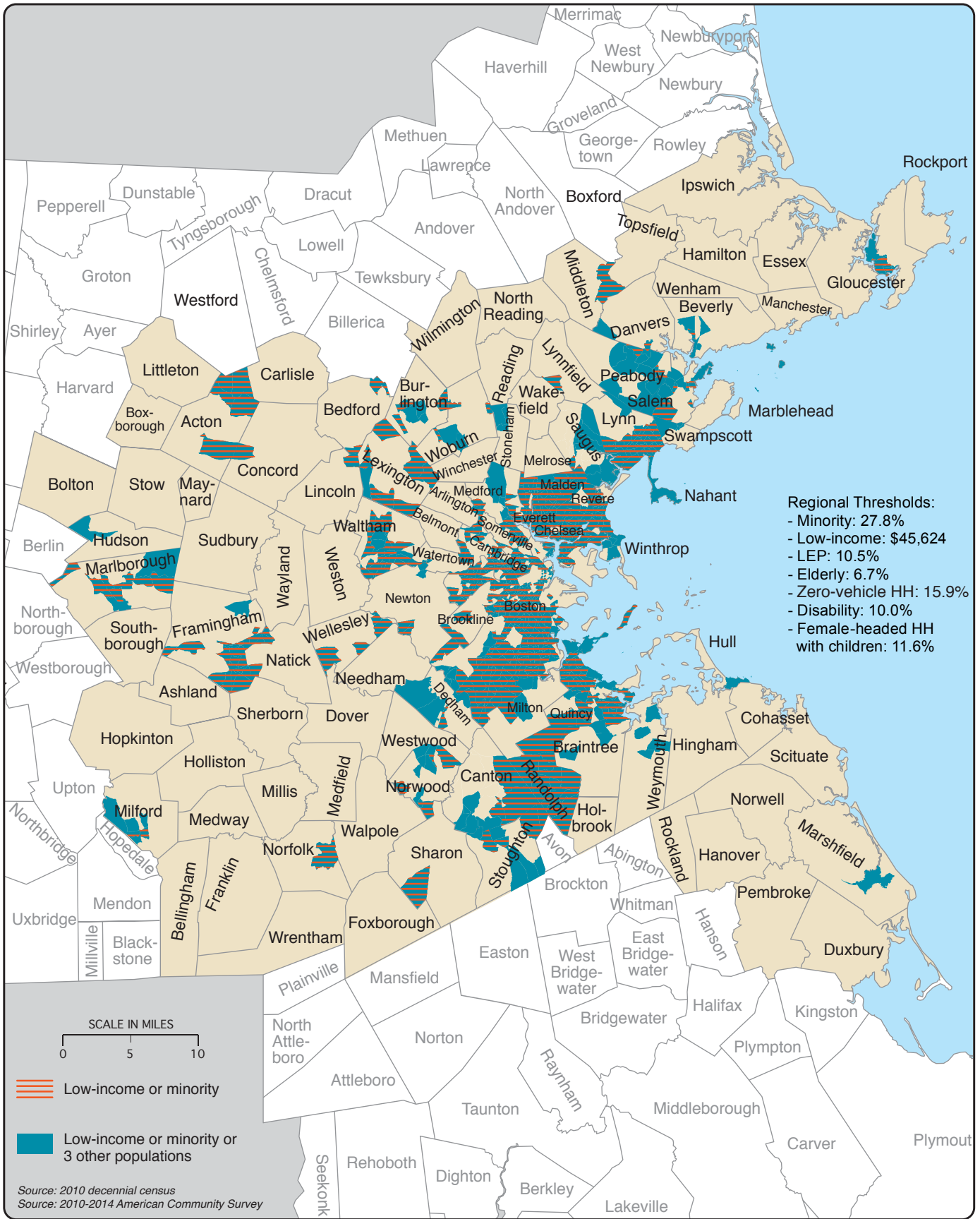


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Figure E-4
Zero-Vehicle Household
Transportation Analysis Zones

2017 Title VI
Triennial Report



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Figure E-5
Communities of
Potential Disadvantage

2017 Title VI
Triennial Report



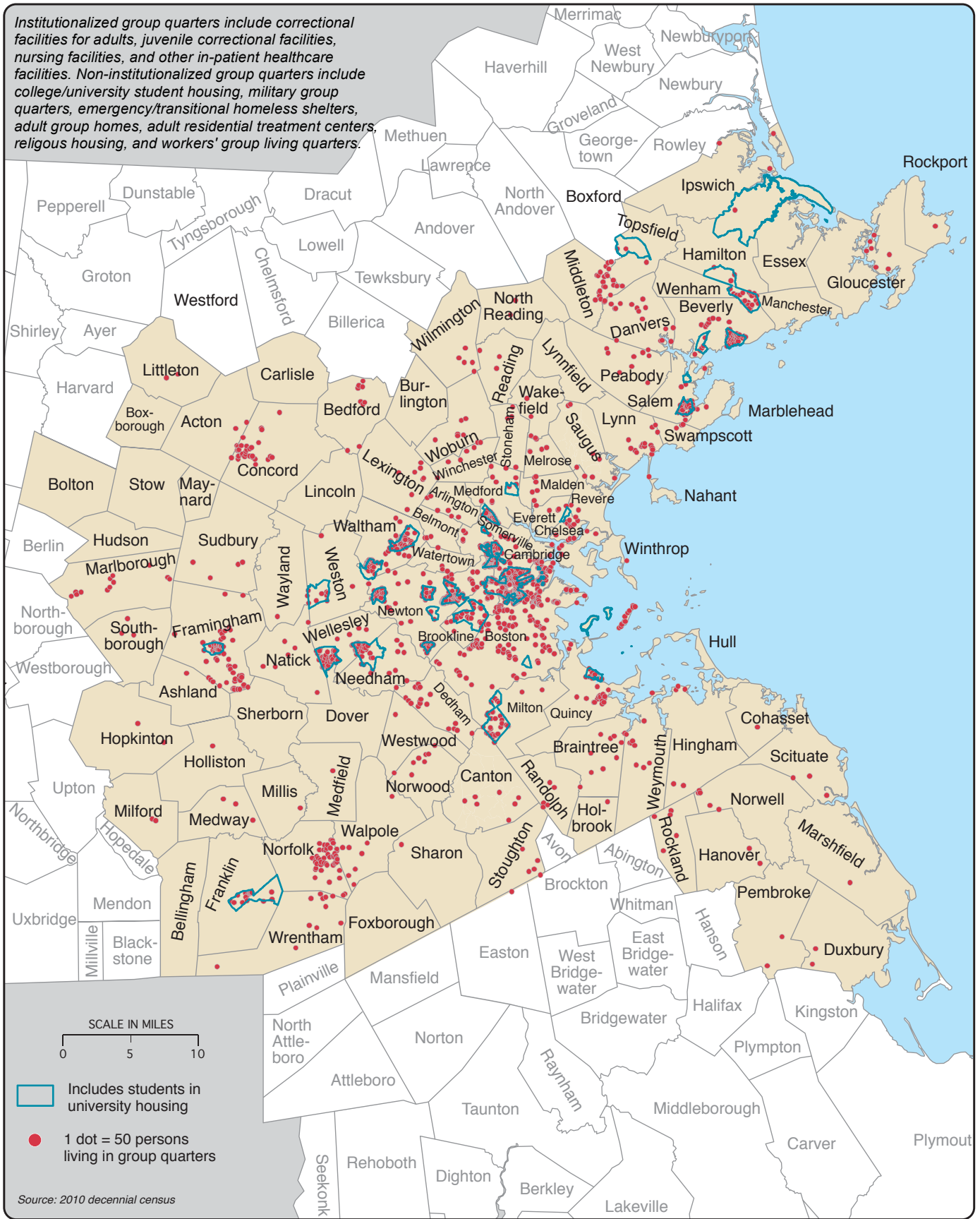
**BOSTON
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MPO**



**Figure E-6
Population Younger
than 18 Years**

2017 Title VI
Triennial Report

Institutionalized group quarters include correctional facilities for adults, juvenile correctional facilities, nursing facilities, and other in-patient healthcare facilities. Non-institutionalized group quarters include college/university student housing, military group quarters, emergency/transitional homeless shelters, adult group homes, adult residential treatment centers, religious housing, and workers' group living quarters.



**BOSTON
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**Figure E-7
Population Living
in Group Quarters**

2017 Title VI
Triennial Report



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APPENDIX F

LONG-RANGE TRANSPORTATION PLAN DISPARATE IMPACT/ DISPROPORTIONATE BURDEN ANALYSIS



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Amendment 1

TO THE LONG-RANGE TRANSPORTATION PLAN OF THE BOSTON REGION METROPOLITAN PLANNING ORGANIZATION

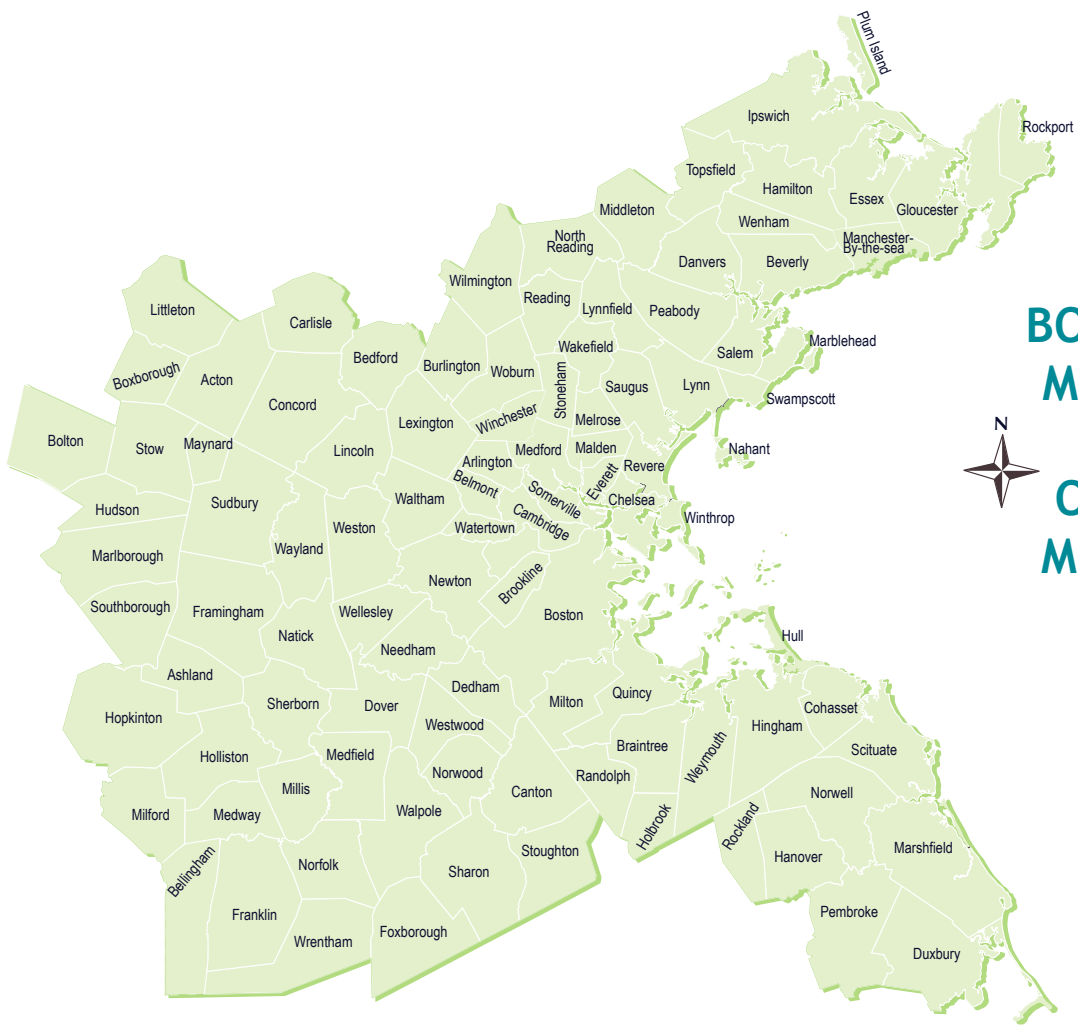
AUGUST 2016

The Boston Region Metropolitan Planning Organization (MPO) is composed of:

Massachusetts Department of Transportation	City of Everett
Metropolitan Area Planning Council	City of Newton
Massachusetts Bay Transportation Authority	City of Somerville
Massachusetts Bay Transportation Authority Advisory Board	City of Woburn
Massachusetts Port Authority	Town of Arlington
Regional Transportation Advisory Council	Town of Bedford
Federal Highway Administration (nonvoting)	Town of Framingham
Federal Transit Administration (nonvoting)	Town of Lexington
City of Beverly	Town of Medway
City of Boston	Town of Norwood
Town of Braintree	

Prepared by the MPO's Central Transportation Planning Staff

This document was funded in part through grants from the Federal Highway Administration and Federal Transit Administration of the U.S. Department of Transportation. Its contents do not necessarily reflect the official views or policies of the U.S. DOT.



BOSTON REGION METROPOLITAN PLANNING ORGANIZATION MUNICIPALITIES

For additional copies of this document or to request it in accessible formats, contact us:

By mail Central Transportation Planning Staff
 Certification Activities Group
 10 Park Plaza , Suite 2150
 Boston, MA 02116

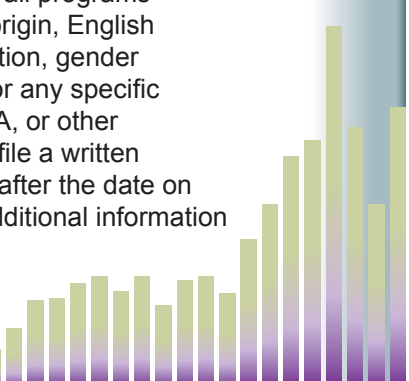
By telephone (857) 702-3690 (voice)
 (617) 570-9193 (TTY)

By fax (617) 570-9192

By e-mail amcgahan@bostonmpo.org

This document can be downloaded from our Web site:
www.bostonmpo.org

The MPO complies with Title VI of the Civil Rights Act of 1964, the Americans with Disabilities Act (ADA) and other federal and state nondiscrimination statutes and regulations in all programs and activities. The MPO does not discriminate on the basis of race, color, national origin, English proficiency, income, religious creed, ancestry, disability, age, gender, sexual orientation, gender identity or expression, or military service. Any person who believes herself/himself or any specific class of persons to have been subjected to discrimination prohibited by Title VI, ADA, or other nondiscrimination statute or regulation may, herself/himself or via a representative, file a written complaint with the MPO. A complaint must be filed no later than 180 calendar days after the date on which the person believes that the discrimination occurred. A complaint form and additional information can be obtained by contacting the MPO (see above) or at www.bostonmpo.org.





Certification of the Boston Region MPO Transportation Planning Process

The Boston Region Metropolitan Planning Organization certifies that its conduct of the metropolitan transportation planning process complies with all applicable requirements, which are listed below, and that this process includes activities to support the development and implementation of the Regional Long-Range Transportation Plan and Air Quality Conformity Determination, the Transportation Improvement Program and Air Quality Conformity Determination, and the Unified Planning Work Program.

1. 23 USC 134, 49 USC 5303, and this subpart.
2. Sections 174 and 176 (c) and (d) of the Clean Air Act, as amended (42 USC 7504, 7506 (c) and (d) and 40 CFR Part 93.
3. Title VI of the Civil Rights Act of 1964, as amended (42 USC 2000d-1) and 49 CFR Part 21.
4. 49 USC 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 the SAFETEA-LU (Pub. L. 109-59) and 49 CFR Part 26 regarding the involvement of disadvantaged business enterprises in U.S. DOT-funded projects.
6. The provisions of the Americans with Disabilities Act of 1990 (42 USC 12101 et seq.) and 49 CFR Parts 27, 37, and 38.
7. The Older Americans Act, as amended (42 USC 6101), prohibiting discrimination on the basis of age in programs or activities receiving federal financial assistance.
8. Section 324 of Title 23 USC regarding the prohibition of discrimination based on gender.
9. Section 504 of the Rehabilitation Act of 1973 (29 USC 794) and 49 CFR Part 27 regarding discrimination against individuals with disabilities.
10. Anti-lobbying restrictions found in 49 USC Part 20. No appropriated funds may be expended by a recipient to influence or attempt to influence an officer or employee of any agency, or a member of Congress, in connection with the awarding of any federal contract.

July 30, 2015

Stephanie Pollack, Secretary and Chief Executive Officer
Massachusetts Department of Transportation
Chair, Boston Region MPO

The signatures of the other MPO members may be found on page 2

John P. Romano
Massachusetts Department of Transportation
Highway Division

Maurice De...
Metropolitan Area Planning Council

Quince Ramsay
Massachusetts Bay Transportation Authority

Mike Young
Regional Transportation Advisory Council

James E. Dillio
City of Boston for Mayor Martin Walsh

D. Moses (for Mayor Worcester)
At-Large - City of Newton

Richard...
At-Large - Town of Lexington

J. Ma...
MetroWest Regional Collaborative -
Town of Framingham

Dennis A. D'Amico
North Shore Task Force - Town of Beverly
City

South Shore Coalition - Town of Braintree

John...
Three Rivers Interlocal Council - Town of
Norwood

Bill...
Massachusetts Department of Transportation

Paul Regan
Advisory Board to the MBTA

Massachusetts Port Authority

Thomas Kadzis (for Mayor Walsh)
City of Boston

Jan... (For Mayor DeMaria)
At-Large - City of Everett

Laura W. Keener, for Kevin Greeley, Chair
At-Large - Town of Arlington of Selection

...
Inner Core - City of Somerville

...
Minuteman Advisory Group on Interlocal
Coordination - Town of Bedford

...
North Suburban Planning Council - City of
Woburn

South West Advisory Planning Committee -
Town of Medway



Certification of the Boston Region MPO Transportation Planning Process

310 CMR 60.05: Global Warming Solutions Act Requirements for the Transportation Sector and the Massachusetts Department of Transportation

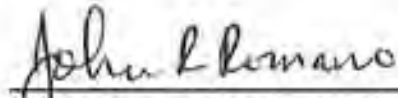
This will certify that the Regional Long-Range Transportation Plan and Air Quality Conformity Determination for the Boston Region Metropolitan Planning Organization (MPO) is in compliance with all applicable requirements in the State Regulation 310 CMR 60.05: Global Warming Solutions Act Requirements for the Transportation Sector and the Massachusetts Department of Transportation. The regulation requires MPO to:

1. 310 CMR 60.05, 3(b)(1)(a): Evaluate and track the GHG emissions and impacts of RTPs and TIPs;
2. 310 CMR 60.05, 3(b)(1)(b): In consultation with MassDOT, develop and utilize procedures to prioritize and select projects in RTPs, TIPs, and STIPs based on factors that include GHG emissions and impacts;
3. 310 CMR 60.05, 3(b)(1)(c): Quantify net GHG emissions and impacts resulting from the projects in RTPs and TIPs and have made efforts to minimize GHG emissions and impacts;
4. 310 CMR 60.05, 3(b)(1)(d): Determine in consultation with the RPA that the appropriate planning assumptions used for GHG emissions modeling are consistent with local land use policies, or that local authorities have made documented and credible commitments to establishing such consistency;
5. 310 CMR 60.05, 4(a)(2)(a): Develop RTPs and TIPs;
6. 310 CMR 60.05, 4(a)(2)(b): Ensure that RPAs are using appropriate planning assumptions;
7. 310 CMR 60.05, 4(a)(2)(c): Perform regional GHG emissions analysis of RTPs and TIPs;
8. 310 CMR 60.05, 4(a)(2)(d): Calculate GHG emissions for RTPs and TIPs;
9. 310 CMR 60.05, 4(a)(2)(e): Develop public consultation procedures for GHG reporting and related GWSA requirements consistent with current and approved regional public participation plans;
10. 310 CMR 60.05, 4(c): Prior to making final endorsements on the RTPs, TIPs, STIPs, and projects included in these plans, MassDOT and the MPOs shall include the GHG Assessment and information on related GWSA activities in RTPs, TIPs, and STIPs and provide an opportunity for public review and comment on the RTPs, TIPs, and STIPs.
11. 310 CMR 60.05, 6(a): After a final GHG assessment has been made by MassDOT and the MPOs, MassDOT and the MPOs shall submit MPO-endorsed RTPs, TIPs or projects within 30 days of endorsement to the Department for review of the GHG assessment.

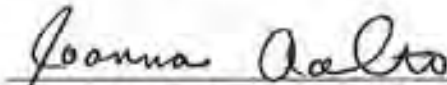
August 18, 2016

Stephanie Pollack, Secretary and Chief Executive Officer
Massachusetts Department of Transportation
Chair, Boston Region MPO

The signatures of the other MPO members may be found on page 2.



Massachusetts Department of Transportation
Highway Division

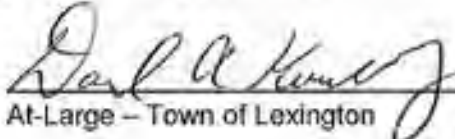
Metropolitan Area Planning Council


Massachusetts Bay Transportation Authority


Regional Transportation Advisory Council


City of Boston

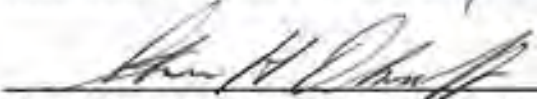

At-Large - City of Newton


At-Large - Town of Lexington

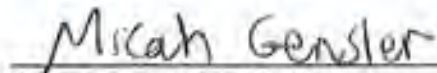
MetroWest Regional Collaborative -
Town of Framingham

North Shore Task Force - City of Beverly



South Shore Coalition - Town of Braintree


Three Rivers Interlocal Council - Town of
Norwood


Massachusetts Department of Transportation


Advisory Board to the MBTA

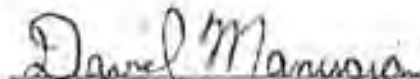

Massachusetts Port Authority


City of Boston


At-Large - City of Everett

At-Large - Town of Arlington


Inner Core - City of Somerville


Minuteman Advisory Group on Interlocal
Coordination - Town of Bedford

North Suburban Planning Council - City of
Woburn

SouthWest Advisory Planning Committee -
Town of Medway

A1

AMENDMENT ONE TO CHARTING PROGRESS TO 2040

OVERVIEW

The Boston Region Metropolitan Planning Organization (MPO) is proposing an amendment to its current Long-Range Transportation Plan (LRTP), *Charting Progress to 2040*, which was endorsed by the MPO in July 2015. This document explains the proposed amendment, whose primary purpose is to provide consistency between the MPO's LRTP and the Federal Fiscal Years (FFYs) 2016–20 Transportation Improvement Program (TIP) and its amendments, the proposed FFYs 2017–21 TIP, and the Massachusetts Capital Investment Program (CIP).

The LRTP amendment includes additional projects, or a change in funding of five major infrastructure projects (defined as projects that add capacity to the transportation system and/or that cost more than \$20 million). These include:

- 1. Green Line Extension (GLX) Project:** The FFYs 2016–20 TIP Amendment Four includes transfer of funding programmed for the Green Line Extension (GLX) from College Avenue to Route 16 in Medford (GLX Phase 2) to the first phase of the GLX project from Lechmere Station in Cambridge to College Avenue in Medford (GLX Phase 1). This action was carried forward into the draft FFYs 2017–21 TIP, which currently is out for public review. This action requires that the transfer of funding to GLX Phase 1 project be included in the LRTP, along with removal of funding for GLX Phase 2. In addition, the completion schedule for GLX Phase 1 has been pushed back from its original date of 2020. (MPO target funds)
- 2. Ramp Construction on Interstate 95 Northbound and Improvements to Canton Street and Dedham Street:** This project was included in the previous LRTP, *Paths to a Sustainable Region*, endorsed by the MPO in 2011. The value of this project changed because of increases in construction materials. Additional statewide funding of \$16.8 million has been added for this project. (Statewide federal aid and non-federal aid funds)
- 3. Melnea Cass Boulevard:** Reconstruction of Melnea Cass Boulevard was funded in the draft FFYs 2017–21 TIP. Because this project costs more than \$20 million, it must be included in the LRTP. (MPO target and federal earmark funds)

4. **State Funded Projects:** Two regionally significant projects located in the Boston Region MPO area are included in the Massachusetts CIP and must be listed in the Boston Region MPO LRTP. The projects include **reconstruction of Interstate 90 and Interstate 495 interchange in Hopkinton and Westborough** (Statewide federal aid and non-federal aid funds) and **a new connection from Burgin Parkway over the MBTA in Quincy**. (State economic development funds)

The Melnea Cass Boulevard project in Boston and the two CIP projects are new major infrastructure projects to the LRTP and are described below. A description of the GLX Phase 1 project is included in Charting Progress to 2040 (http://www.ctps.org/data/pdf/plans/lrtp/charting/2040_LRTP_Chapter5_final.pdf). A description of the Ramp Construction on Interstate 95 Northbound and Improvements to Canton Street and Dedham Street are included in the previous LRTP, Paths to a Sustainable Region (http://www.ctps.org/data/pdf/plans/LRTP/paths/2035_LRTP_Chapter8.pdf).

Table A.1 shows the total amount of funding dedicated to major infrastructure projects and Operation and Maintenance (O&M) programs in the LRTP. O&M projects are those that do not need to be listed in the LRTP (non-major infrastructure projects) before they are programmed in the Transportation Improvement Program and include Complete Streets projects, intersection improvement projects, bicycle and pedestrian projects, and community transportation/parking/clean air and mobility projects. Table A.2 lists the highway projects funded under the major infrastructure program, as well as other investment programs established for O&M projects, their costs, and the period in which they are projected to be programmed. The list also includes additional funding for the GLX Phase 1 transit project, which is using highway funds flexed to transit, and other cost changes to projects and programs currently programmed in the LRTP.

TABLE A.1
Funding Dedicated to Programs in the LRTP

Program	Dedicated Funding
MPO Discretionary Capital Program: Major Infrastructure Projects	\$629,402,200
MPO Discretionary Capital Program: Highway Funds Flexed to Transit	\$190,000,000
MPO Discretionary Capital Program: Complete Street Program	\$904,709,400
MPO Discretionary Capital Program: Intersection Improvement Program	\$436,756,300
MPO Discretionary Capital Program: Bicycle/Pedestrian Program	\$155,984,400
MPO Discretionary Capital Program: Community Transportation/ Parking/Clean Air and Mobility Program	\$62,393,700
MPO Discretionary Capital Program: Unassigned Funds	\$474,547,500
Total MPO Highway Funding	\$2,853,793,500
Highway Expansion Projects Funded in the Boston Region MPO by the Commonwealth	\$296,137,500
Other Highway Funding	\$296,137,500
Transit Expansion Projects Funded in the Boston Region MPO by the Commonwealth	\$1,555,250,000
Transit Funding	\$1,555,250,000

**TABLE A.2
Major Infrastructure Projects Programmed with Highway Funding in the Recommended Plan with Costs**

Project Name	Current Cost	Investment Category	FFY 2016–2020	FFY 2021–2025	FFY 2026–2030	FFY 2031–2035	FFY 2036–2040	MPO Funding	Non-MPO Funding
Route 128 Additional Lanes (Needham & Wellesley)	\$50,725,206	MI	\$50,725,206					\$50,725,206	
Ramp Construction on I-95 (NB) and Improvements on Canton St/Dedham St (Canton, Norwood, Westwood)	\$68,864,034	MI	\$16,837,538						\$16,837,538
Middlesex Turnpike Improvements from Crosby Dr North to Manning Rd, Phase III (Bedford & Billerica)	\$36,735,100	MI	\$28,296,348					\$28,296,348	\$8,438,700
Reconstruction of Melnea Cass Boulevard (Boston)	\$25,297,838	MI	\$7,853,499					\$7,853,499	\$17,444,339
Reconstruction of Rutherford Ave, from City Sq to Sullivan Sq (Boston)	\$109,967,000	MI	\$7,000,000	\$113,066,906				\$120,066,906	\$8,578,930
Intersection Improvements at Rte 126 & Rte 135/MBTA & CSX Railroad (Framingham)	\$115,000,000	MI			\$184,118,700			\$184,118,700	
Reconstruction of I-90 and I-495 Interchange (Hopkinton & Westborough)	\$270,000,000	MI	\$270,000,000						\$270,000,000
Route 4/225 (Bedford St) and Hartwell Ave (Lexington)	\$23,221,000	MI	\$30,557,000					\$30,557,000	
Bridge Replacement, Rte 27 (North Main St) over Rte 9 (Worcester St) and Interchange Improvements (Natick)	\$25,793,370	MI	\$33,942,300					\$33,942,300	
Reconstruction of Highland Ave, Needham St & Charles River Bridge, from Webster St to Rte 9 (Newton & Needham)	\$14,297,606	MI	\$15,464,292					\$15,464,292	

TABLE A.2 (Cont.)
Major Infrastructure Projects Programmed with Highway Funding in the Recommended Plan with Costs

Project Name	Current Cost	Investment Category	FFY 2016–2020	FFY 2021–2025	FFY 2026–2030	FFY 2031–2035	FFY 2036–2040	MPO Funding	Non-MPO Funding
Construction of New Connection from Burgin Parkway over the MBTA (Quincy)	\$9,300,000	MI		\$9,300,000					\$9,300,000
McGrath Boulevard Project (Somerville)	\$56,563,000	MI			\$90,559,000			\$90,559,000	
Green Line Extension Project (Phase 1), Lechmere Station to College Ave/ Union Sq (Somerville & Cambridge)	\$190,000,000	MI	\$158,000,000	\$32,000,000				\$190,000,000*	
Green Line Extension Project (Phase 2), College Ave to Mystic Valley Parkway/Rte 16 (Somerville to Medford)	\$190,000,000	MI	\$158,000,000	\$32,000,000				\$190,000,000	
Reconstruction & Widening on Rte 18 (Main St) from Highland Pl to Rte 139 (Weymouth & Abington)	\$81,812,268	MI	\$45,281,758					\$45,281,758	\$36,530,510
Reconstruction of Montvale Ave. from I-93 Interchange to Central St (Woburn)	\$4,225,256	MI	\$4,752,838					\$4,752,838	
Bridge Replacement, New Boston St over MBTA (Woburn)	\$17,784,392	MI		\$17,784,392				\$17,784,392	
Complete Street Program (Regionwide)		CS		\$137,760,390	\$177,609,859	\$321,301,910	\$268,037,266	\$904,709,425	
Bicycle/Pedestrian Program (Regionwide)		B/P		\$23,751,791	\$30,622,389	\$55,396,881	\$46,213,322	\$155,984,384	
Intersection Improvement Program (Regionwide)		INT		\$66,505,016	\$85,742,690	\$155,111,267	\$129,397,301	\$436,756,274	
Community Transportation/ Parking/Clean Air Mobility Program (Regionwide)		CT/ PK/ CA		\$9,500,717	\$12,248,956	\$22,158,752	\$18,485,329	\$62,393,753	

TABLE A.2 (Cont.)
Major Infrastructure Projects Programmed with Highway Funding in the Recommended Plan with Costs

Project Name	Investment Category	Current Cost	FFY 2016–	FFY 2021–	FFY 2026–	FFY 2031–	FFY 2036–	MPO	Non-MPO
			2020	2025	2030	2035	2040	Funding	Funding
Total Available Regional Highway Target Funds			\$441,648,114	\$464,868,512	\$580,901,594	\$657,770,110	\$708,605,218	\$2,853,793,548	\$367,130,017
Total Programmed Regional Highway Target Funds			\$317,373,941	\$464,868,512	\$580,901,594	\$553,968,810	\$462,133,218	\$2,379,246,075	
Regional Highway Target Funds Available			\$124,274,173**	\$0	\$0	\$103,801,300	\$246,472,000	\$474,547,473	
Percentage of Funding Allocated			72%	100%	100%	84%	65%	83%	
Major Infrastructure			\$317,373,941	\$227,350,598	\$274,677,700	\$0	\$0	\$819,402,239	
Complete Street			\$0	\$137,760,390	\$177,609,859	\$321,301,910	\$268,037,266	\$904,709,425	
Bicycle and Pedestrian			\$0	\$23,751,791	\$30,622,389	\$55,396,881	\$46,213,322	\$155,984,384	
Intersection Improvement Program			\$0	\$66,505,016	\$85,742,690	\$155,111,267	\$129,397,301	\$436,756,274	
Community Transportation			\$0	\$9,500,717	\$12,248,956	\$22,158,752	\$18,485,329	\$62,393,753	
Unallocated Funds			\$124,274,173**	\$0	\$0	\$103,801,300	\$246,472,000	\$474,547,473	
Total			\$441,648,114	\$464,868,512	\$580,901,594	\$657,770,110	\$708,605,218	\$2,853,793,548	
% Major Infrastructure			72%	49%	47%	0%	0%	29%	
% Complete Street			0%	30%	31%	49%	38%	32%	
% Bicycle and Pedestrian			0%	5%	5%	8%	6%	5%	
% Intersection Improvement Program			0%	14%	15%	24%	18%	15%	
% Community Transportation			0%	2%	2%	3%	3%	2%	
% Unallocated Funds			28%**	0%	0%	16%	35%	17%	
% Total			100%	100%	100%	100%	100%	100%	

Added Project	Project name	MI	\$1,000
Deleted Project	Project name	MI	\$1,000
Change in Cost	Project name	MI	\$1,001

MI - Major Infrastructure Program
CS - Complete Streets Program
B/P - Bicycle/Pedestrian Program - Assabet River Rail Trail will be funded under this program
INT - Intersection Improvement Program
CT/PK/CA - Community Transportation/Parking/Clean Air and Mobility Program

* Flexing \$152 million federal portion to FTA, match provided by local contribution
** Funding in the 2016-2020 time band is allocated for non-major infrastructure projects through the TIP process.

NEW PROJECT DESCRIPTIONS

Boston: Melnea Cass Boulevard (\$25,297,838)

PROJECT DESCRIPTION

The Melnea Cass Boulevard project would reconstruct the street in order to serve not only drivers but also pedestrians, cyclists, and transit riders more equitably, and to improve safety for all roadway users. The project specifically aims to strengthen neighborhood connections for pedestrians and cyclists. The proposed improvements would better integrate future developments and land use, on both sides of the street, with the roadway design. Preliminary design plans are expected to be completed in April 2017.

The corridor is approximately 0.9 miles long and extends from Massachusetts Avenue to Columbus Avenue in the South End of Boston. The existing corridor provides two lanes in each direction with additional left turn lanes at Tremont Street, Washington Street, Harrison Avenue, Hampden Street, and Massachusetts Avenue. The corridor serves almost 40,000 vehicles daily and numerous bus routes, including Routes #8, #19, #47, and CT3.

PROJECT CONTEXT AND POSSIBLE IMPACTS BY MPO GOAL

Capacity Management / Mobility

Roadways:

The proposed design includes maintaining two travel lanes in each direction with additional turning lanes where necessary; however, there will no longer be a continuous concrete center median separating the directions of travel between Tremont Street and Hampden Street.

Transit:

New traffic signal equipment will be installed at each of the nine intersections along the corridor. Improvements to signal timing and phasing will be made to all study area intersections to improve operations, which would benefit the numerous bus routes operating within the corridor.

Pedestrians/Bicycles:

The proposed design provides two-way cycle tracks and sidewalks along both sides of Melnea Cass Boulevard. The proposed cycle tracks, part of the Boston Bike 5-Year and 30-Year Action Plans, will provide an important link within the planned bicycle network, which includes expanding accommodations to Massachusetts Avenue, Shawmut Avenue, Malcolm X Boulevard, Albany Street, and Hampden Street. The two-way cycle tracks will be 10 feet wide. The minimum width of the sidewalks will be seven feet, although in some locations they will be wider. The sidewalks generally will be buffered from the cycle tracks by landscaping that will vary in width throughout most of the length of the project area. Two-way marked bicycle crossings will be provided across all crossroads intersecting Melnea Cass Boulevard to provide additional safety. Also, the majority of pedestrian crossings across Melnea Cass Boulevard will be shortened as a result of the proposed design.

Safety

There is no Highway Safety Improvement Program crash cluster in the project area.

System Preservation

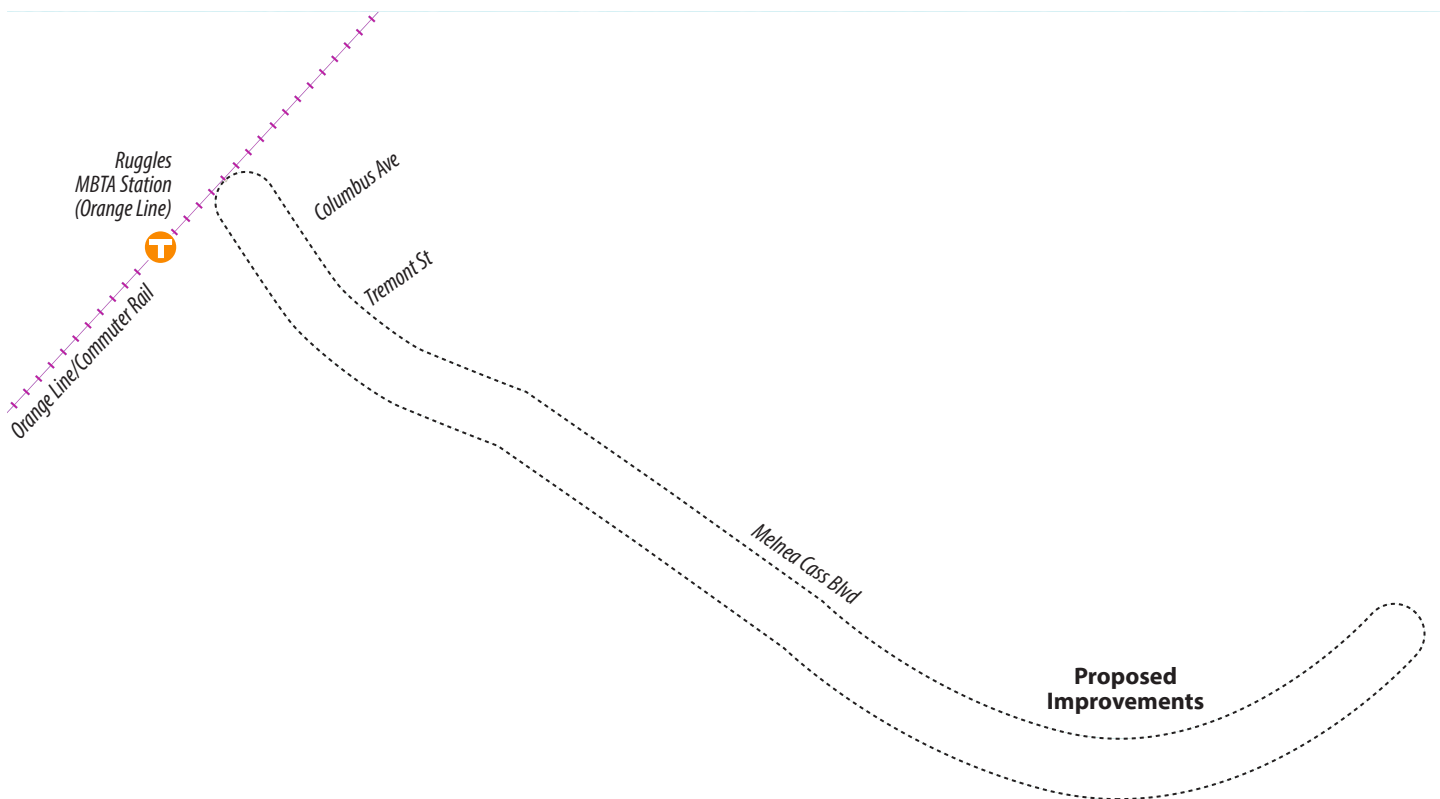
Nearly four lane-miles of substandard pavement will be improved as part of this project.

Economic Vitality

This new vision of Melnea Cass Boulevard is consistent with the goals expressed in the Roxbury Master Plan; it will provide the improvements and accommodations that the planned developments require in order to be successful.

Transportation Equity

This project site is located entirely within in an environmental justice area.



Hopkinton and Westborough: Reconstruction of Interstate 90 and Interstate 495 (\$270,000,000)

PROJECT DESCRIPTION

This project proposes to improve the interchange of Interstate 90 and Interstate 495. A number of alternatives are being developed and evaluated in the current feasibility study. Modifications to the existing ramp alignments, widening, and bridge improvements, as well as construction of new ramps and associated bridges, are under consideration. This interchange has been identified both in a joint study by the Boston Region and Central Massachusetts Metropolitan Planning Organizations (MPOs) and by elected officials in central Massachusetts as a critical linkage in need of redesign and reconstruction. The Massachusetts Department of Transportation (MassDOT) performed a planning study in 2012 and 2013 and a feasibility study in 2014. An environmental notification form was filed on March 2, 2015.

PROJECT CONTEXT AND POSSIBLE IMPACTS BY MPO GOAL

Capacity Management/Mobility

Roadways:

In 2015, MassDOT traffic counts found average weekday traffic on Interstate 495 north of Interstate 90 to be approximately 101,100 vehicles, and 99,700 vehicles south of Interstate 90. Ramp volumes ranged from 13,100 to 18,100 vehicles depending on direction. Historically, congestion at this interchange has been associated with the toll plazas. The implementation of the All Electronic Toll System is slated for July 2016; however, the removal of the toll plazas is not expected to eliminate the congestion and safety issues. Several of the ramps currently operate at level of service “D” or worse, and will be significantly improved with the proposed changes. This is a limited-access interchange, so no pedestrian or bicycle use is allowed.

Safety

This location has been identified in the MassDOT Highway Safety Improvement Program as a hazardous road location and includes a crash cluster that ranks within the top five percent of the MPO. Sharp curves on both ramps have led to numerous accidents, including rollovers of large trucks. The project will also eliminate conflicts as a result of weaving movements.

System Preservation

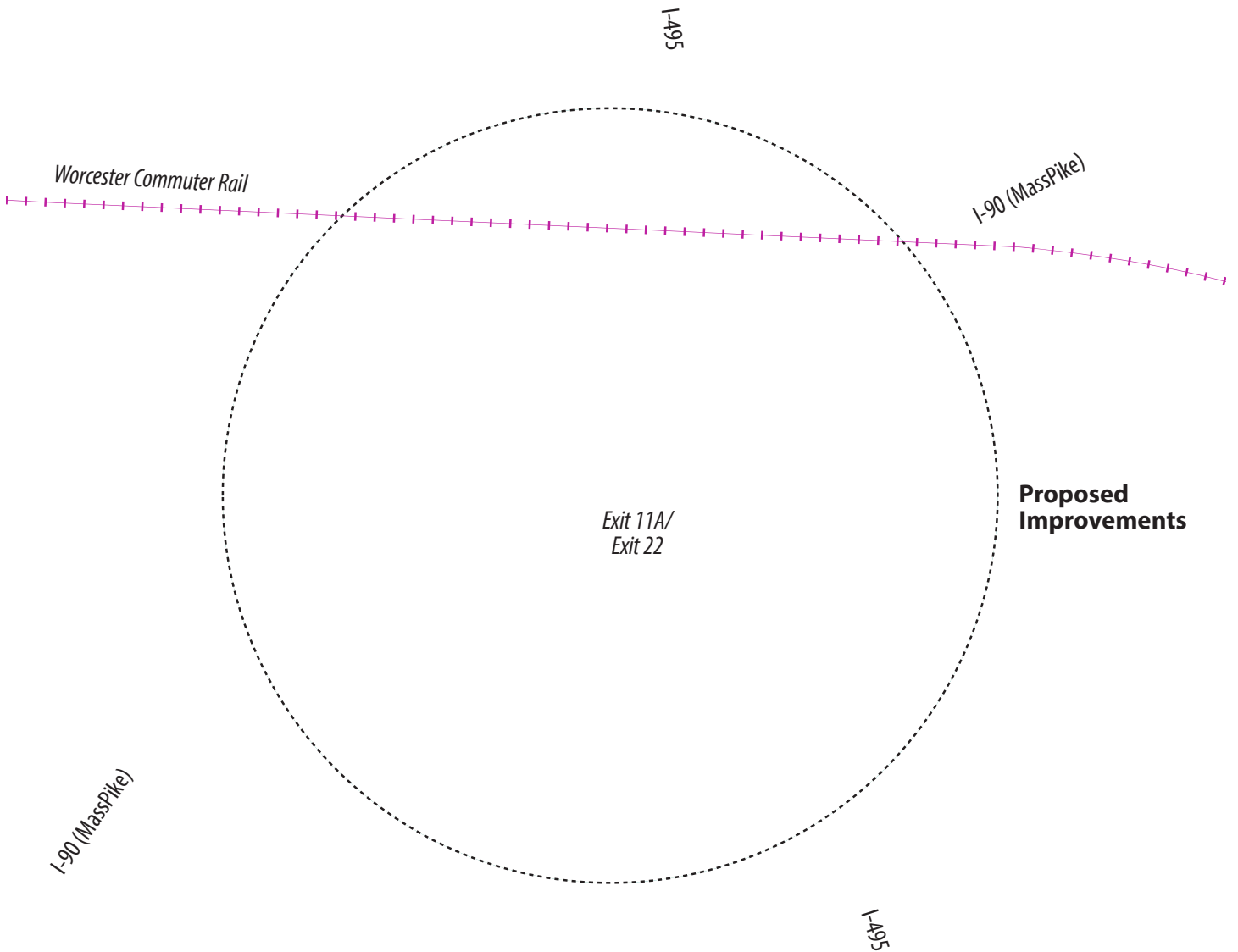
The current interchange geometry is substandard, and the geometric modifications will be a substantial improvement. In addition, there will be improvements to the existing bridges, including bridge deck replacement, rehabilitation, and bridge replacement, as well as significant reconstruction.

Economic Vitality

This project will provide substantial opportunities for economic development in the region. In a planning document sponsored by the Executive Office of Housing and Economic Development, the region surrounding the interchange was identified as a Priority Development Area.

Transportation Equity

This project is not within an Environmental Justice area.



Quincy:

Construction of a New Connection from Burgin Parkway over the MBTA (\$9,300,000)

PROJECT DESCRIPTION

This project will construct a new bridge, referred to as the Burgin Parkway Access Bridge, over the Massachusetts Bay Transportation Authority (MBTA) railroad alignment in order to connect a proposed street on the east side and Burgin Parkway on the west side. The bridge location is approximately midway between Concourse Street and Granite Street. The proposed roadway will include two 11-foot-wide travel lanes, one in each direction, with 5-foot-wide shoulders and 5- to 6-foot-wide sidewalks on each side. This project is currently at the pre-25 percent design stage.

Reconstruction of Burgin Parkway is required to accommodate a raised profile to obtain vertical clearance for the bridge. Burgin Parkway reconstruction will include:

- New sidewalks on Burgin Parkway on both sides of the roadway; the sidewalk on the east side to the north of the new bridge will tie into existing sidewalks
- Bicycle shoulders
- Raised median

PROJECT CONTEXT AND POSSIBLE IMPACTS BY MPO GOAL

Capacity Management/Mobility

Roadways:

No traffic studies have been performed to date; however, building this bridge will provide another means of access to the Quincy Center redevelopment area. The roadway has been designed for 6,000 vehicles per day.

Transit:

The bridge will be built over the MBTA railroad alignment but it will not provide access to an existing station. The new connection is located between the Quincy Center and Quincy Adams Red Line stations. No information is available regarding potential bus usage on this new roadway connection.

Pedestrians/Bicycles:

New sidewalks will be constructed on the new roadway and continue on both sides of the bridge on Burgin Parkway. The sidewalk will tie into existing sidewalks on Burgin Parkway to the north and taper down to match the existing cross-section with no sidewalks to the south. An alternative has been included to construct a sidewalk along Burgin Parkway to the south to comply with Massachusetts Department of Transportation's (MassDOT's) Healthy Transportation Directive. In addition, the new roadway will include 5-foot-wide shoulders that will allow for bicycle travel. Bicycle shoulders will be provided on Burgin Parkway.

Safety

There is no recent crash history at the project location. Safety benefits may be realized at other locations adjacent to the project area that have less traffic. The raised median on Burgin Parkway will provide for safer conditions in that area.

System Preservation

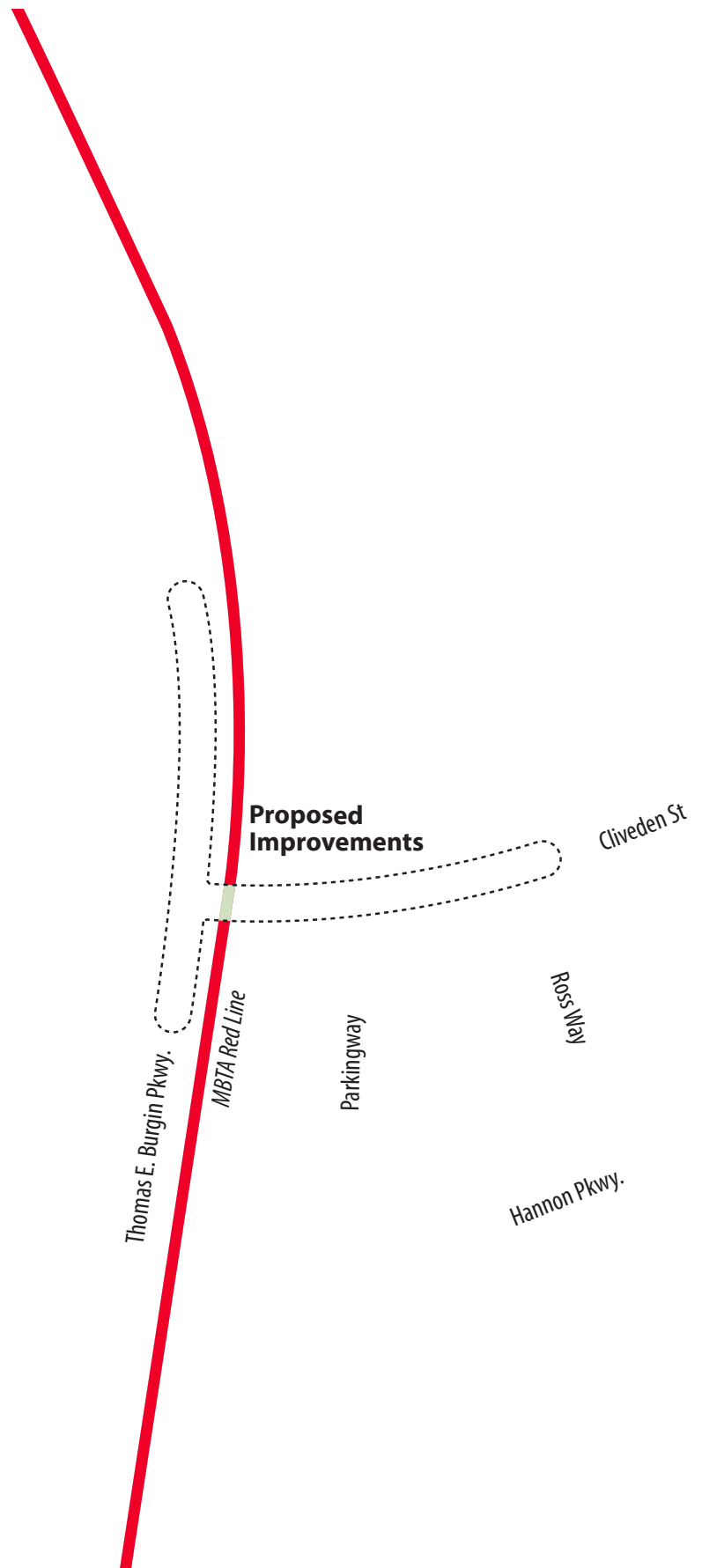
This is a new connection to the transportation system.

Economic Vitality

This project is part of the Quincy Center Redevelopment Project, which involves a multiphase, multiuse rejuvenation of a major portion of Quincy Center. The development includes new office, retail, residential, and parking facilities that will be constructed in phases over several years. The project will provide a new connection to the transportation system and improve traffic flow in the redevelopment area.

Transportation Equity

This project is not within an Environmental Justice area.



AIR QUALITY CONFORMITY DETERMINATION

Background

The Commonwealth of Massachusetts is classified as “unclassifiable/attainment” for the ozone standard with the exception of Dukes County. Therefore, the Boston Region MPO does not have to perform a conformity determination for ozone for its LRTP or TIP.

In addition, on April 1, 1996, the cities of Boston, Cambridge, Chelsea, Everett, Malden, Medford, Quincy, Revere, and Somerville were classified as “attainment” for carbon monoxide (CO) emissions. As part of past LRTPs, an air-quality conformity analysis was required for these communities, as they had a carbon monoxide maintenance plan approved as part of the Massachusetts State Implementation Plan (SIP). As of April 1, 2016, the 20-year maintenance period for this CO maintenance area expired and transportation conformity is no longer required for CO in these municipalities. This is documented in a letter from the United States Environmental Protection Agency dated May 12, 2016.

As of April 22, 2002, the community of Waltham was re-designated as being in attainment for CO, with an EPA-approved limited-maintenance plan. In areas that have approved limited-maintenance plans, federal actions requiring conformity determinations under the transportation conformity rule are considered to satisfy the “budget test” (as budgets are not treated as being constraining in these areas for the length of the initial maintenance period). Any requirements for future “project-level” conformity determinations for projects located within this community will continue to use a “hot-spot” analysis to ensure that any new transportation projects in this CO attainment area do not cause or contribute to CO nonattainment.

Therefore, the MPO is not required to perform modeling analyses for a conformity determination for ozone or CO; it is only required to provide the statement in the paragraph above regarding the Waltham attainment area. However, it still is required to provide a status report on the timely implementation of transportation control measures included as part of the SIP. This status report is provided below.

Timely Implementation of Transportation Control Measures

Transportation control measures (TCMs) were required in SIP revisions submitted to the EPA in 1979 and 1982, and in those submitted as part of the Central Artery/Tunnel (CA/T) project. The TCMs included in the 1979 and 1982 submissions were accomplished through construction or implementation of ongoing programs.

The TCMs submitted as part of the CA/T project mitigation have been included in the LRTP as recommended or completed projects, except for the following three projects:

- Completion of a final design of the Red Line-Blue Line Connector from the Blue Line at Government Center to the Red Line at Charles Station

- Fairmount Line Improvements
- Enhanced Green Line extended beyond Lechmere Station to Medford Hillside and Union Square

MassDOT worked with the Massachusetts Department of Environmental Protection (DEP) to address these projects, and continues to keep the Boston Region MPO informed of their status through monthly reports at the MPO's regularly scheduled meetings. The Boston Region MPO will continue to include these projects in the LRTP and TIP until the TCMs described above have been completed, assuming that any interim projects or programs would provide equal or better emissions benefits. When the process has been completed, the MPO will amend the LRTP and future TIPs and their conformity determinations to include any changes (including any interim projects or programs).

Status Report of the Uncompleted SIP Projects

The status of the SIP projects has been updated using the *SIP Transit Commitments Status Report*, submitted by MassDOT to DEP in May 2016. Highlights of the report are presented below. For a detailed description of these projects' status, please visit the MassDOT website at:

<https://www.massdot.state.ma.us/planning/Main/PlanningProcess/StateImplementationPlan/SIPTransitCommitmentSubmissions.aspx>

RED LINE-BLUE LINE CONNECTOR - FINAL DESIGN - SIP REQUIRED COMPLETION BY DECEMBER 2011

Project Status

MassDOT initiated a process to amend the SIP to permanently and completely remove the obligation to perform a final design of the Red Line-Blue Line Connector. To that end, MassDOT officially sought approval from DEP to support a SIP amendment process. MassDOT did not propose to substitute any new projects in place of the Red Line-Blue Line Connector commitment, given the absence of any air-quality benefits associated with that project (final design only). Correspondence from MassDOT to DEP to initiate the amendment process formally was submitted on July 27, 2011, and is posted on the MassDOT website.

On September 13, 2012, DEP held two hearings to take public comment on MassDOT's proposed amendments to 310 CMR 7.36, "Transit System Improvements," including eliminating the requirement to complete the final design of the Red Line-Blue Line Connector. Between the two hearings, there were 16 attendees, 10 of whom gave oral testimony. All who spoke at the hearings were not in favor of DEP removing the commitment. DEP accepted written testimony until September 24, 2012.

On August 23, 2013, EPA sent a letter to the Federal Highway Administration (FHWA) to provide an update on Massachusetts Air Quality Conformity. In that letter, EPA noted that the Red Line-Blue Line Connector Design project had not met its completion date of December 2011, but that MassDOT was not obligated to implement interim emission-reduction projects because no emission reductions are associated with the design of the project.

On October 8, 2013, the DEP approved a request made by MassDOT in July 2011 to revise 310 CMR 7.36 to remove the requirement that MassDOT complete the design of the Red Line-Blue Line Connector. The Commonwealth of Massachusetts submitted the revision on November 6, 2013 for approval by EPA. The text of the revision is available on the MassDOT website at:

<http://www.massdot.state.ma.us/Portals/17/docs/sip/October13UpdatedSIPReg.pdf>.

On December 8, 2015, the EPA published a final rule in the Federal Register that approved the SIP revision and removed the commitment to design the Red Line-Blue Line Connector project.

Funding Source

This commitment has been nullified.

FAIRMOUNT LINE IMPROVEMENTS PROJECT - SIP REQUIRED COMPLETION BY DECEMBER 2011

Project Status

The Four Corners and Newmarket Stations opened for service on July 1, 2013. All change orders have been paid and the project is officially closed out. The Talbot Avenue Station opened in November 2012.

A station at Blue Hill Avenue has been the subject of significant community controversy during the past seven years. Redesign of the station reached 100 percent, with plans submitted in March 2016. While the community still has concerns, the project team is now advancing with the understanding that continued coordination with the community is paramount. Construction is scheduled to begin in winter 2016, and the station is to open in summer 2018.

MassDOT and the MBTA prepared a Petition to Delay and an Interim Emission Offset Plan to be implemented for the duration of the delay of the Fairmount Line Improvements project. MassDOT estimated the reduced emissions that are expected to be generated by implementing the new Fairmount Line station and, with input from Fairmount Line stakeholders, proposed offset measures. MassDOT estimated that the potential offset measures would meet emissions-reduction targets. The measures include shuttle bus

service from Andrew Square to Boston Medical Center and increased service on bus Route 31, which serves Dorchester and Mattapan. These measures were implemented on January 2, 2012, and currently are in place.

Funding Source

The Commonwealth

GREEN LINE EXTENSION TO SOMERVILLE AND MEDFORD PROJECT – SIP REQUIRED COMPLETION BY DECEMBER 2014

Project Status

State-level environmental review (Massachusetts Environmental Policy Act (MEPA)) was completed in July 2010. Federal-level environmental review (National Environmental Policy Act (NEPA)) documents were submitted to the Federal Transit Administration in September 2011, and a public hearing was held on October 20, 2011. A Finding of No Significant Impact (FONSI) was issued by the Federal Transit Administration (FTA) on July 9, 2012.

On January 5, 2015, the US Secretary of Transportation and the MBTA signed the Full Funding Grant Agreement (FFGA) for the Green Line Extension project (GLX), approving \$996,121,000 of FTA New Starts funding to support design and construction of the project. Execution of the FFGA was the result of many years of planning, design and pre-construction efforts by MassDOT and the MBTA, in collaboration with the FTA and its Project Management Oversight Consultant. Federal funding is scheduled to be paid between federal fiscal years (FFYs) 2015 and 2022. As noted in the MassDOT Capital Investment Plan (CIP) for fiscal year 2016, MassDOT and the MBTA will use Commonwealth funds in addition to federal funding to support design and construction activities.

As the project proceeded, it was later found that the project scope as defined in the Full Funding Grant Agreement could not be built for the \$1.992 billion project cost established in January 2015. It was projected that the total project cost could range between \$2.7 billion and \$3.0 billion. The Commonwealth's share of overall project costs would then be between \$1.7 billion and \$2.0 billion, rather than the currently budgeted \$996 million.

With the federal contribution capped at \$996 million and the Commonwealth responsible for all project cost increases, MassDOT and the MBTA had no choice but to re-evaluate the GLX project in order to recommend to the Commonwealth if and how the project should proceed.

MassDOT and the MBTA are now working to identify opportunities to value engineering elements of the project in order to bring costs of the overall project closer to the original anticipated costs.

The MBTA Fiscal and Management Control Board and the MassDOT Board were briefed on August 24, 2015 and September 9, 2015, respectively, about these developments.

Before seeking additional state funding, MassDOT and the MBTA considered:

- All available options to reduce costs
- All available options to identify additional funding from sources other than the Commonwealth
- Whether or not to proceed with the Green Line Extension project

MassDOT and the MBTA actively sought stakeholder and public input on, as well as staff analysis of, options including the following:

Option 1 - Reduce the Project Scope and Project Costs

Downsize, delay, or eliminate planned vehicle maintenance and storage facility

Option 2 - Find Additional Sources of Funds, Other than State Bonds

This could include:

- Reallocate \$158 million programmed by the Boston Region MPO for a future Route 16 extension to the core GLX project (the MPO endorsed this action in Amendment Four of the 2016–20 TIP)
- Work with municipal partners (Cambridge and Somerville committed \$75 million towards the project)
- Obtain institutional and private contributions
- Seek any additional federal funding in cooperation with the Congressional delegation

Option 3 - Change Procurement Method

Halt Construction Manager/General Contractor process and rebid project—in smaller contract packages—using a more traditional procurement method

Option 4 - Mothball or Cancel the Project

On May 9, 2016, the MBTA Fiscal and Management Control Board and the MassDOT Board voted to advance a scaled-down version of the project by submitting the redesign to federal regulators and continuing with plans for financing the project.

MassDOT will provide an update to DEP and the public as soon as it has determined the impact of this delay on the overall project schedule.

Prior to the cost increase, the project had been moving forward, with MassDOT and MBTA implementing a four-phased project-delivery plan.

Phase 1 used the traditional design-bid-build approach to deliver the contract for widening the Harvard Street and Medford Street railroad bridges and demolishing the 21 Water Street building. The MBTA also added some retaining wall construction to the Phase 1 contract that had previously been programmed for Phase 4 in that area. This contract is completed.

Phase 2/2A will extend service from the (new) Lechmere Station to the Washington Street and Union Square Stations and relocate the bus facility and vehicle storage at Lechmere Station.

Phase 3 will construct the vehicle-maintenance facility and storage facility.

Phase 4 will provide service from Washington Street Station (completed as part of Phase 2, above) to College Avenue Station.

New Green Line Vehicles: The MBTA Vehicle Procurement contract to purchase 24 Type 9 Vehicles was awarded to CAF USA Inc. in an amount not to exceed \$118,159,822 at the MassDOT Board Meeting held on May 14, 2014. The NTP for this contract was issued on September 4, 2014.

CAF is in the process of developing drawing packages for the Preliminary Design; and the MBTA Project Team and CAF continue to hold technical working sessions and project meetings. In addition, weekly project management meetings are held between MBTA and CAF to discuss project status, short-term schedules and priorities; and monthly project status meetings are held to review and discuss all project issues, including schedules, deliverables, and milestones.

The first vehicle is to be delivered no later than 36 months from the notice to proceed. The pilot car delivery is scheduled for September 2017. The pilot car will receive comprehensive testing for six months followed by delivery of the remaining 22 vehicles, with the last car to be delivered by July 2018. All vehicles are expected to be in service in early 2019.

Somerville Community Path: Originally the Green Line Extension project included just the design of the extension of the Somerville Community Path from south of Lowell Street to the Inner Belt area of Somerville. In May 2014, MassDOT and the City of Somerville announced an agreement to add construction of the Community Path, including a connection to the Cambridge/Northpoint area, to the scope of the program. The Path Extension is not part of the SIP commitment and is currently being re-evaluated by the MBTA Fiscal and Management Control Board and the MassDOT Board.

SIP Requirement Status

By filing an Expanded Environmental Notification Form, procuring multiple design consultants, and publishing Draft and Final Environmental Impact Reports, MassDOT met the first four interim milestones associated with the Green Line Extension project. MassDOT—which has committed substantial resources to the Green Line Extension project, a top transportation priority of the Commonwealth and the largest expansion of the MBTA rapid transit system in decades—has transitioned the project from the planning and environmental review phases to design, engineering, and eventual construction, coupled with the tasks associated with applying for New Starts funding.

In the 2011 SIP Status Report, MassDOT reported that the Green Line Extension project would not meet the legal deadline of December 31, 2014.

Although the goal of the phased project delivery approach is to complete components in an incremental way, the timeline for overall project completion listed above represents a substantial delay beyond the current SIP deadline of December 31, 2014; this triggered the need to provide interim emission reduction offset projects and measures for the period of the delay (beginning January 1, 2015). Working with the Central Transportation Planning Staff, MassDOT and the MBTA calculated the reductions of non-methane hydrocarbon, carbon monoxide, and nitrogen oxide—reductions equal to or greater than those projected for the Green Line Extension itself, as specified in the SIP regulation—that will be required for the period of the delay.

In June 2012, MassDOT released a list of potential mitigation ideas received from the public that could be used as offset measures. In the summer and fall of 2012, MassDOT solicited public comments on these potential measures. The MBTA created an internal working group to determine a final portfolio of interim mitigation measures to implement by December 31, 2014, the legal deadline for implementation of the Green Line Extension.

This work resulted in a recommendation to implement the following three interim mitigation measures, which collectively would meet the emissions-reduction target for the project:

- Additional off-peak service along existing routes serving the GLX corridor, including the Green Line, and bus routes 80, 88, 91, 94, and 96
- Purchase of 142 new hybrid electric vehicles for THE RIDE
- Additional park-and-ride spaces at the Salem and Beverly intermodal facilities

The Petition to Delay, submitted to DEP on July 22, 2014, which expands further on the analysis and determination of the interim offset measures, is available on MassDOT's website. These measures went into effect at the beginning of 2015.

Funding Source

The Commonwealth

RUSSIA WHARF FERRY TERMINAL

Project Status

Former MassDOT Secretary Richard Davey approved construction of the permitted ferry facility and a \$460,000 ferry-service startup subsidy in October 2012. The 2005 facility plans and specifications were revised to meet the latest MassDOT Highway Division standards. The bid package was issued in fall 2013. A contractor was selected and the Notice to Proceed was issued in April 2014. Pre-construction activities progressed, but contractual issues associated with the project design led MassDOT to decide to rebid the contract. There is no regularly scheduled passenger water transportation service in this area, nor are there any plans to provide such service.

The City of Boston, however, is undertaking design and engineering work to address the Old Northern Avenue Bridge, which will allow for ferry vessel-clearance. The city received a grant in 2012 to purchase two ferry vessels for Inner Harbor use, which could include this ferry terminal as a destination. The Massachusetts Convention Center Authority has agreed to take over that grant and will purchase the vessels. Procurement could occur in calendar year 2016.

Funding Source

The Commonwealth

Changes in Project Design and Construction Schedule since the Last Conformity Determination Analysis

The Commonwealth requires that any changes in the mix of projects, project designs, or construction schedules from the previous conformity determination for the region be identified. The last conformity determination was performed for the Boston Region MPO's current LRTP, *Charting Progress to 2040*, in July 2015. The mix of projects included in the conformity determination for this LRTP remains the same, except for the following:

- Completion of the GLX Phase 1 project to College Avenue and Union Square has been delayed; the project was scheduled to be completed after 2020, and now is included in the 2040 analyses only
- The GLX Phase 2 project from College Avenue to Mystic Valley Parkway/Route 16 has been removed
- Two regionally significant projects that are included in the MassDOT CIP and funded with state funding have been listed in this LRTP Amendment
 - Reconstruction of Interstate 90 and Interstate 495 in Hopkinton and Westborough

- Construction of a new connection from Burgin Parkway over the MBTA in Quincy
- Reconstruction of Melnea Cass Boulevard has been listed in this LRTP Amendment
- Status of uncompleted SIP projects has been updated

GLOBAL WARMING SOLUTIONS ACT TRANSPORTATION STATUS: FUTURE CARBON DIOXIDE EMISSIONS REDUCTIONS

Background

The Global Warming Solutions Act of 2008 (GWSA) requires statewide reductions in greenhouse gas (GHG) emissions of 25 percent below 1990 levels by the year 2020, and 80 percent below 1990 levels by 2050. As part of the GWSA, the Executive Office of Energy and Environmental Affairs developed the Massachusetts Clean Energy and Climate Plan (CECP), which outlines programs to attain the 25 percent reduction by 2020—including a 7.6 percent reduction from the transportation sector.

The Commonwealth's 13 metropolitan planning organizations (MPOs) are integrally involved in helping to achieve greenhouse gas reductions mandated under the GWSA. The MPOs work closely with MassDOT and other involved agencies to develop common transportation goals, policies, and projects that would help to reduce GHG emission levels statewide, and meet the specific requirements of the GWSA regulation – *Global Warming Solutions Act Requirements for the Transportation Sector and the Massachusetts Department of Transportation (310 CMR 60.05)*. The purpose of this regulation is to assist the Commonwealth in achieving its adopted GHG emission-reduction goals by requiring:

- MassDOT to demonstrate that its GHG reduction commitments and targets are being achieved
- Each MPO to evaluate and track the GHG emissions and impacts of both its LRTP and TIP
- Each MPO, in consultation with MassDOT, to develop and utilize procedures to prioritize and select projects in its LRTP and TIP based on factors that include GHG emissions and impacts

The Commonwealth's MPOs are meeting the requirements of this regulation through the transportation goals and policies contained in their 2016 LRTPs, the major projects planned in the LRTPs, and the mix of new transportation projects that are programmed and implemented through the TIP.

The GHG tracking and evaluation processes enable the MPOs and MassDOT to identify the anticipated GHG impacts of the planned and programmed projects, and to use GHG impacts as criteria to prioritize transportation projects. This approach is consistent with the greenhouse-gas reduction policies of promoting healthy transportation modes through prioritizing and programming an appropriate balance of roadway, transit, bicycle and pedestrian investments; as well as supporting smart-growth development patterns by creating a balanced multi-modal transportation system. All of the Commonwealth's MPOs and MassDOT are working toward reducing greenhouse gases with "sustainable" transportation plans, actions, and strategies that include, but are not limited to:

- Reducing emissions from construction and operations
- Using more fuel-efficient fleets
- Implementing and expanding travel demand management programs
- Encouraging eco-driving
- Providing mitigation for development projects
- Improving pedestrian, bicycle, and public transit infrastructure and operations (healthy transportation)
- Investing in higher-density, mixed-use, and transit-oriented developments (smart growth)

Regional Tracking and Evaluation in Long Range Transportation Plans

MassDOT coordinated with the Boston Region MPO and regional planning agencies to implement GHG tracking and evaluation in developing all MPOs' 2012 LRTPs, which were adopted in September 2011. This collaboration continued for the MPOs' 2016 LRTPs, 2016–19 TIPs, and 2017–21 TIPs. This information is now being updated and included in the Boston Region MPO's Amendment One to the 2016 LRTP, *Charting Progress to 2040*. Working together, MassDOT and the MPOs have attained the following milestones:

- As a supplement to the 2016 LRTPs and the Boston Region MPO Amendment One to *Charting Progress to 2040*, the MPOs have completed modeling and long-range statewide projections for GHG emissions resulting from the transportation sector. Using the Boston Region MPO's travel demand model and the statewide travel demand model for the remainder of the state, the MPOs have projected GHG emissions for 2020 no-build (base) and build (action) conditions, and for 2040 no-build (base) and build (action) conditions.

- All of the MPOs have addressed GHG emissions-reduction projections in their LRTPs, discussed climate change, and included a statement of MPO support to reduce GHG emissions as a regional goal.

MassDOT’s statewide estimates of CO₂ emissions resulting from the collective list of all recommended projects in all the Massachusetts LRTPs and Amendments combined are presented below. Emissions shown in Table A.3 have been estimated using the new (2014) MOVES model, and incorporate the latest planning assumptions including updated socio-economic projections for the Commonwealth.

TABLE A.3
Massachusetts Statewide CO₂ Emissions Estimates
(all emissions in tons per summer day)

Year	CO ₂ Action Emissions	CO ₂ Base Emissions	Difference (Action – Base)
2020	136,567.8	136,597.1	-29.3
2040	69,646.8	69,673.6	-26.8

This analysis measures only projects that are included in the travel demand models. Many other types of projects that cannot be accounted for in the model (such as bicycle and pedestrian facilities, shuttle services, intersection improvements, etc.), are covered in the regional TIPs with either “qualitative” assessments of likely CO₂ change, or actual quantitative estimates listed for each project.

Tables A.4 and A.5 list the regionally significant projects that are included in the travel demand greenhouse gas analysis for the Boston Region MPO’s Amendment One to *Charting Progress to 2040*.

As shown above, collectively, all projects in the LRTPs in the 2020 Action scenario provide a statewide reduction of more than 29 tons of CO₂ per day compared to the base case. The 2040 Action scenario estimates a reduction of nearly 27 tons of CO₂ emissions compared to the base case.

These results demonstrate that the transportation sector is expected to make positive progress in meeting GHG reduction targets and complying with the requirements of the GWSA. MassDOT and the MPOs will continue to advocate for steps needed to accomplish the Commonwealth’s long-term goals for greenhouse gas reductions.

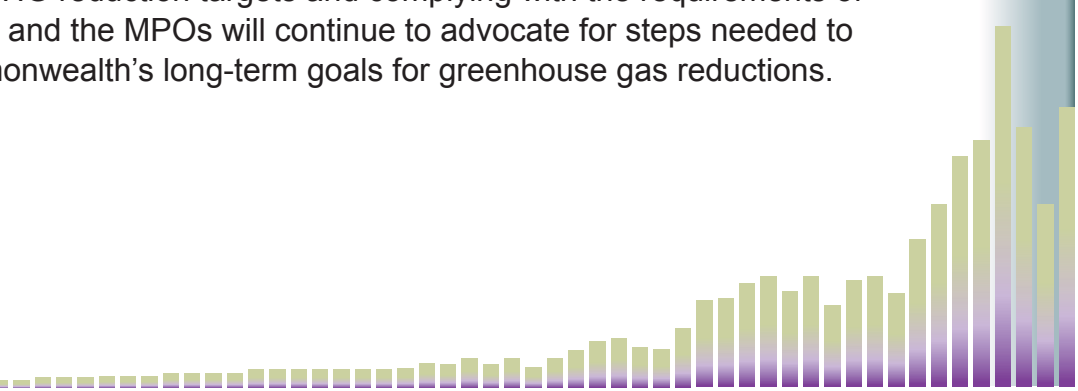


TABLE A.4
Regionally Significant Projects Included in the Regional Transportation Models for the Boston Region MPO Recommended LRTP Projects: Projects under Construction

Analysis Year	Municipality	Project Name
2020	Needham and Wellesley	Rehabilitation/Replacement of 6 Bridges on I-95/ Rte 128 (Add-a-Lane – Contract V)
2020	Canton, Norwood, and Westwood	Ramp Construction on I-95 Northbound and Improvements on Canton St and Dedham St
2040	Somerville and Cambridge	Green Line Extension Project (Phase 1), Lechmere Station to College Ave/Union Sq

TABLE A.5
Regionally Significant Projects Included in the Regional Transportation Models for the Boston Region MPO Recommended LRTP Projects: Recommended Projects

Analysis Year	Municipality	Project Name
2020	Boston	Reconstruction of Melnea Cass Blvd
2020	Bedford and Billerica	Middlesex Tpk Improvements, from Crosby Dr North to Manning Rd, Phase III
2020	Newton and Needham	Reconstruction of Highland Ave, Needham Str and Charles River Bridge, from Webster St to Rte 9
2020	Weymouth and Abington	Reconstruction and Widening on Rte 18 (Main St) from Highland Pl to Rte 139
2020	Woburn	Reconstruction of Montvale Ave, from I-93 Interchange to Central St
2040	Boston	Reconstruction of Rutherford Ave, from City Sq to Sullivan Sq
2040	Framingham	Intersection Improvements at Rte 126 and Rte 135/MBTA and CSX Railroad
2040	Lexington	Rte 4/225 (Bedford St) and Hartwell Ave
2040	Hopkinton and Westborough	Reconstruction of I-90 and I-495 Interchange
2040	Natick	Bridge Replacement, Rte 27 (North Main St) over Rte 9 (Worcester St) and Interchange Improvements
2040	Quincy	Construction of a New Connection from Burgin Pkwy over the MBTA
2040	Somerville	McGrath Blvd Project
2040	Woburn	Bridge Replacement, New Boston St over MBTA

TRANSPORTATION EQUITY ANALYSES RESULTS

MPO staff used the travel demand model to perform two types of equity analyses (discussed below) to determine whether this LRTP Amendment would have a disproportionately high adverse effect on minority and low-income populations. Both types of equity analyses calculated differences between the 2040 No-Build and 2040 Build alternatives for “equity analysis zones” (minority transportation analysis zones (TAZs) and low-income TAZs), and for non-equity analysis zones (nonminority TAZs and non-low-income TAZs). For each analysis, the ratio of change from No-Build to Build alternatives was compared for minority versus nonminority TAZs to determine whether there was a disparate impact, and for low- versus non-low-income TAZs to determine whether there was a disproportionate burden.

Thresholds in the MPO’s draft Disparate Impact Policy were used to measure whether this Amendment resulted in disparate impacts or disproportionate burdens. Staff first used this policy to analyze equity in the LRTP in 2015, and it has not been finalized. Because the requirement to analyze disparate impacts is relatively new, MPO staff will continue to examine the draft policy before bringing it to the MPO for approval.

Results of this analysis show that there are no disparate impacts or disproportionate burdens on minority and low-income populations, except for a disparate impact for congested vehicle-miles of travel (VMT), which also was found in the current LRTP, Charting Progress to 2040. However, the change in this measure does show a decrease from the No-Build to Build conditions for both low-income and non-low-income populations, suggesting that the projects will improve congestion for everyone.

Accessibility Analysis Results

For the purpose of this analysis, accessibility was defined as ‘the ability to reach desired destinations and the ease of doing so.’ This analysis investigated the number of employment opportunities, health-care facilities, and higher-education facilities that people could reach from equity analysis zones and non-equity analysis zones, along with average transit and highway travel times to these destinations. Analysis of transit travel times included destinations within a 40-minute transit trip, while analysis of highway travel times included destinations within a 20-minute auto trip.

The accessibility analysis first compared the change in transit and highway travel times to various types of employment from the 2040 No-Build to Build alternatives for low-income, non-low-income, minority, and nonminority TAZs, respectively.

The second part of the accessibility analysis compared the ratio of change from the 2040 No-Build to Build alternative for low-income versus non-low-income TAZs to determine whether there was a disproportionate burden, and for minority versus nonminority TAZs to determine whether there was a disparate impact for each type of employment evaluated.

Mobility, Congestion, and Air Quality Analysis Results

MOBILITY AND CONGESTION RESULTS

For the purpose of this analysis, mobility is defined as ‘the ability to move from place to place,’ and congestion is defined as ‘the level at which transportation system performance becomes unacceptable because of traffic congestion.’ The MPO’s mobility and congestion analysis focused on the average door-to-door travel time and average VMT under congested conditions.

The mobility and congestion analyses first compared the change in average door-to-door travel time, congested VMT, and VMT per square mile for all transit and highway trips produced in, or attracted to, equity analysis zones from the 2040 No-Build to Build alternatives for low-income, non-low-income, minority, and nonminority TAZs, respectively.

The second part of the mobility and congestion analysis compared the ratio of change from the 2040 No-Build to Build alternatives for low- versus non-low-income TAZs to determine whether there was a disproportionate burden, and for minority versus nonminority TAZs to determine whether there was a disparate impact for each of the factors evaluated.

AIR QUALITY ANALYSIS RESULTS

The air quality-analysis focused on carbon monoxide, a pollutant that results primarily from incomplete combustion of fossil fuels and accumulates in localized areas, creating hot spots that negatively affect human health.

Carbon monoxide emissions show essentially no change from the 2040 No-Build to Build alternatives for all zones.

Equity Analysis Conclusions

The MPO is continuing to monitor transportation equity burdens and impacts in the region, and is taking steps to address them through the TIP process. The MPO is programming 14 new projects through 2021 under the Complete Streets, intersection improvement, and multi-use path programs in transportation equity areas in Ashland, Boston, Brookline, Everett, Gloucester, Lynn, Marlborough, Salem, and Somerville. These projects will improve safety and provide benefits to those who walk and bike that are not captured in this analysis.

In addition, MPO staff will continue to work on finalizing its equity analysis process and draft Disparate Impact Policy. For example, how do we capture improvements to

safety and non-motorized mobility, and how do we ensure that our policy thresholds reflect meaningful changes? Some of this work will be completed through a project funded in the FFY 2016 UPWP: Systemwide Title VI/Environmental Justice Assessment of TIP Projects. The purpose of this project is to develop best practices for the Boston Region MPO's systemwide analysis of the benefits and burdens of TIP investments for environmental justice/Title VI populations. Although this project is focused on the TIP, the methodologies that staff develop will be applicable to the LRTP as well. Continued refinement of the draft Disparate Impact Policy will occur under the MPO's ongoing Transportation Equity Program.



Appendix A

PUBLIC COMMENTS

COMMENTS RECEIVED DURING THE PUBLIC REVIEW PERIOD

The following table summarizes the comments received by the Boston Region MPO during the 30-day public review period for Amendment One to *Charting Progress to 2040*. The public review period began on July 12, 2016, and closed on August 10, 2016. The MPO's response to each comment is also included in the table.

**Table A-A.1
Response to Public Comments on Draft Amendment One to the Long-Range Transportation Plan**

Projects(s)/ Issue(s)	Affiliation	Name	Request/ Support/ Oppose	Comment	MPO Response	Change or Revision to LRTP
Reconstruction of I-90/I-495 Interchange (Hopkinton)	495/MetroWest Partnership	Paul Matthews, Executive Director; Jessica Strunkin, Deputy Director	Support	Support inclusion of the Reconstruction of I-90/I-495 Interchange in Amendment One of the LRTP. State that the project will address congestion, safety, air quality, and sustainable development.	Thank you for your comments on the LRTP. The Reconstruction of I-90/I-495 Interchange is included in the list of recommended projects in Amendment One to <i>Charting Progress to 2040</i> in the 2021 to 2025 time band.	No
Reconstruction of I-90/I-495 Interchange (Hopkinton)		Senator James B. Eldridge	Support	Supports inclusion of the Reconstruction of I-90/I-495 Interchange in Amendment One of the LRTP. States the project will address congestion, safety, air quality, and sustainable development. States the project will greatly impact the long-term economic, environmental, and safety interests of the region. The safety and congestion concerns of the interchange are of immediate concern due to the imminent implementation of All Electronic Tolling. Adds that the traffic and environmental impacts of the interchange's current configuration have made it a regional transportation priority for the past several years.	Thank you for your comments on the LRTP. The Reconstruction of I-90/I-495 Interchange is included in the list of recommended projects in Amendment One to <i>Charting Progress to 2040</i> in the 2021 to 2025 time band.	No

**Table A-A.1 (cont.)
Response to Public Comments on Draft Amendment One to the Long-Range Transportation Plan**

Projects(s)/ Issue(s)	Affiliation	Name	Request/ Support/ Oppose	Comment	MPO Response	Change or Revision to LRTP
Reconstruction of I-90/I-495 Interchange (Hopkinton)		Representative Carolyn C. Dykema	Support	Supports inclusion of the Reconstruction of I-90/I-495 Interchange in Amendment One of the LRTP. States the project will address congestion, safety, air quality, and sustainable development. States the project will greatly impact the long-term economic, environmental, and safety interests of the region. The safety and congestion concerns of the interchange are of immediate concern due to the imminent implementation of All Electronic Tolling. Adds that the traffic and environmental impacts of the interchange's current configuration have made it a regional transportation priority for the past several years.	Thank you for your comments on the LRTP. The Reconstruction of I-90/I-495 Interchange is included in the list of recommended projects in Amendment One to <i>Charting Progress to 2040</i> in the 2021 to 2025 time band.	No

**Table A-A.1 (cont.)
Response to Public Comments on Draft Amendment One to the Long-Range Transportation Plan**

Projects(s)/ Issue(s)	Affiliation	Name	Request/ Support/ Oppose	Comment	MPO Response	Change or Revision to LRTP
Reconstruction of I-90/I-495 Interchange (Hopkinton)		Senator Michael O. Moore	Support	Supports inclusion of the Reconstruction of I-90/I-495 Interchange in Amendment One of the LRTP. States the project will address congestion, safety, air quality, and sustainable development. States the project will greatly impact the long-term economic, environmental, and safety interests of the region. The safety and congestion concerns of the interchange are of immediate concern due to the imminent implementation of All Electronic Tolling. Adds that the traffic and environmental impacts of the interchange's current configuration have made it a regional transportation priority for the past several years.	Thank you for your comments on the LRTP. The Reconstruction of I-90/I-495 Interchange is included in the list of recommended projects in Amendment One to <i>Charting Progress to 2040</i> in the 2021 to 2025 time band.	No

Table A-A.1 (cont.)
Response to Public Comments on Draft Amendment One to the Long-Range Transportation Plan

Projects(s)/ Issue(s)	Affiliation	Name	Request/ Support/ Oppose	Comment	MPO Response	Change or Revision to LRTP
Reconstruction of I-90/I-495 Interchange (Hopkinton)		Representative James J. O'Day	Support	Supports inclusion of the Reconstruction of I-90/I-495 Interchange in Amendment One of the LRTP. States the project will address congestion, safety, air quality, and sustainable development. States the project will greatly impact the long-term economic, environmental, and safety interests of the region. The safety and congestion concerns of the interchange are of immediate concern due to the imminent implementation of All Electronic Tolling. Adds that the traffic and environmental impacts of the interchange's current configuration have made it a regional transportation priority for the past several years.	Thank you for your comments on the LRTP. The Reconstruction of I-90/I-495 Interchange is included in the list of recommended projects in Amendment One to <i>Charting Progress</i> to 2040 in the 2021 to 2025 time band.	No

Table A-A.1 (cont.)
Response to Public Comments on Draft Amendment One to the Long-Range Transportation Plan

Projects(s)/ Issue(s)	Affiliation	Name	Request/ Support/ Oppose	Comment	MPO Response	Change or Revision to LRTP
Reconstruction of I-90/I-495 Interchange (Hopkinton)		Representative Hannah E. Kane	Support	Supports inclusion of the Reconstruction of I-90/I-495 Interchange in Amendment One of the LRTP. States the project will address congestion, safety, air quality, and sustainable development. States the project will greatly impact the long-term economic, environmental, and safety interests of the region. The safety and congestion concerns of the interchange are of immediate concern due to the imminent implementation of All Electronic Tolling. Adds that the traffic and environmental impacts of the interchange's current configuration have made it a regional transportation priority for the past several years.	Thank you for your comments on the LRTP. The Reconstruction of I-90/I-495 Interchange is included in the list of recommended projects in Amendment One to <i>Charting Progress to 2040</i> in the 2021 to 2025 time band.	No
Reconstruction of I-90/I-495 Interchange (Hopkinton)	Executive Director, CrossTown Connect	Scott Zadakis	Support	Generally supports a more efficient transportation system in the broader region and voices support for the Reconstruction of the I-90/I-495 Interchange project. This project will help with congestion.	Thank you for your comments on the LRTP. The Reconstruction of I-90/I-495 Interchange is included in the list of recommended projects in Amendment One to <i>Charting Progress to 2040</i> in the 2021 to 2025 time band.	No
Intersection Improvements at Route 126/135/MBTA & CSX Railroad (Framingham)	495/MetroWest Partnership	Paul Matthews, Executive Director; Jessica Strunkin, Deputy Director	Support	Support continued inclusion of the Intersection Improvements at Route 126/135/MBTA & CSX Railroad in the LRTP.	Thank you for your comments on the LRTP. The Intersection Improvements at Route 126/135/MBTA & CSX Railroad project continues to be included in the list of recommended projects in Amendment One to <i>Charting Progress to 2040</i> in the 2026 to 2030 time band.	No

**Table A-A.1 (cont.)
Response to Public Comments on Draft Amendment One to the Long-Range Transportation Plan**

Projects(s)/ Issue(s)	Affiliation	Name	Request/ Support/ Oppose	Comment	MPO Response	Change or Revision to L RTP
Bridge Replacement, Route 27 over Route 9 (Natick)	495/MetroWest Partnership	Paul Matthews, Executive Director; Jessica Strunkin, Deputy Director	Support	Support continued inclusion of the Route 27 over Route 9 Bridge Replacement in the LRTP.	Thank you for your comments on the LRTP. The Route 27 over Route 9 Bridge Replacement project continues to be included in the list of recommended projects in Amendment One to <i>Charting Progress to 2040</i> in the 2021 to 2025 time band.	No
Green Line Extension (Phase 2)		Senator Patricia D. Jehlen	Request	Requests an additional amendment to the LRTP that would program funding for Phase 2 of the Green Line Extension. States a Route 16 terminus will provide numerous opportunities for sustainable development in the region, as well as improve air quality and mobility. Notes that the site serves a number of environmental justice communities, and the project directly advances a number of the MPO's stated goals for the LRTP.	Thank you for your comments on the LRTP. The MPO voted to transfer the funding programmed in its LRTP, <i>Charting Progress to 2040</i> , and its 2016–2020 TIP for the Green Line Extension from College Avenue to Route 16 to the first phase of the Green Line project as part of Amendment Four of its 2016–2020 TIP. In doing so, the MPO recognized and incorporated into its record the commitment by the Secretary of MassDOT to file an Environmental Notification Form under the Massachusetts Environmental Protection Act for Phase 2 of the Green Line Extension by December 31, 2016, and after such filing to carry forward the MEPA review process to its conclusion, so long as Phase 1 of the Green Line Extension continues to go forward. The MPO will continue to monitor the progress of the Green Line Phase 1 project and the MEPA review process for Phase 2, and discuss the inclusion of Phase 2 as part of the next LRTP development.	No

**Table A-A.1 (cont.)
Response to Public Comments on Draft Amendment One to the Long-Range Transportation Plan**

Projects(s)/ Issue(s)	Affiliation	Name	Request/ Support/ Oppose	Comment	MPO Response	Change or Revision to LRTP
Green Line Extension (Phase 2)		Representative Christine P. Barber	Request	Requests an additional amendment to the LRTP that would program funding for Phase 2 of the Green Line Extension. States a Route 16 terminus will provide numerous opportunities for sustainable development in the region, as well as improve air quality and mobility. Notes that the site serves a number of environmental justice communities, and the project directly advances a number of the MPO's stated goals for the LRTP.	Thank you for your comments on the LRTP. The MPO voted to transfer the funding programmed in its LRTP, <i>Charting Progress to 2040</i> , and its 2016–2020 TIP for the Green Line Extension from College Avenue to Route 16 to the first phase of the Green Line project as part of Amendment Four of its 2016–2020 TIP. In doing so, the MPO recognized and incorporated into its record the commitment by the Secretary of MassDOT to file an Environmental Notification Form under the Massachusetts Environmental Protection Act for Phase 2 of the Green Line Extension by December 31, 2016, and after such filing to carry forward the MEPA review process to its conclusion, so long as Phase 1 of the Green Line Extension continues to go forward. The MPO will continue to monitor the progress of the Green Line Phase 1 project and the MEPA review process for Phase 2, and discuss the inclusion of Phase 2 as part of the next LRTP development.	No

**Table A-A.1 (cont.)
Response to Public Comments on Draft Amendment One to the Long-Range Transportation Plan**

Projects(s)/ Issue(s)	Affiliation	Name	Request/ Support/ Oppose	Comment	MPO Response	Change or Revision to LRTP
Green Line Extension (Phase 2)		Representative Sean Garballey	Request	Requests an additional amendment to the LRTP that would program funding for Phase 2 of the Green Line Extension. States a Route 16 terminus will provide numerous opportunities for sustainable development in the region, as well as improve air quality and mobility. Notes that the site serves a number of environmental justice communities, and the project directly advances a number of the MPO's stated goals for the LRTP.	Thank you for your comments on the LRTP. The MPO voted to transfer the funding programmed in its LRTP, <i>Charting Progress to 2040</i> , and its 2016–2020 TIP for the Green Line Extension from College Avenue to Route 16 to the first phase of the Green Line project as part of Amendment Four of its 2016–2020 TIP. In doing so, the MPO recognized and incorporated into its record the commitment by the Secretary of MassDOT to file an Environmental Notification Form under the Massachusetts Environmental Protection Act for Phase 2 of the Green Line Extension by December 31, 2016, and after such filing to carry forward the MEPA review process to its conclusion, so long as Phase 1 of the Green Line Extension continues to go forward. The MPO will continue to monitor the progress of the Green Line Phase 1 project and the MEPA review process for Phase 2, and discuss the inclusion of Phase 2 as part of the next LRTP development.	No

**Table A-A.1 (cont.)
Response to Public Comments on Draft Amendment One to the Long-Range Transportation Plan**

Projects(s)/ Issue(s)	Affiliation	Name	Request/ Support/ Oppose	Comment	MPO Response	Change or Revision to LRTP
Green Line Extension (Phase 2)		Representative Denise Provost	Request	Requests an additional amendment to the LRTP that would program funding for Phase 2 of the Green Line Extension. States a Route 16 terminus will provide numerous opportunities for sustainable development in the region, as well as improve air quality and mobility. Notes that the site serves a number of environmental justice communities, and the project directly advances a number of the MPO's stated goals for the LRTP.	Thank you for your comments on the LRTP. The MPO voted to transfer the funding programmed in its LRTP, <i>Charting Progress to 2040</i> , and its 2016–2020 TIP for the Green Line Extension from College Avenue to Route 16 to the first phase of the Green Line project as part of Amendment Four of its 2016–2020 TIP. In doing so, the MPO recognized and incorporated into its record the commitment by the Secretary of MassDOT to file an Environmental Notification Form under the Massachusetts Environmental Protection Act for Phase 2 of the Green Line Extension by December 31, 2016, and after such filing to carry forward the MEPA review process to its conclusion, so long as Phase 1 of the Green Line Extension continues to go forward. The MPO will continue to monitor the progress of the Green Line Phase 1 project and the MEPA review process for Phase 2, and discuss the inclusion of Phase 2 as part of the next LRTP development.	No

Table A-A.1 (cont.)
Response to Public Comments on Draft Amendment One to the Long-Range Transportation Plan

Projects(s)/ Issue(s)	Affiliation	Name	Request/ Support/ Oppose	Comment	MPO Response	Change or Revision to LRTP
Green Line Extension (Phase 2)		Representative Timothy J. Toomey	Request	Requests an additional amendment to the LRTP that would program funding for Phase 2 of the Green Line Extension. States a Route 16 terminus will provide numerous opportunities for sustainable development in the region, as well as improve air quality and mobility. Notes that the site serves a number of environmental justice communities, and the project directly advances a number of the MPO's stated goals for the LRTP.	Thank you for your comments on the LRTP. The MPO voted to transfer the funding programmed in its LRTP, <i>Charting Progress to 2040</i> , and its 2016–2020 TIP for the Green Line Extension from College Avenue to Route 16 to the first phase of the Green Line project as part of Amendment Four of its 2016–2020 TIP. In doing so, the MPO recognized and incorporated into its record the commitment by the Secretary of MassDOT to file an Environmental Notification Form under the Massachusetts Environmental Protection Act for Phase 2 of the Green Line Extension by December 31, 2016, and after such filing to carry forward the MEPA review process to its conclusion, so long as Phase 1 of the Green Line Extension continues to go forward. The MPO will continue to monitor the progress of the Green Line Phase 1 project and the MEPA review process for Phase 2, and discuss the inclusion of Phase 2 as part of the next LRTP development.	No

**Table A-A.1 (cont.)
Response to Public Comments on Draft Amendment One to the Long-Range Transportation Plan**

Projects(s)/ Issue(s)	Affiliation	Name	Request/ Support/ Oppose	Comment	MPO Response	Change or Revision to LRTP
Green Line Extension (Phase 2)	Resident, City of Somerville	Chris McCarthy	Oppose	Opposes reprogramming funding from Phase 2 of the Green Line Extension to Phase 1. States the Route 16 station is a critical part of GLX and will serve residents in the vicinity of Arlington, Medford, and Somerville. The area is currently poorly served by transit, and Phase 2 will mitigate vehicle traffic on Route 16 and improve air quality.	Thank you for your comments on the LRTP. The MPO voted to transfer the funding programmed in its LRTP, <i>Charting Progress to 2040</i> , and its 2016–2020 TIP for the Green Line Extension from College Avenue to Route 16 to the first phase of the Green Line project as part of Amendment Four of its 2016–2020 TIP. In doing so, the MPO recognized and incorporated into its record the commitment by the Secretary of MassDOT to file an Environmental Notification Form under the Massachusetts Environmental Protection Act for Phase 2 of the Green Line Extension by December 31, 2016, and after such filing to carry forward the MEPA review process to its conclusion, so long as Phase 1 of the Green Line Extension continues to go forward. The MPO will continue to monitor the progress of the Green Line Phase 1 project and the MEPA review process for Phase 2, and discuss the inclusion of Phase 2 as part of the next LRTP development.	No

**Table A-A.1 (cont.)
Response to Public Comments on Draft Amendment One to the Long-Range Transportation Plan**

Projects(s)/ Issue(s)	Affiliation	Name	Request/ Support/ Oppose	Comment	MPO Response	Change or Revision to LRTP
Green Line Extension (Phase 2)	Resident, City of Medford	John Roland Elliot	Oppose	Opposes reprogramming funding from Phase 2 of the Green Line Extension to the general Green Line Extension budget. States reprogramming funds will have an adverse impact on the prospect of fulfilling the Commonwealth's obligations to provide Green Line service to Medford Hillside. Adds that funding for transportation could be funded by the Legislature. The Route 16 terminus is the only practical conclusion to the Green Line Extension that will permit the project to achieve goals of boosting transit ridership, improving mobility and air quality, distributing transit services equitably, and promoting and facilitating sustainable development.	Thank you for your comments on the LRTP. The MPO voted to transfer the funding programmed in its LRTP, <i>Charting Progress to 2040</i> , and its 2016–2020 TIP for the Green Line Extension from College Avenue to Route 16 to the first phase of the Green Line project as part of Amendment Four of its 2016–2020 TIP. In doing so, the MPO recognized and incorporated into its record the commitment by the Secretary of MassDOT to file an Environmental Notification Form under the Massachusetts Environmental Protection Act for Phase 2 of the Green Line Extension by December 31, 2016, and after such filing to carry forward the MEPA review process to its conclusion, so long as Phase 1 of the Green Line Extension continues to go forward. The MPO will continue to monitor the progress of the Green Line Phase 1 project and the MEPA review process for Phase 2, and discuss the inclusion of Phase 2 as part of the next LRTP development.	No

Table A-A.1 (cont.)
Response to Public Comments on Draft Amendment One to the Long-Range Transportation Plan

Projects(s)/ Issue(s)	Affiliation	Name	Request/ Support/ Oppose	Comment	MPO Response	Change or Revision to LRTP
Green Line Extension (Phase 2)	Resident, City of Medford	Elisabeth Bayle	Oppose	Opposes reprogramming funding from Phase 2 of the Green Line Extension to Phase 1. Notes many years of advocacy for the project and that delaying the project further will affect thousands of residents. States that in addition to helping fulfill the Commonwealth's legal commitment to bring the Green Line Extension to Medford Hillside, Phase 2 will provide improvements in air quality, transit-oriented development, mobility, and health.	Thank you for your comments on the LRTP. The MPO voted to transfer the funding programmed in its LRTP, <i>Charting Progress to 2040</i> , and its 2016–2020 TIP for the Green Line Extension from College Avenue to Route 16 to the first phase of the Green Line project as part of Amendment Four of its 2016–2020 TIP. In doing so, the MPO recognized and incorporated into its record the commitment by the Secretary of MassDOT to file an Environmental Notification Form under the Massachusetts Environmental Protection Act for Phase 2 of the Green Line Extension by December 31, 2016, and after such filing to carry forward the MEPA review process to its conclusion, so long as Phase 1 of the Green Line Extension continues to go forward. The MPO will continue to monitor the progress of the Green Line Phase 1 project and the MEPA review process for Phase 2, and discuss the inclusion of Phase 2 as part of the next LRTP development.	No

Table A-A.1 (cont.)
Response to Public Comments on Draft Amendment One to the Long-Range Transportation Plan

Projects(s)/ Issue(s)	Affiliation	Name	Request/ Support/ Oppose	Comment	MPO Response	Change or Revision to LRTP
Ramp Construction on I-95 Northbound and Improvements on Canton Street/Dedham Street	Neponset Valley TMA	Karen Dumaine, Executive Director	Support	Supports updating the cost for ramp construction on I-95 Northbound and progressing with improvements to Canton Street and Dedham Street in Canton, Norwood, and Westwood. States the I-95/I-93 Interchange in Canton is a pivotal project for keeping the Neponset Valley region competitive and reducing traffic congestion. The project is also critical to achieving the full economic development potential of the University Station project. Adds that the project will address long-held safety concerns.	Thank you for your comments on the LRTP. The increased funding for the Ramp Construction on I-95 Northbound and Improvements on Canton Street/Dedham Street is included in the list of recommended projects in Amendment One to <i>Charting Progress to 2040</i> . The increased funding appears in the 2016 to 2020 time band.	No
Newburyport/ Rockport Commuter Rail Line	Resident, Town of Hamilton Lauderdale	Sarah Lauderdale	Request	Requests an additional inbound train between 5:01 pm and 7:23 pm on weekdays on the Newburyport/Rockport Commuter Rail Line.	Thank you for your comments on the LRTP. Through the development of its vision, goals, and objectives, the MPO emphasized that transit is an important element to mobility in the MPO region. This comment will be submitted to the MBTA Service Planning Department for their evaluation in adding service during this time period.	No

Table A-A.1(cont.)
Response to Public Comments on Draft Amendment One to the Long-Range Transportation Plan

Projects(s)/ Issue(s)	Affiliation	Name	Request/ Support/ Oppose	Comment	MPO Response	Change or Revision to LRTP
Public Transit	Resident, City of Boston (South Boston)	Louise Baxter	Request	Requests a focus on public transit in the LRTP, noting increasing population and the cost of vehicular travel.	Thank you for your comments on the LRTP. Through the development of its vision, goals, and objectives, the MPO emphasized that transit is an important element to mobility in the MPO region. MassDOT is in the process of developing Focus40, the MBTA’s long-range capital planning document defining a 25-year vision for public transportation. This information was not available for the MPO to use in the development of this LRTP Amendment. The MPO acknowledges that Focus40 will be an important input in programming future transit dollars, and chose to leave 50% of its target funds unallocated in the 2030 to 2040 time bands while awaiting input on Focus40 and other long-range transportation planning documents. The MPO will consider your comments in the development of future LRTPs. Your comment will also be submitted to MassDOT and the MBTA for their consideration.	No

**Table A-A.1 (cont.)
Response to Public Comments on Draft Amendment One to the Long-Range Transportation Plan**

Projects(s)/ Issue(s)	Affiliation	Name	Request/ Support/ Oppose	Comment	MPO Response	Change or Revision to LRTP
Public Transit	Executive Director, CrossTown Connect	Scott Zadakis	Support	Supports modernization and increasing the reliability and capacity of the public transportation system.	Thank you for your comments on the LRTP. Through the development of its vision, goals, and objectives, the MPO emphasized that transit is an important element to mobility in the MPO region. MassDOT is in the process of developing Focus40, the MBTA's long-range capital planning document defining a 25-year vision for public transportation. This information was not available for the MPO to use in the development of this LRTP Amendment. The MPO acknowledges that Focus40 will be an important input in programming future transit dollars, and chose to leave 50% of its target funds unallocated in the 2030 to 2040 time bands while awaiting input on the Focus40 and other long-range transportation planning documents. The MPO will consider your comments in the development of future LRTPs. Your comment will also be submitted to MassDOT and the MBTA for their consideration.	No

**Table A-A.1 (cont.)
Response to Public Comments on Draft Amendment One to the Long-Range Transportation Plan**

Projects(s)/ Issue(s)	Affiliation	Name	Request/ Support/ Oppose	Comment	MPO Response	Change or Revision to LRTP
Operations & Management Funding	Executive Director, CrossTown Connect	Scott Zadakis	Support/ Request	<p>Would like to applaud the MPO for the change in tack to reprioritize and fund operations and management projects that support bicycle and pedestrian travel on a more equitable level with large highway projects. Also happy to see increased funding for Complete Street projects.</p> <p>Considering this, they are troubled that the Amendment cuts several million dollars from the Bicycle and Pedestrian program. Would also like to see an increase in funding for the Community Transportation/Parking/Clean Air and Mobility program.</p> <p>Programming only 2% of spending on this program shows a lack of emphasis on these types of projects.</p>	<p>Thank you for your comment on the LRTP. In developing the LRTP in 2015, the MPO chose to emphasize capacity management through low-cost investments such as bicycle and pedestrian projects, and chose to initiate a new program including Community Transportation combined with Parking and Clean Air and Mobility. At that time, knowing that projects had been programmed through 2020, the MPO chose to begin to implement these programs beginning in the 2021 to 2025 time band. The assumptions in the outer time bands are that no more than 50% of funding would go to major infrastructure projects, with the remaining divided between the operations and management projects and programs. Beginning in 2021, it was assumed that of the remaining unprogrammed funding, 58% would be programmed to Complete Streets, 28% to intersection improvements, 10% to bicycle and pedestrian projects, and 4% to the new Community Transportation/Parking/Clean Air and Mobility program. This is an estimate for future funding that allows the municipalities to plan for the future, knowing that the MPO has a commitment to these types of projects. As projects are submitted for funding in the TIP, each project will be evaluated using the goals and objectives set in the LRTP.</p>	No

Table A-A.1 (cont.)
Response to Public Comments on Draft Amendment One to the Long-Range Transportation Plan

Projects(s)/ Issue(s)	Affiliation	Name	Request/ Support/ Oppose	Comment	MPO Response	Change or Revision to LRTP
Needs Assessment		Senator Joan B. Lovely	Support/ Request	<p>Supports identification of future areas of need in the 2nd Essex District in the existing Needs Assessment, including:</p> <ul style="list-style-type: none"> - HSIP crash clusters in downtown areas of Salem and Peabody - HSIP bicycle clusters in Beverly and Salem - Noting that Peabody, Beverly, and Salem have “transit capacity needs” - Route 128 at Lowell Street, Exit 26, in Peabody identified as a “priority congested location” - Route 128 at Route 114 identified as one of the “top 25 highway crash clusters” - Washington Street in Salem identified as having “multiple safety needs” <p>Requests the MPO prioritize these areas and provide financial support to advance these improvements.</p>	<p>Thank you for your comments on the LRTP. The information in the Needs Assessment is used in the development of the MPO’s Unified Planning Work Program to identify studies to be conducted each year. For project and program funding, this information is used in evaluating and prioritizing projects that are submitted by the municipalities as part of the TIP and LRTP. The MPO will continue to evaluate projects, programs, and study ideas as they are submitted by the municipalities requesting funding.</p>	No

Table A-A.1(cont.)
Response to Public Comments on Draft Amendment One to the Long-Range Transportation Plan

Projects(s)/ Issue(s)	Affiliation	Name	Request/ Support/ Oppose	Comment	MPO Response	Change or Revision to LRTP
Project Identification		Senator Joan B. Lovely	Request	Requests that the MPO be aware of potential projects in the communities of Beverly, Danvers, Peabody, Salem, and Topsfield. States that infrastructure needs in these communities are far greater than the resources available to address them. Potential projects include: - Improvements to Boston Street (Salem) - Improvements to Bridge Street (Beverly) Notes significant activity in the communities of Peabody, Danvers, and Topsfield.	Thank you for your comments on the LRTP. The MPO evaluates projects that are submitted by the municipalities using its evaluation criteria based on its adopted goals and objectives. The projects are then prioritized for funding through the LRTP and the TIP. The Boston Street and Bridge Street projects are included in the TIP's Universe of Projects.	No
Project Clarification	Planning Director, Town of Wellesley	Michael Zehner	Request	Requests that the Route 9 Corridor Enhancements project referenced in Appendix B of the LRTP be revised to read the Route 9 Corridor Reconstruction project, which is MassDOT project 607340.	MPO staff revised the project name of the Wellesley project 607340 in the Universe of Projects list in Appendix B of the LRTP from "Route 9 Corridor Enhancements" to "Route 9 Corridor Reconstruction."	Yes

GLX = Green Line Extension
 HSIP = Highway Safety Improvement Program
 LRTP = Long-Range Transportation Plan
 MassDOT = Massachusetts Department of Transportation
 MBTA = Massachusetts Bay Transportation Authority
 MEPA = Massachusetts Environmental Policy Act
 MPO = Metropolitan Planning Organization
 TIP = Transportation Improvement Program
 TMA = Transportation Management Association



7

TRANSPORTATION EQUITY

THE TRANSPORTATION EQUITY PROGRAM

The purpose of the MPO's transportation equity (TE) program is to ensure that populations protected under various federal and state civil rights statutes, executive orders, and regulations (TE populations) are provided equal opportunity to participate fully in the MPO's transportation planning and decision-making process. The program also ensures that TE populations share equitably in the benefits and burdens of past, present, and planned future transportation projects, programs, and service. The TE program includes three types of activities: 1) outreach to TE populations; 2) systematic consideration of equity in the planning and programming process; and 3) analyses to identify TE populations and their transportation needs, and to estimate the equity impacts of MPO funding decisions.

Environmental Justice (EJ) Executive Order 12898 of February 11, 1994 laid the groundwork for the MPO's TE program. This executive order required each federal agency to achieve environmental justice by identifying and addressing any disproportionately high adverse human health or environmental effects—including interrelated social and economic effects—of its programs, policies, and activities on minority or low-income populations. The EJ executive order was intended not to create new mandates, but to encourage implementation of existing statutes, such as Title VI of the Civil Rights Act of 1964, which states that, "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." Executive Order 13166 of August 11, 2000 extended Title VI national origin protections to individuals with limited English proficiency (LEP). As recipients of federal funding, MPOs are subject to EJ and Title VI requirements.

Because the MPO's TE program grew out of EJ requirements, initially it was designed to serve minority and low-income populations (EJ populations). More recently, in response to Federal Transit Administration (FTA) and Federal Highway Administration (FHWA) LEP requirements and the extension of protections based on age, sex, and disability through the FHWA Title VI/Nondiscrimination program, the MPO is assessing how to expand its TE program to consider systematically the needs of additional protected populations.

TRANSPORTATION EQUITY OUTREACH FOR THE LRTP

TE outreach is an integral part of the MPO's overall public participation program designed specifically to communicate with low-income and minority residents, the elderly, persons with disabilities, and persons with LEP. The purpose of TE outreach is to identify transportation needs of specific populations served by the TE program and promote their involvement in the planning process. Through this outreach, the MPO hopes to develop relationships that will heighten awareness and sow seeds of mutual understanding, appreciation, and trust to encourage broader participation of TE populations.

Outreach targets both individuals and organizations representing the interests of TE populations, such as social-service organizations, community-development corporations, regional employment boards, civic groups, business and labor organizations, transportation advocates, environmental groups, EJ and civil-rights groups, and the state's regional coordinating councils (RCCs)—recently formed through the Statewide Mobility Management Program to coordinate human-service transportation services.

The MPO maintains an email list of TE contacts to provide them general information about the MPO and its planning processes, and give them information about topics and events of specific interest to the communities served by the TE program. During the past year and a half, staff has worked to increase significantly the number of valid contacts on this list.

Initial TE outreach for the LRTP began in fall 2014 with a series of public meetings to solicit comments on the MPO's revised Public Participation Plan (P3) and inform members of the public about the MPO's TE program. These meetings were held in areas with high concentrations of minority, low-income, and LEP residents, including Framingham, Lynn, Quincy, and the Fields Corner neighborhood of Dorchester in Boston. The focus of these meetings was to provide information about and solicit input on the P3, which describes the public involvement process for the LRTP and other major MPO documents and activities. These meetings set the stage for specific LRTP public engagement, as the P3 provides information about the LRTP development schedule and the types and timing of opportunities for participation. Subsequent email notifications to the TE contacts kept them apprised of all public meetings for the LRTP and MPO-sponsored meetings at which the LRTP was discussed. Chapter 2 (Public Participation - Public Outreach Methods section) discusses the public meetings and other outreach opportunities specifically for this LRTP.

Notices for all MPO-sponsored public meetings are routinely translated into the three languages, other than English, that are most frequently spoken in the MPO area: Spanish, Portuguese, and Chinese. P3 public meeting notices also were translated into Vietnamese because the Fields Corner meeting was held at the VietAID Center as part of the MPO's effort to forge closer ties with specific organizations as a way of facilitating communication with their constituent populations. Although the TE email list is good for reaching many groups quickly, MPO staff sees personal contact as a more effective way to foster meaningful engagement in the future.

TRANSPORTATION EQUITY AND THE PLANNING PROCESS

The MPO systematically integrates equity concerns into the transportation planning process in a number of ways. At the highest level, equity is part of the MPO's central vision statement, and therefore is reflected in the MPO's goals and objectives. Equity concerns are also integrated by considering feedback from all outreach activities, including TE outreach, and the ongoing public involvement that routinely occurs during development of the LRTP, TIP, UPWP, and other MPO studies.

In addition, equity is one of the factors the MPO considers when selecting studies for the UPWP, and it is integrated into the project selection criteria for the LRTP and TIP. Finally, as discussed below, staff performs equity analyses on the recommended projects in the draft LRTP to evaluate the effects on access, mobility, congestion, and air quality for TE populations, and determine whether the recommendations should be changed before a final LRTP is adopted.

TRANSPORTATION EQUITY ANALYSES

Demographic Analyses

The MPO analyzes demographic data to identify the geographic locations and concentration of protected populations. This is done to understand their transportation needs relative to existing and planned infrastructure, and to pinpoint areas where public outreach could be most beneficial and fruitful. For this LRTP, the analysis of benefits and burdens (equity analysis) was based on minority and low-income populations, as defined using federal guidance, census data, and geography.

GEOGRAPHIC LEVEL OF ANALYSIS

The MPO region is divided into 1,943 Transportation Analysis Zones (TAZs) for the purposes of forecasting travel behavior using the MPO's regional travel demand model set. A TAZ is a unit of geography that is defined based on demographic information—population, employment, and housing—and the numbers of trips generated in, and attracted to, it. The full geographic area covered by the MPO's travel demand model set, which also includes municipalities adjacent to the MPO's 101 cities and towns, comprises 2,727 TAZs.

Using TAZ geography and thresholds established through federal guidance, the MPO has developed demographic profiles that identify areas with concentrations of minority and low-income populations for analyzing benefits and burdens. The MPO has also developed demographic profiles for areas with concentrations of LEP residents, the elderly, and people with disabilities. However, the MPO has yet to develop thresholds for these populations to identify specific areas for the purposes of performing an equity analysis.

MINORITY AND LOW-INCOME THRESHOLDS

Minority Populations

The MPO uses the US Census Bureau's racial and ethnic minority group definitions to determine minority status in the region. The census defines non-minority as persons who identify as white and not Hispanic or Latino. Minorities include:

- American Indian/Alaskan Native
- Asian/Native Hawaiian/Other Pacific Islander
- Black/African American
- Another race or multiple races
- Hispanic/Latino of any race

The FTA Title VI circular (FTA C 4702.1B) defines a predominantly minority area as one where the proportion of minority persons residing in that area exceeds the average proportion of minority persons in the MPO region. Using this definition, a minority TAZ is one in which the minority population is greater than 27.8 percent.

Low-Income Populations

The FTA Title VI circular suggests that a low-income person be defined as one whose median household income is at or below the Department of Health and Human Services' poverty guidelines. However, the circular allows MPOs to develop their own definitions of low-income, as long as their thresholds meet or exceed the federal definition of low-income. The Boston Region MPO defines a low-income person as an individual living in a household with a median income that is less than or equal to 60 percent of the median household income in the MPO region. The MPO chose this threshold, which is higher than federal poverty guidelines, because the cost of living in the MPO region is higher than the national average.

According to the 2010 census, the median MPO household income was \$70,829. Therefore, using the MPO's definition, a low-income TAZ is one in which the average median household income is less than or equal to \$42,497.

Equity Analysis Zones

The MPO uses the above definitions to identify equity analysis zones—TAZs that meet the threshold for minority and/or low-income—as the basis for its analysis of the benefits and burdens of transportation programs and projects. Figure 7.1 shows the MPO's equity analysis zones, of which 11 percent are low-income TAZs, 33 percent are minority, and 10 percent are both low-income and minority. Also included are the locations of major infrastructure projects recommended in this LRTP. Investments like grounding McGrath

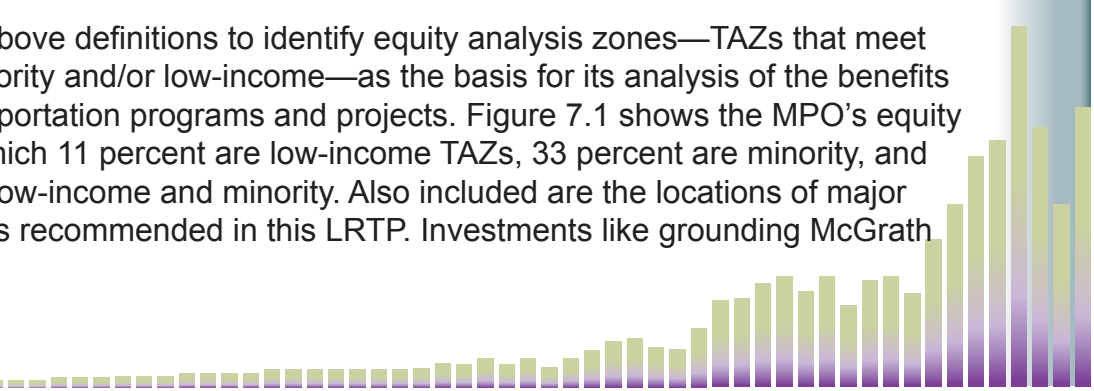
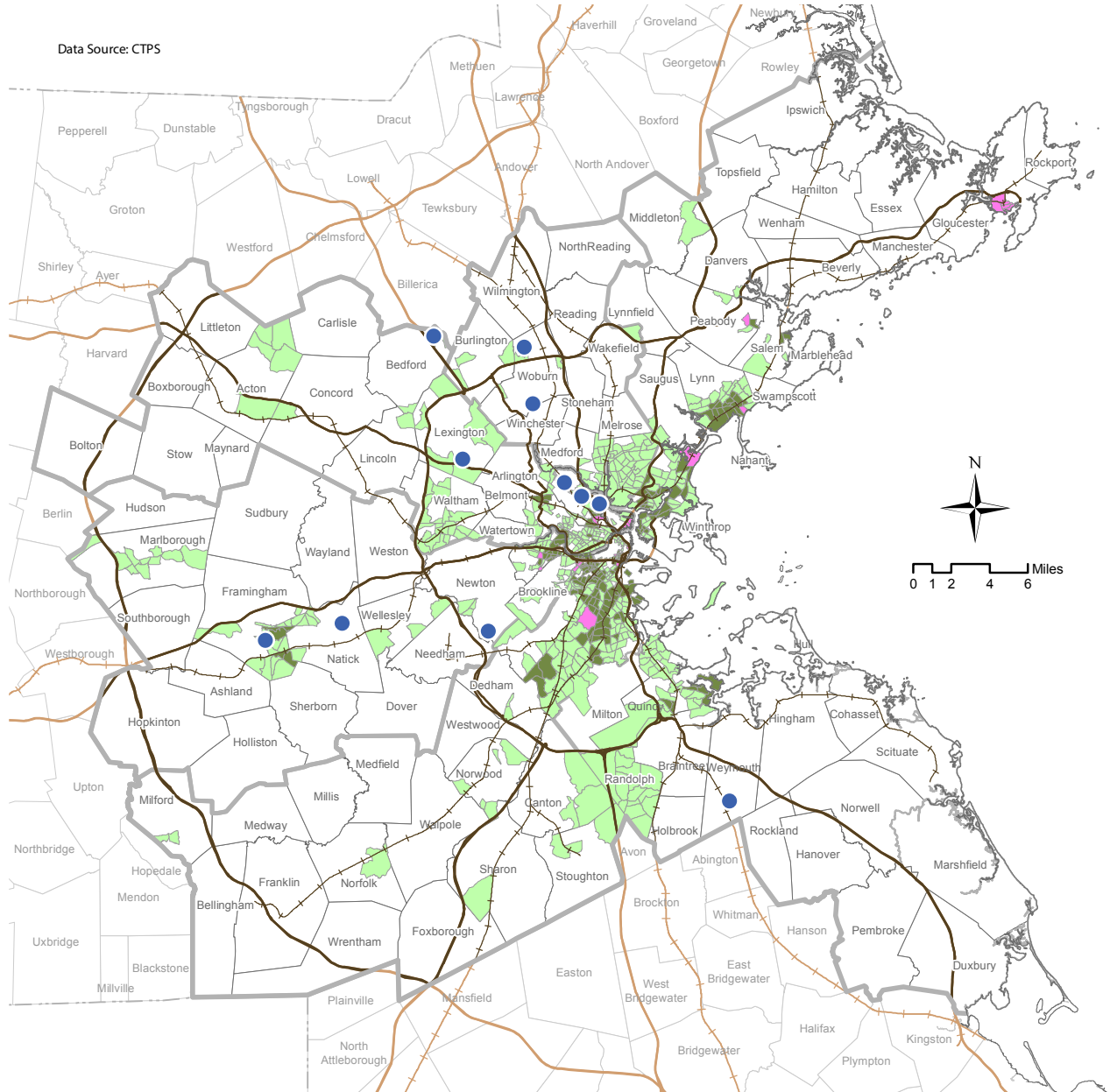


FIGURE 7.1 Equity Analysis Zones



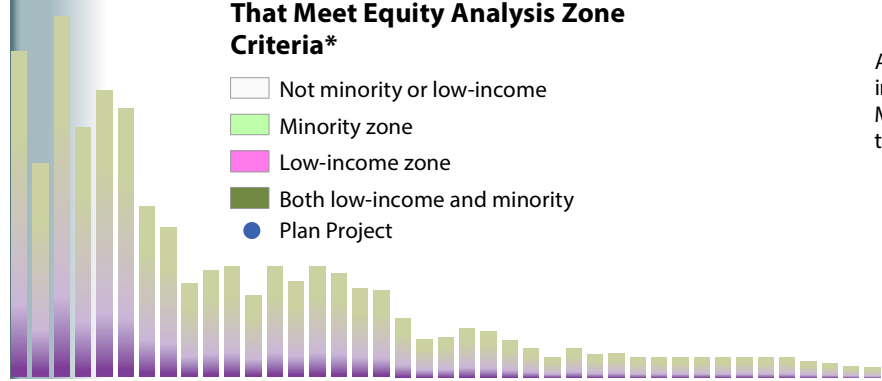
Data Source: CTPS

Transportation Analysis Zones (TAZs) That Meet Equity Analysis Zone Criteria*

- Not minority or low-income
- Minority zone
- Low-income zone
- Both low-income and minority
- Plan Project

***Criteria for Equity Analysis Zones under Title VI (2010 Data)**

A TAZ in which the median household income in 2010 was equal to or less than 60% of the MPO median of \$70,829 (\$42,497) or in which the 2010 population was more than 27.8% minority.



Highway in Somerville, reconstructing Rutherford Avenue in Boston, and improving Route 126 and Route 135 in Framingham will address MPO-identified transportation issues for equity populations. Grounding McGrath will help reconnect two transportation equity areas. Reconstructing Rutherford Avenue will improve community access to the Orange Line and bus terminal and will enhance bus operations. Improving Downtown Framingham will enhance MetroWest Regional Transit Authority service for many low-income and minority riders.

For the purposes of analyzing the transportation system in 2040, the MPO assumed that the distributions of equity analyses would remain unchanged, and that the population growth rate for these analyses would be the same as that forecast by MAPC for the overall population of the region. Based on these demographic projections, staff used the regional travel demand model set to forecast the unique distributions of trip flows for the differing transportation networks in the 2040 No-Build and Build alternatives.

Measuring Impacts

To determine whether the benefits and burdens of projects, programs, and services are equitably distributed, the MPO has proposed a policy to measure the following types of disparities, in keeping with federal requirements:

- Disparate impact: a facially neutral policy or practice that disproportionately affects members of a group identified by race, color, or national origin, where the policy or practice lacks a substantial legitimate justification and where there exists one or more alternatives that would serve the same legitimate objectives, but with less disproportionate effects on the basis, of race, color, or national origin.
- Disproportionate burden: a neutral policy or practice that disproportionately affects low-income populations more than non-low income populations. A finding of disproportionate burden requires evaluation of alternatives and mitigation of burdens where practicable.

The MPO's proposed policy sets thresholds to distinguish an acceptable level of impact from a level of impact that has a meaningful effect for the factors analyzed. For LRTP equity analyses that are completed using the regional travel demand model set, the MPO has proposed the following thresholds:

- A disparate burden would exist if minority TAZs were projected to sustain more than 20 percent additional burden than nonminority TAZs. Therefore, a projected burden would be found if the analysis results for minority TAZs were more than 1.2 times the projected burden for nonminority TAZs.
- A disproportionate burden would exist if low-income TAZs were projected to sustain more than 20 percent additional burden than non-low-income TAZs. Therefore, a projected burden would be found if the analysis results for low-income TAZs were more than 1.2 times the projected burden for non-low-income TAZs.

- A disparate benefit would exist if minority TAZs were projected to receive less than 80 percent of the benefit that nonminority TAZs receive. Therefore, a projected benefit would be found if the analysis results for minority TAZs were more than 0.80 times the projected burden for nonminority TAZs.
- A disproportionate benefit would exist if low-income TAZs were projected to receive less than 80 percent of the benefits that non-low-income TAZs receive. Therefore, a projected benefit would be found if the analysis results for low-income TAZs were less than 0.80 times the projected burden for nonminority TAZs.

Staff proposed a 20 percent threshold based on the belief that a 10 percent differential would be meaningful, plus the model's 10 percent margin of error. The full disparate impact/disproportionate burden policy will undergo public review and comment before it is adopted by the MPO.

Equity Analysis Methods

MPO staff used the travel demand model to perform two types of equity analyses (discussed below) each of which calculated differences between the No-Build and Build¹ alternatives for equity analysis zones (minority TAZs and low-income TAZs) and the difference for non-equity analysis zones (nonminority TAZs and non-low-income TAZs). For each analysis, the rate of change from the No-Build to the Build alternatives was compared for minority versus nonminority TAZs to determine whether there was a disparate impact and for low- versus non-low-income TAZs to determine whether there was a disproportionate burden.

For the 2040 Build alternative, only major infrastructure projects (those on the recommended list of projects discussed in Chapter 5 and shown in Figure 7.1) were modeled. Specific projects in the O&M-type investment programs are not identified in the LRTP, as they will be selected through the TIP programming process. Because most bike and pedestrian improvements will be part of the O&M-type investment programs, they were not captured in the LRTP equity analysis. However, the TIP project-selection process seeks to minimize burdens and maximize benefits for protected populations, and many projects in the TIP go through the National Environmental Policy Act (NEPA) process, which includes an EJ evaluation.

ACCESSIBILITY ANALYSIS

For the purposes of this analysis, accessibility was based on both the ability to reach desired destinations and the ease of doing so. This analysis investigated the number of employment opportunities, health care facilities, and higher education facilities that could be reached from equity analysis zones and non-equity analysis zones along with average

¹ The No-Build alternative includes projects that are currently under construction, advertised for construction, or programmed in the first year of the 2015-2018 TIP. The Build alternative includes the projects that are recommended in this LRTP.

transit and highway travel times to these destinations. Analysis of transit travel times included destinations within a 40-minute transit trip, while analysis of highway travel times included destinations within a 20-minute auto trip.

Staff used the following factors to examine differences in accessibility between the 2040 No-Build network and the 2040 Build network:

- Average travel time to industrial, retail, and service jobs within a 40-minute transit trip and a 20-minute auto trip
- Number of industrial, retail, and service jobs within a 40-minute transit trip and a 20-minute auto trip
- Average travel time to hospitals, weighted by number of beds, within a 40-minute transit trip and a 20-minute auto trip
- Number of hospitals, weighted by number of beds, within a 40-minute transit trip and a 20-minute auto trip
- Average travel time to two- and four-year institutions of higher education, weighted by enrollment, within a 40-minute transit trip and a 20-minute auto trip
- Number of two- and four-year institutions of higher education, weighted by enrollment, within a 40-minute transit trip and a 20-minute auto trip

MOBILITY, CONGESTION, AND AIR-QUALITY ANALYSIS

For the purposes of this analysis, mobility is defined as the ability to move from place to place, and congestion is defined as the level at which transportation system performance becomes unacceptable because of traffic congestion. The MPO's mobility and congestion analysis focused on the average door-to-door travel time and average vehicle-miles traveled (VMT) under congested conditions. The air quality-analysis focused on carbon monoxide, a pollutant that results primarily from incomplete combustion of fossil fuels and accumulates in localized areas creating hot spots that negatively affect human health.

Staff used the following mobility, congestion, and air-quality factors in the equity analysis:

- VMT per square mile – number of vehicle-miles traveled (VMT) per square mile of dry land within a TAZ
- Congested VMT – the volume of vehicle-miles traveled within a TAZ on highway links with a volume-to capacity ratio of 0.75 or higher
- Carbon monoxide (CO) per square mile – the number of kilograms of carbon monoxide emitted per square mile of dry land within a TAZ
- Transit production time² – average door-to-door travel time for all transit trips produced in the TAZ

² Productions and attractions are used in transportation modeling to identify types of trip ends and are loosely related to origins and destinations.

- Highway production time – average door-to-door travel time for all highway trips produced in the TAZ
- Transit attraction time – average door-to-door travel time for all transit trips attracted to the TAZ
- Highway attraction time – average door-to-door travel time for all highway trips attracted to the TAZ

TRANSPORTATION EQUITY ANALYSIS RESULTS

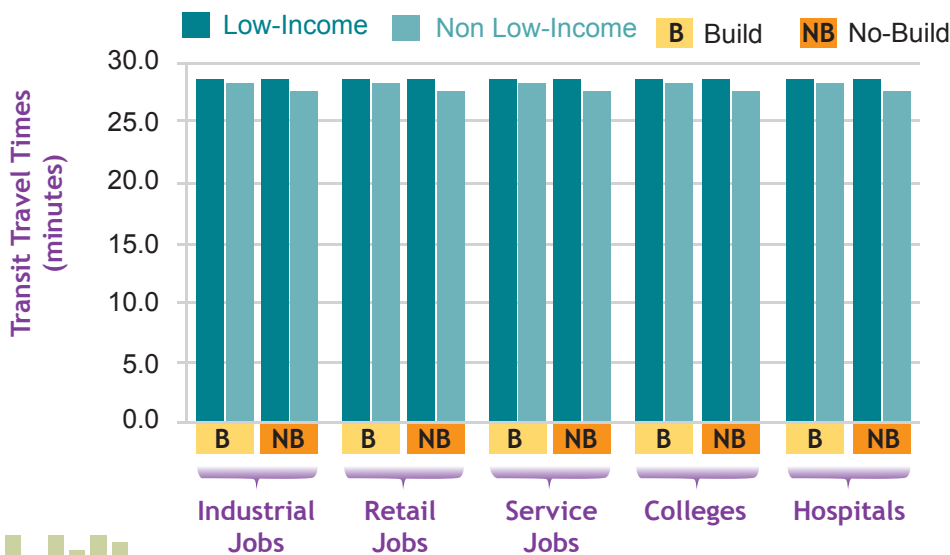
Accessibility Results

The accessibility analysis first compared the change in transit and highway travel times to various types of employment between the 2040 No-Build and Build alternatives for low-income, non-low-income, minority, and nonminority TAZs, respectively.

The second part of the accessibility analysis compared the ratio of the change from the 2040 No-Build to the Build alternative for low-income versus non-low-income TAZs to determine whether there was a disproportionate burden, and for minority versus nonminority TAZs to determine whether there was a disparate impact for each type of employment evaluated. The results of the accessibility analyses are illustrated in the following figures and tables.

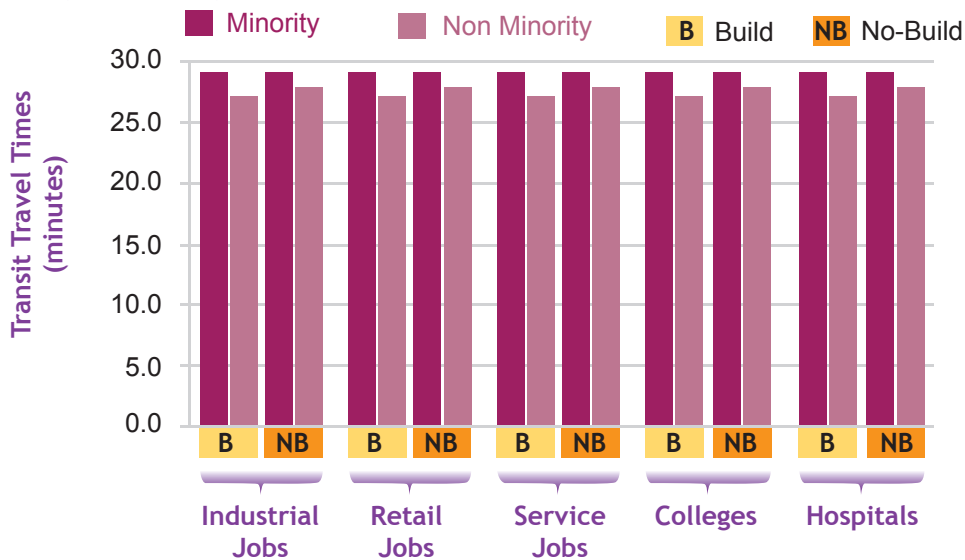
Figures 7.2 and 7.3 show that average transit travel times to employment destinations are lower for non-low-income and non-minority TAZs than for low-income and minority TAZs, respectively; but the changes for each type of equity analysis \varnothing ne between the 2040 No-Build and Build alternatives are not statistically significant.

FIGURE 7.2
Average Transit Travel Times to Destinations for Equity Analysis Zones (Low-Income) in the 2040 No-Build and 2040 Build Networks



Source: Central Transportation Planning Agency.

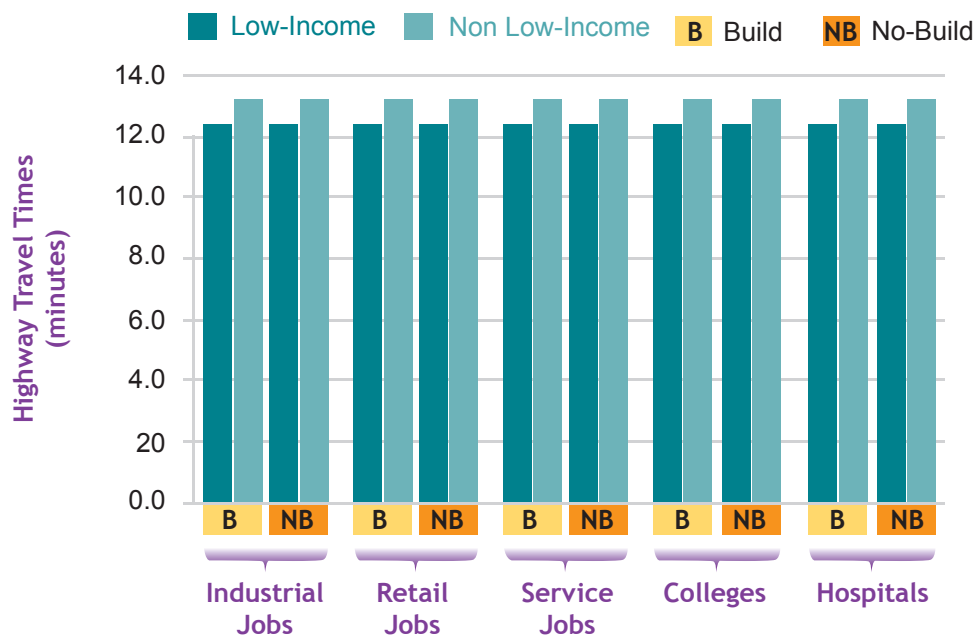
FIGURE 7.3
Average Transit Travel Times to Destinations for Equity Analysis Zones (Minority) in the 2040 No-Build and 2040 Build Networks



Source: Central Transportation Planning Agency.

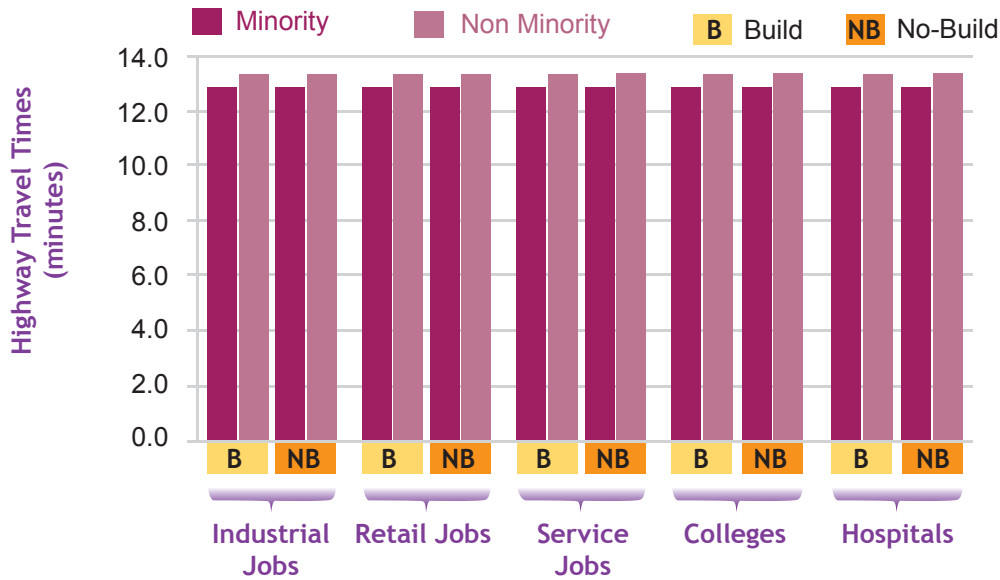
Figures 7.4 and 7.5 show that average highway travel times to employment destinations are slightly lower for low-income and minority TAZs than for non-low-income and non-minority TAZs, respectively, but the changes for each type of equity analysis zone between the 2040 No-Build and Build alternatives are not statistically significant.

FIGURE 7.4
Average Highway Travel Times to Destinations for Equity Analysis Zones (Low-Income) in the 2040 No-Build and 2040 Build Networks



Source: Central Transportation Planning Agency.

FIGURE 7.5
Average Highway Travel Times to Destinations for Equity Analysis Zones (Minority) in the 2040 No-Build and 2040 Build Networks



Source: Central Transportation Planning Agency.

Tables 7.1 and 7.2 show that there are neither disproportionate burdens nor disparate impacts in average transit and highway travel times to employment destinations, as all differences fall within the MPO’s disproportionate burden/disparate impact threshold.

TABLE 7.1
Benefits and Burdens Analysis for Average Transit Travel Times to Employment Destination Types

	Industrial			Retail			Service		
	No-Build	Build	Pct. Travel-Time Increase	No-Build	Build	Pct. Travel-Time Increase	No-Build	Build	Pct. Travel-Time Increase ^a
Population									
Low-Income	28.7	28.7	0.0%	28.7	28.7	0.0%	28.7	28.7	0.0%
Non Low-Income	28.3	28.3	0.0%	28.3	28.3	0.0%	28.3	28.3	0.0%
Ratio	--	--	0.00	--	--	0.00	--	--	0.00
Burden Threshold	--	--	--	--	--	--	--	--	>1.20
Result: No Disproportionate Burden									
Population									
Minority	29.1	29.1	0.0%	29.1	29.1	0.0%	29.1	29.1	0.0%
Non-Minority	28.0	28.0	0.0%	28.0	28.0	0.0%	28.0	28.0	0.0%
Ratio	--	--	0.00	--	--	0.00	--	--	0.00
Burden Threshold	--	--	--	--	--	--	--	--	>1.20
Result: No Disparate Impact									

^aAll changes are within the model’s margin of error.

Source: Central Transportation Planning Agency.

TABLE 7.2
Benefits and Burdens Analysis for Average Highway Travel Times to
Employment Destination Types

	Pct. Travel-Time Increase			Pct. Travel-Time Increase			Pct. Travel-Time Increase ^a		
	No-Build	Build		No-Build	Build		No-Build	Build	
	Industrial			Retail			Service		
Population									
Low-Income	12.4	12.4	0.0%	12.4	12.4	0.0%	12.4	12.4	0.0%
Non Low-Income	13.2	13.2	0.0%	13.2	13.2	0.0%	13.2	13.2	0.0%
Ratio	--	--	0.00	--	--	0.00	--	--	0.00
Burden Threshold	--	--	--	--	--	--	--	--	>1.20
Result: No Disproportionate Burden									
Population									
Minority	12.9	12.9	0.0%	12.9	12.9	0.0%	12.9	12.9	0.0%
Non-Minority	13.3	13.3	0.0%	13.3	13.3	0.0%	13.3	13.3	0.0%
Ratio	--	--	0.00	--	--	0.00	--	--	0.00
Burden Threshold	--	--	--	--	--	--	--	--	>1.20
Result: No Disparate Impact									

^aAll changes are within the model's margin of error
Source: Central Transportation Planning Agency.

Mobility and Congestion Results

The mobility and congestion analyses first compared the change in average door-to-door travel time, congested VMT, and VMT per square mile for all transit and highway trips produced in, or attracted to, equity analysis zones between the 2040 No-Build and Build alternatives for low-income, non-low-income, minority, and nonminority TAZs, respectively.

The second part of the mobility and congestion analysis compared the ratio of the change from the 2040 No-Build to the Build alternatives for low- versus non-low-income TAZs to determine whether there was a disproportionate burden, and for minority versus nonminority TAZs to determine whether there was a disparate impact for each of the factors evaluated. The results of the mobility and congestion analyses are illustrated in the following figures and tables.

Figures 7.6 and 7.7 show that average transit and highway travel times for attractions and productions are shorter for low-income and minority TAZs than for non-low-income and non-minority TAZs, respectively, in both alternatives; but the changes for each type of equity analysis zone between the 2040 No-Build and Build alternatives are not statistically significant.

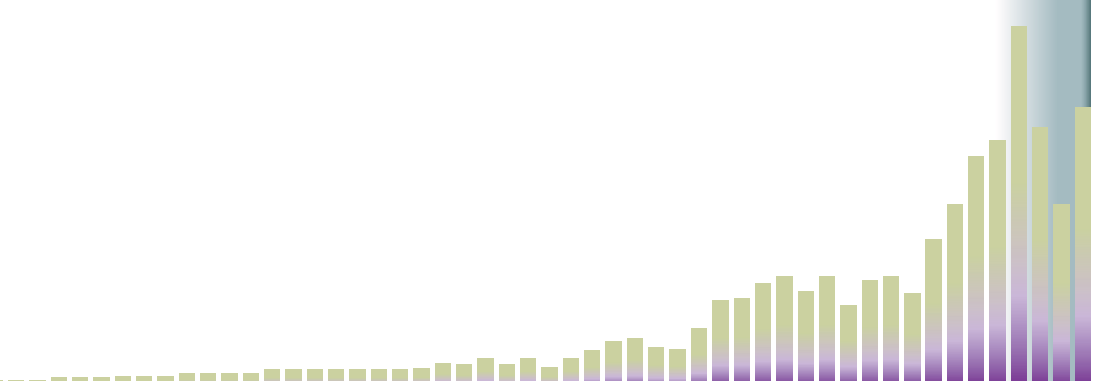
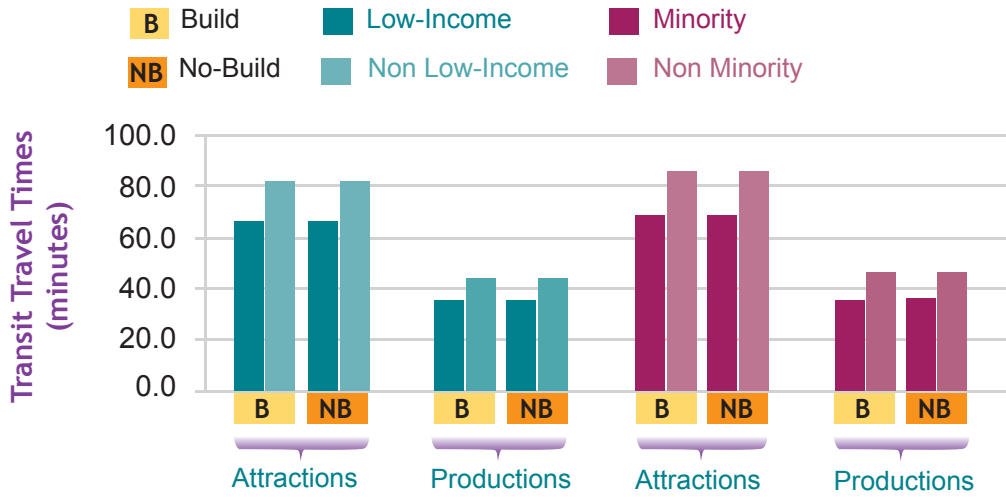
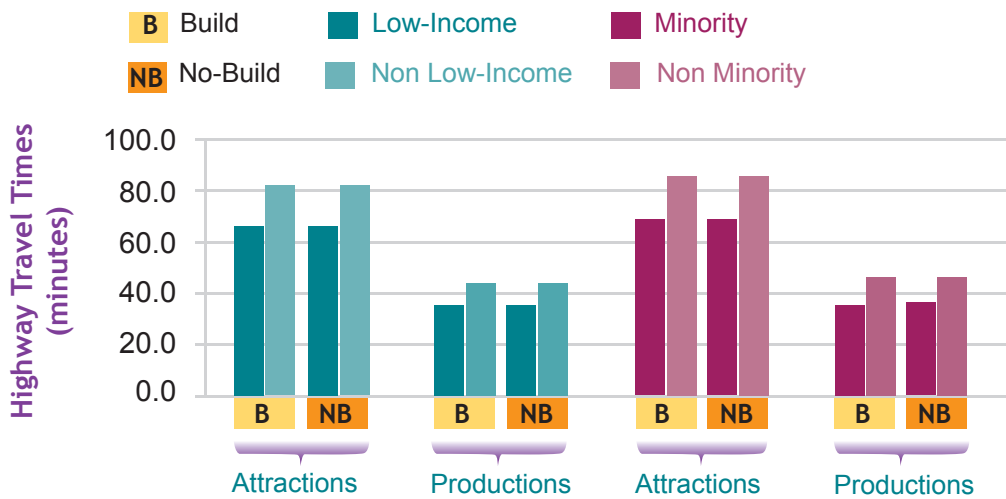


FIGURE 7.6
Average Transit Travel Times for Equity Analysis Zones in the 2040 No-Build and 2040 Build Networks



Source: Central Transportation Planning Agency.

FIGURE 7.7
Average Highway Travel Times for Equity Analysis Zones in the 2040 No-Build and 2040 Build Networks



Source: Central Transportation Planning Agency.

Tables 7.3 and 7.4 show that there are neither disproportionate burdens nor disparate impacts in average transit and highway travel times.

TABLE 7.3
Benefits and Burdens Analysis for Average Transit Travel Time

	No-Build	Build	No-Build	Build	Percentage Travel-Time Increase ^a
	Attractions		Productions		
Population					
Low-Income	63.8	65.0	34.3	35.0	1.8%
Non Low-Income	74.0	75.2	39.8	40.5	1.6%
Ratio					1.14
Burden Threshold					>1.20
Result: No Disproportionate Burden					
Population					
Minority	66.4	67.6	35.8	36.4	1.8%
Non-Minority	76.1	77.3	41.0	41.6	1.6%
Ratio					1.15
Burden Threshold					>1.20
Result: No Disparate Impact					

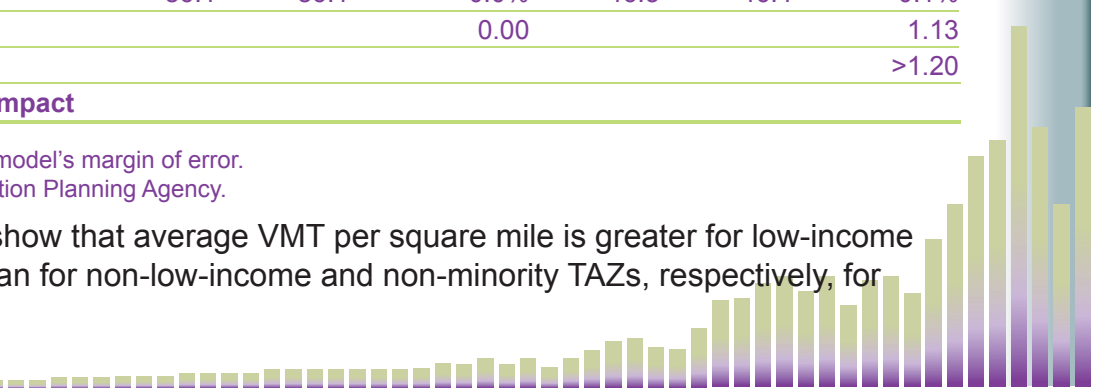
^aAll changes are within the model's margin of error.
Source: Central Transportation Planning Agency.

TABLE 7.4
Benefits and Burdens Analysis for Average Highway Travel Time

	No-Build	Build	Percentage Travel-Time Increase	No-Build	Build	Percentage Travel-Time Increase ^a
	Attractions			Productions		
Population						
Low-Income	66.4	66.5	0.0%	35.7	35.8	0.0%
Non Low-Income	82.2	82.3	0.1%	44.2	44.3	0.1%
Ratio			0.35			0.35
Burden Threshold						>1.20
Result: No Disproportionate Burden						
Population						
Minority	69.5	69.5	0.0%	35.8	36.4	1.8%
Non-Minority	86.1	86.1	0.0%	46.3	46.4	0.1%
Ratio			0.00			1.13
Burden Threshold						>1.20
Result: No Disparate Impact						

^aAll changes are within the model's margin of error.
Source: Central Transportation Planning Agency.

Figures 7.8 and 7.9 show that average VMT per square mile is greater for low-income and minority TAZs than for non-low-income and non-minority TAZs, respectively, for



both alternatives, and that average congested VMT is less for low-income and minority TAZs than for non-low-income and non-minority TAZs, respectively, for both alternatives. However, the changes for each type of equity analysis zone between the 2040 No-Build and Build alternatives are not statistically significant.

FIGURE 7.8
Average VMT for Equity Analysis Zones in the 2040 No-Build and 2040 Build Networks



Source: Central Transportation Planning Agency.

FIGURE 7.9
Average Congested Vehicle Miles Traveled for Equity Analysis Zones in the 2040 No-Build and 2040 Build Networks



Source: Central Transportation Planning Agency.

Tables 7.5 and 7.6 show disproportionate burdens and disparate impacts for average VMT, and a disproportionate burden for congested VMT. However, because the changes between the 2040 No-Build and Build alternatives for each type of equity/non-equity analysis done comparison are within the margin of error of the model, it is unlikely that the ratio of the changes is meaningful.

The MPO will carefully monitor these possible burdens and impacts over time and, if necessary, address them at the program level through the TIP project selection process and equity analyses.

TABLE 7.5
Average Vehicle Miles Traveled

	No-Build	Build	Percentage Increase ^a
Population			
Low-Income	261,156	263,048	0.72%
Non Low-Income	146,043	145,905	-0.09%
Ratio			-7.66
Burden Threshold			>1.20
Result: Disproportionate Burden^b			
Population			
Minority	196,710	197,452	0.38%
Non-Minority	139,224	138,973	-0.18%
Ratio			-2.09
Burden Threshold			>1.20
Result: Disparate Impact^b			

^aAll changes are within the model's margin of error.

^bBecause the changes themselves are within the margin of error of the model, this comparison probably does not show a meaningful difference.

Source: Central Transportation Planning Agency.

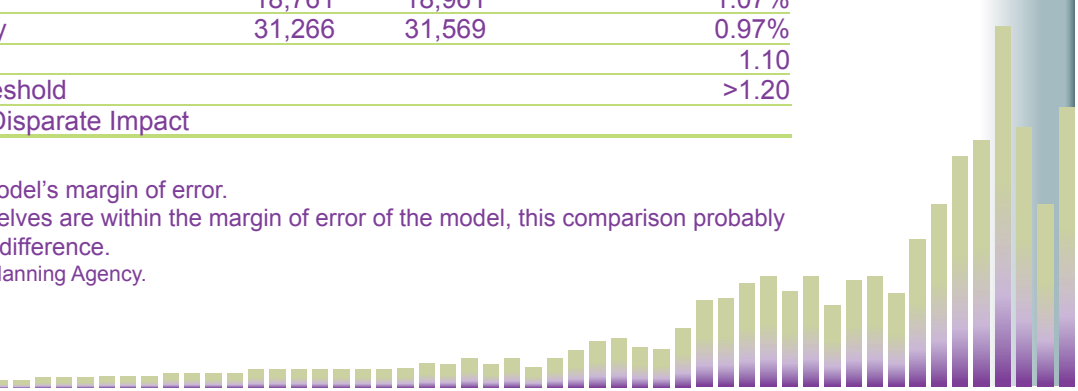
TABLE 7.6
Benefits and Burdens Analysis for Congested Vehicle Miles Travelled

	No-Build	Build	Percentage Increase ^a
Population			
Low-Income	12,493	12,832	2.72%
Non Low-Income	28,843	29,103	0.90%
Ratio			3.01
Burden Threshold			>1.20
Result: Disproportionate Burden^b			
Population			
Minority	18,761	18,961	1.07%
Non-Minority	31,266	31,569	0.97%
Ratio			1.10
Burden Threshold			>1.20
Result: No Disparate Impact			

^aAll changes are within the model's margin of error.

^bBecause the changes themselves are within the margin of error of the model, this comparison probably does not show a meaningful difference.

Source: Central Transportation Planning Agency.



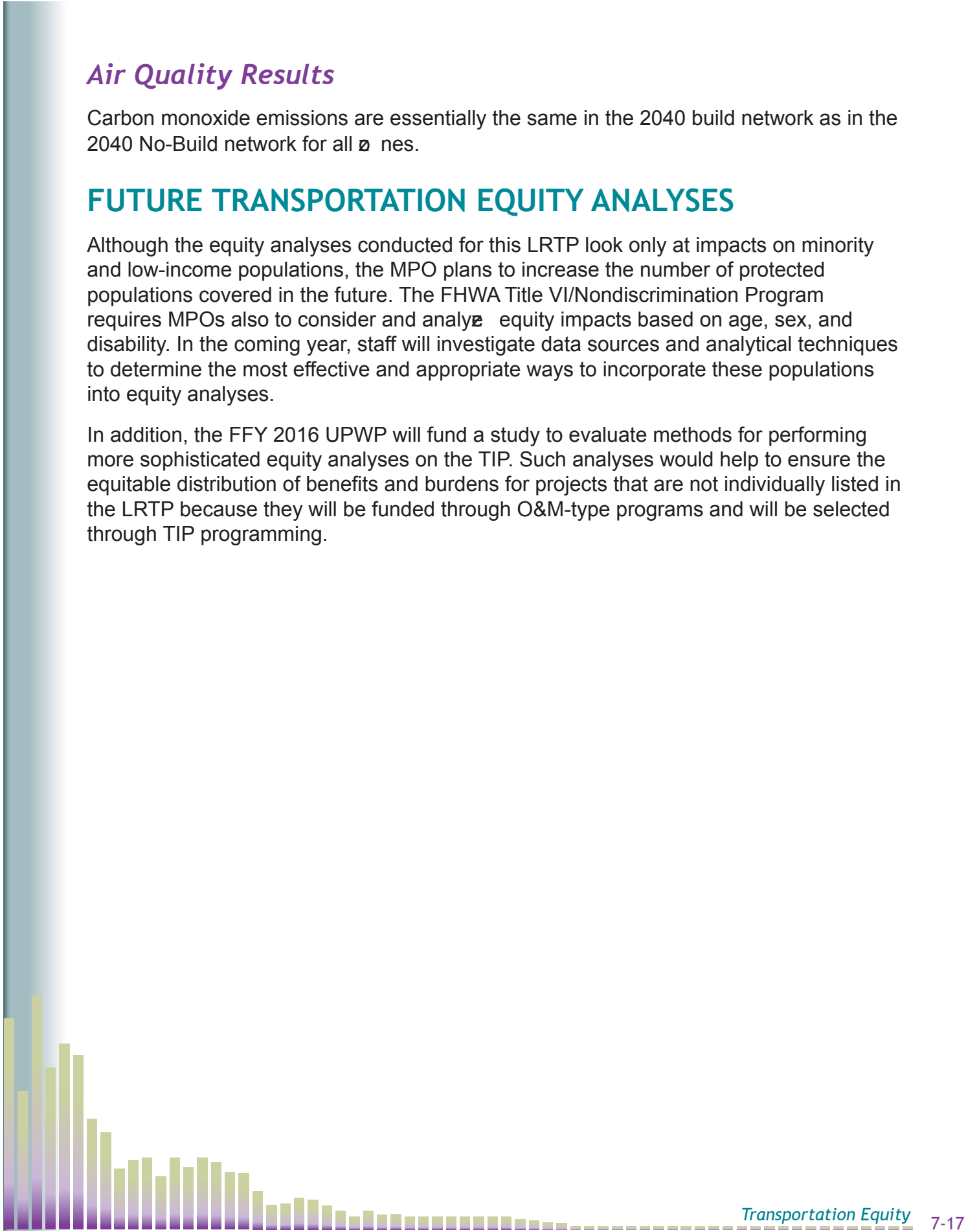
Air Quality Results

Carbon monoxide emissions are essentially the same in the 2040 build network as in the 2040 No-Build network for all zones.

FUTURE TRANSPORTATION EQUITY ANALYSES

Although the equity analyses conducted for this LRTP look only at impacts on minority and low-income populations, the MPO plans to increase the number of protected populations covered in the future. The FHWA Title VI/Nondiscrimination Program requires MPOs also to consider and analyze equity impacts based on age, sex, and disability. In the coming year, staff will investigate data sources and analytical techniques to determine the most effective and appropriate ways to incorporate these populations into equity analyses.

In addition, the FFY 2016 UPWP will fund a study to evaluate methods for performing more sophisticated equity analyses on the TIP. Such analyses would help to ensure the equitable distribution of benefits and burdens for projects that are not individually listed in the LRTP because they will be funded through O&M-type programs and will be selected through TIP programming.





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APPENDIX G

BOSTON REGION MPO PUBLIC PARTICIPATION PLAN



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BOSTON REGION METROPOLITAN PLANNING ORGANIZATION



October 2014
Amended March 30, 2017



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October 2014
Amended March 30, 2017

Public Participation Plan

For the Boston Region Metropolitan Planning Organization

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Central Transportation Planning Staff
Directed by the Boston Region Metropolitan Planning Organization. The MPO is composed of state and regional agencies and authorities, and local governments.

October 2014

Notice of Nondiscrimination Rights and Protections to Beneficiaries

Federal "Title VI/Nondiscrimination" Protections

The Boston Region Metropolitan Planning Organization (MPO) operates its programs, services, and activities in compliance with federal nondiscrimination laws including Title VI of the Civil Rights Act of 1964 (Title VI), the Civil Rights Restoration Act of 1987, and related statutes and regulations. Title VI prohibits discrimination in federally assisted programs and requires that no person in the United States of America shall, on the grounds of race, color, or national origin (including limited English proficiency), be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity receiving federal assistance. Related federal nondiscrimination laws administered by the Federal Highway Administration, the Federal Transit Administration, or both prohibit discrimination on the basis of age, sex, and disability. These protected categories are contemplated within the Boston Region MPO's Title VI Programs consistent with federal interpretation and administration. Additionally, the Boston Region MPO provides meaningful access to its programs, services, and activities to individuals with limited English proficiency, in compliance with US Department of Transportation policy and guidance on federal Executive Order 13166.

State Nondiscrimination Protections

The Boston Region MPO also complies with the Massachusetts Public Accommodation Law, M.G.L. c 272 §§ 92a, 98, 98a, prohibiting making any distinction, discrimination, or restriction in admission to or treatment in a place of public accommodation based on race, color, religious creed, national origin, sex, sexual orientation, disability, or ancestry. Likewise, the Boston Region MPO complies with the Governor's Executive Order 526, section 4 requiring all programs, activities, and services provided, performed, licensed, chartered, funded, regulated, or contracted for by the state shall be conducted without unlawful discrimination based on race, color, age, gender, ethnicity, sexual orientation, gender identity or expression, religion, creed, ancestry, national origin, disability, veteran's status (including Vietnam-era veterans), or background.

Additional Information

To request additional information regarding Title VI and related federal and state nondiscrimination obligations, please contact:

Title VI Specialist -
Boston Region MPO
10 Park Plaza, Suite 2150
Boston, MA 02116
617-973-7100
TTY: 617-973-7089
publicinformation@ctps.org

Complaint Filing

To file a complaint alleging a violation of Title VI or related federal nondiscrimination law, contact the Title VI . Specialist (above) within 180 days of the alleged discriminatory conduct.

To file a complaint alleging a violation of the state's Public Accommodation Law, contact the Massachusetts Commission Against Discrimination within 300 days of the alleged discriminatory conduct at:

Massachusetts Commission Against Discrimination (MCAD)
One Ashburton Place, 6th Floor
Boston, MA 02109
617-994-6000
TTY: 617-994-6196

Translation

If this information is needed in another language, please contact the Boston Region MPO's Title VI Specialist at 617-973-7100.

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Summary

This public participation plan documents the Boston Region Metropolitan Planning Organization's (MPO) Public Participation Program, which comprises the various outreach activities that the MPO engages in to ensure that all members of the public—including populations that are described as traditionally underserved by the transportation system and/or have lacked access to the decision-making process—are given the opportunity to participate in the metropolitan transportation planning process that shapes the Boston region.

This plan provides information about the outreach activities in which the MPO engages, and the ways in which various federal civil rights mandates are incorporated into outreach activities to ensure inclusive participation. The plan includes in-depth descriptions of the various ways the public may be involved, the transportation planning and programming processes, and MPO meetings and activities. Also covered is the annual public engagement schedule for the MPO's three certification documents: Long-Range Transportation Plan, Transportation Improvement Program, and Unified Planning Work Program.

This plan is an update to the MPO's previous public participation plan, *Be Informed, Be Involved*. It was developed using information obtained through a public survey and research on other MPO public outreach activities, and it reflects recent changes in information and communication technologies. It was endorsed by the MPO on October 16, 2014 after a 45-day public review process.

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Chapter 1—Introduction

The purpose of this Public Participation Plan (the Plan) is to describe the Boston Region Metropolitan Planning Organization's (MPO) Public Participation Program (the Program), which comprises the various outreach activities that the MPO engages in to ensure that all members of the public—including populations that have been underserved by the transportation system and/or have lacked access to the decision-making process—are given the opportunity to participate in the metropolitan transportation planning process that shapes the Boston region. The Plan guides the MPO's efforts to offer early, continuous, and meaningful opportunities for the public to help identify social, economic, and environmental impacts of proposed transportation policies, projects, and initiatives.

The Plan incorporates federal and state requirements (listed in Appendix A) for encouraging and ensuring community participation and is modeled on the Massachusetts Department of Transportation's (MassDOT) Public Participation Plan.



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Chapter 2—The Boston Region MPO's, Vision, Function, and Structure

In accordance with federal laws and regulations, Metropolitan Planning Organizations are established in urbanized areas across the nation to implement the federally required continuing, comprehensive, and cooperative (3C) transportation planning process. To be *continuing*, MPO work is conducted on an ongoing basis; to be *comprehensive*, the work covers all transportation modes, populations, and areas of the region, and addresses their individual needs; and to be *cooperative*, the work is performed in close communication and consultation with all of the region's municipalities and a broad base of agencies, organizations, and interest groups.

The MPO decides what transportation projects will receive federal money and conducts planning to support those decisions.

2.1 PURPOSE OF THE MPO

The purpose of the MPO is to decide how to allocate federal funds for transit, roadway, bicycle, and pedestrian projects in the region it represents. The MPO also is responsible for setting the region's transportation vision, goals and objectives, and for completing the long- and short-range planning needed to program federal transportation funds.

Nationwide, there are more than 380 MPOs that conduct transportation planning in urbanized areas of more than 50,000 people. Each MPO has five core functions:

- Establish and manage a fair and impartial setting for effective regional decision making in the metropolitan area
- Identify and evaluate alternative transportation-improvement options and other information needed for MPO decision making through planning studies that are described in the MPO's Unified Planning Work Program (UPWP)
- Prepare and maintain a Long-Range Transportation Plan (LRTP) for the metropolitan area, with (at least) a 20-year horizon, that fosters: mobility

and access for people and goods; efficient system performance and preservation; and a good quality of life, among other goals

- Develop a Transportation Improvement Program (TIP), the short-range (four-year) program of capital improvements needed to implement the LRTP and make other investments to achieve the area's goals

The MPO plans for all surface transportation modes in the region and seeks to engage people, communities, and organizations in its planning process.

- Involve the general public by offering all interested persons, including affected constituencies, opportunities to participate in all the decision-making functions of the MPO, including those listed above

The end products of the MPO's work are represented in studies, reports, technical memoranda, data on transportation issues in the region, and the three federally required certification documents discussed above: the LRTP, TIP, and UPWP. Because each MPO

in the country must produce these three major documents in order to be certified by the federal government as eligible to program federal transportation funds, they are called "certification" documents.

Figure 1 illustrates the relationship between the purpose of the MPO and the five functions listed above.

These functions and other responsibilities of MPOs are described in federal laws and associated regulations. Transportation planning requirements and specifically the 3C process described earlier, date to the Federal-aid Highway Act of 1962, and are regularly revised. The most recent federal transportation legislation is Moving Ahead for Progress in the 21st Century (MAP-21).

2.2 THE BOSTON REGION MPO

Although all MPOs operate under the same federal guidance, there is great variability among MPOs, based on the geographic and political characteristics of the state and region in which they are located. Each is free to establish its own membership structure and define many other aspects of how it accomplishes its work. The following sections discuss the framework of Boston Region MPO specifically.

Figure 1
Purpose and Functions of the MPO



2.2a The Boston Region MPO's Central Vision

The MPO's central vision, as stated in the MPO's Long-Range Transportation plan, *Paths to a Sustainable Region*, both anticipates the future and responds to current needs. This vision has evolved over many years' engagement in metropolitan transportation planning—a process that includes technical analyses and other studies of transportation needs, as well as soliciting and incorporating the public's views. Its central vision guides the MPO in all of its work, and paints a picture of the desired, future-state for the region and its transportation network:

The Boston region will continue to be a major economic, educational, and cultural hub of New England. It will maintain its high quality of life based on its lively commercial and business enterprises, the strength of its institutions, and its healthy and pleasant environment, all supported by its well-maintained transportation system. Notably, looking ahead, an ongoing transformation will be taking place in the region's communities. Increasingly, they will be places in which people can have access to safe, healthy, efficient, and varied transportation options and find jobs and services within easy reach of affordable housing. The transportation options will include the transit, bicycle, and pedestrian modes, among others, and will reduce environmental impacts, improving air and environmental quality. The role of the region's transportation system in making the envisioned future possible will be a result of attentive maintenance, cost-effective management, and strategic investments in the system by the Boston Region MPO.

2.2b Work of the Boston Region MPO

As discussed above, the Boston Region MPO is responsible for carrying out the federally required 3C planning process and accomplishing core MPO functions, including development of the three certification documents—the LRTP, TIP, and UPWP.

Figure 2 on the following page depicts how these three documents are interrelated and how they connect with other processes and documents developed by the MPO (shown in blue) and to those of state and regional agencies (shown in green), such as the Massachusetts Bay Transportation Authority (MBTA). Other MPO documents and processes include the Congestion Management Process (CMP) and studies that are programmed in the Unified Planning Work Program (UPWP). Other state and regional planning initiatives include the MBTA's Program for Mass Transportation (PMT) and Capital Investment Program (CIP); MassDOT's CIP, State Transportation Improvement Program (STIP), and other planning initiatives; and transportation studies conducted by others.

Figure 2
Relationship of MPO Certification Documents to other Transportation Planning Documents

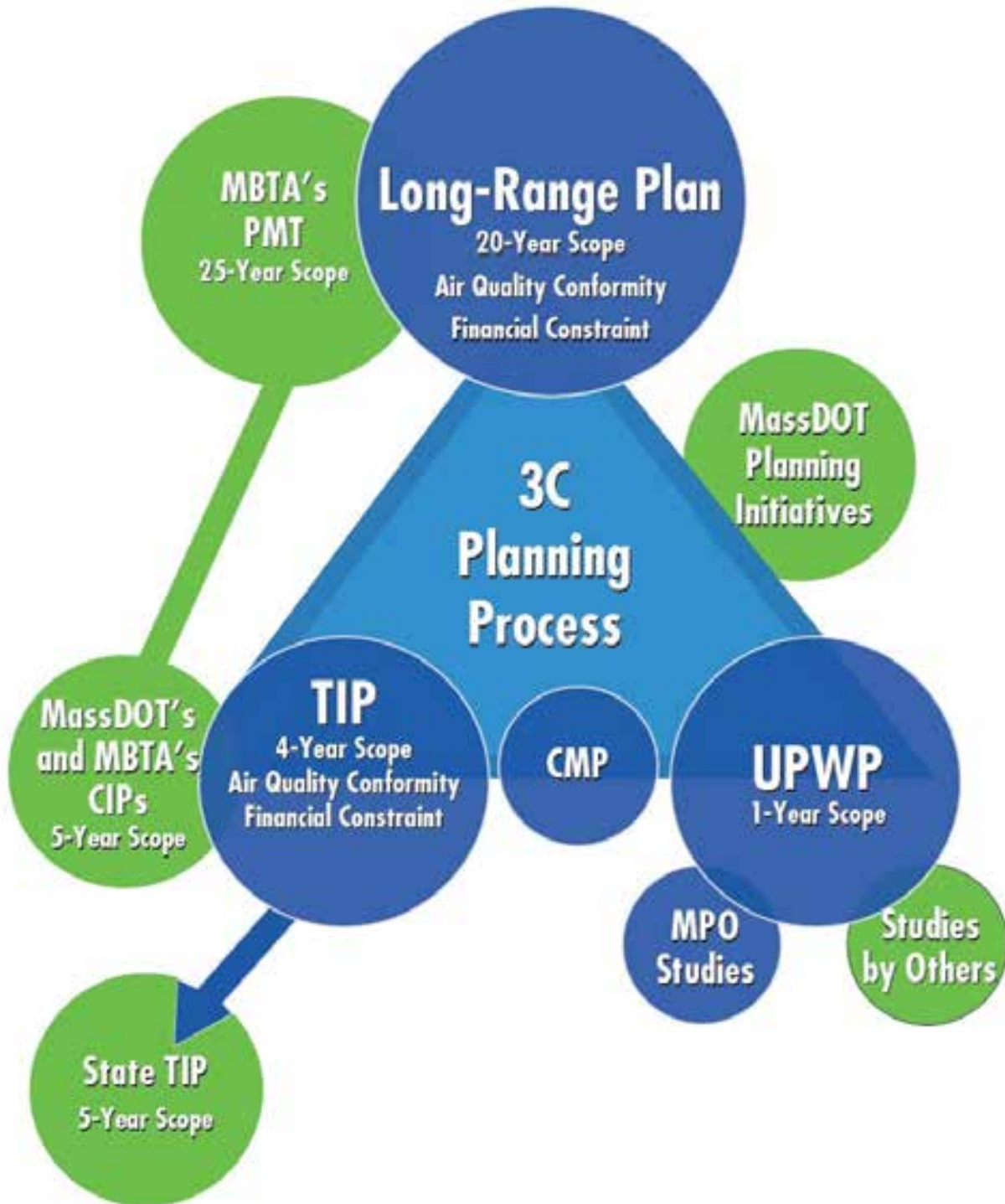


Figure 3
Massachusetts Metropolitan Planning Organization Regions



In addition to the work described above, the Boston Region MPO coordinates transportation planning with the four other MPOs in the Boston Urbanized Area: the Merrimack Valley, Northern Middlesex, Old Colony, and Southeastern Massachusetts metropolitan planning organizations. This work is accomplished through periodic meetings of the MPOs in the Urbanized Area. Figure 3 on the previous page shows the areas served by Massachusetts' 13 MPOs. In addition, all MPOs in Massachusetts meet with MassDOT and the federal transportation agencies approximately monthly to coordinate on statewide and MPO transportation planning activities.

2.2c Composition of the Boston Region MPO

A board of 22 state, regional, and municipal members who work cooperatively to make decisions about regional planning and funding priorities comprises the Boston Region MPO. The MPO region encompasses 101 municipalities and approximately 1,405 square miles, stretching from Boston to Ipswich in the north, Duxbury in the south, and to approximately Interstate 495 in the west. It is home to more than three million people and approximately two million jobs. The diverse communities in the MPO area range from relatively rural communities, such as Dover, to the urban centers of Boston and Cambridge. Transportation planning must take into account demographic, cultural, environmental, and mobility diversity.

A Memorandum of Understanding (MOU, last updated July 7, 2011, see Appendix B) establishes the MPO's membership, composition, structure, committees, processes for developing its certification documents, voting rules, and more.

Current Membership

Currently, the MPO's membership includes the following voting members:

- Massachusetts Department of Transportation (MassDOT, three votes)
- Massachusetts Bay Transportation Authority (MBTA)
- MBTA Advisory Board
- Massachusetts Port Authority (Massport)
- Metropolitan Area Planning Council (MAPC)
- Regional Transportation Advisory Council
- The City of Boston (two votes)
- Twelve other municipalities from the region, which are elected for three-year terms
 - Four at-large municipalities (two cities and two towns)
 - Eight municipalities (no city or town designation), each from one of the eight MAPC subregions

- The agency representatives serve as ex officio members, and the municipal members are elected; each year, a portion of the 12 elected members are chosen by the chief elected officials of all municipalities in the region; the MAPC and the MBTA Advisory Board jointly administer the election

Figure 4 shows the municipalities that belong to each of the eight MAPC subregional groups, and highlights the municipalities that currently hold seats on the MPO.

The MPO board also includes two nonvoting members:

- Federal Highway Administration (FHWA)
- Federal Transit Administration (FTA)

The MPO is chaired by the state Secretary of Transportation (or his designee); the vice-chair is currently the Executive Director of MAPC (or his designee).

Figure 5 shows the proportion of MPO seats held by different types of entities, such as transportation agencies and municipalities.

MPO Staff: the Central Transportation Planning Staff

Created in 1974, the Central Transportation Planning Staff (CTPS) serves as a comprehensive, multimodal transportation planning staff to the MPO. As such, it is responsible for carrying out the work of the 3C transportation planning process under the direction of the MPO. This includes authoring planning studies and other analyses that are identified in the UPWP, producing the certification documents, and developing and maintaining technical tools, such as a travel demand model set, that help the MPO conduct its work.

MPO Committees

Currently, the MPO has three standing committees that it relies on to fulfill specific functions. The MPO Chair appoints representatives to the committees from among MPO members. Each of the committees reviews issues within its area of responsibility and makes recommendations to the MPO for necessary actions.

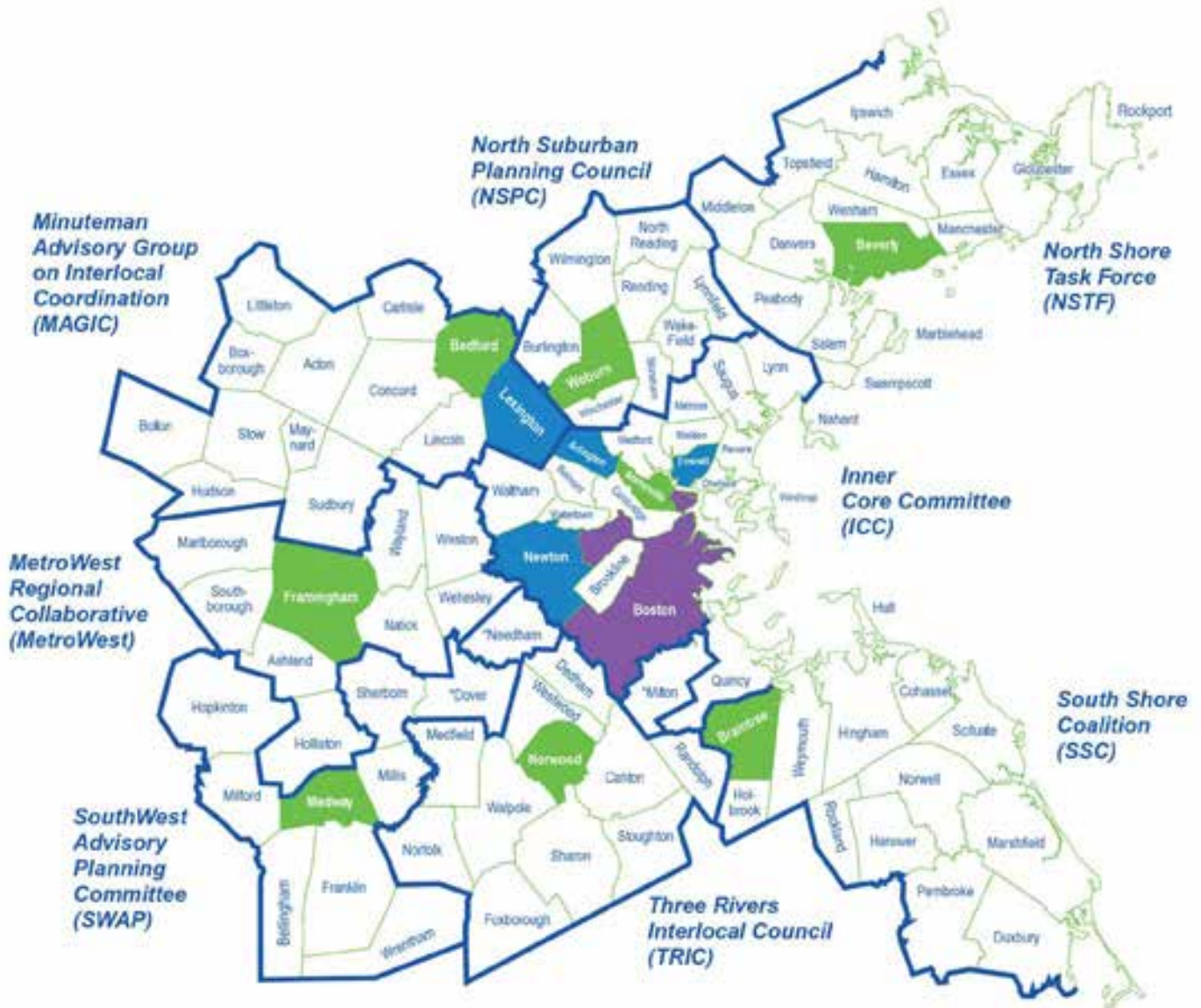
- Administration and Finance Committee (A&F)—Reviews the MPO's operating budget, staffing, and spending
- Congestion Management Process (CMP) Committee—Discusses congestion in the region and makes recommendations of certain

improvements to traffic flow that would reduce congestion and improve mobility and air quality

- UPWP Committee—Works with staff on recommendations for developing the UPWP, which includes selecting studies to be funded. The committee also reviews the MPO's quarterly financial reports, as well as progress reports of the various planning studies underway



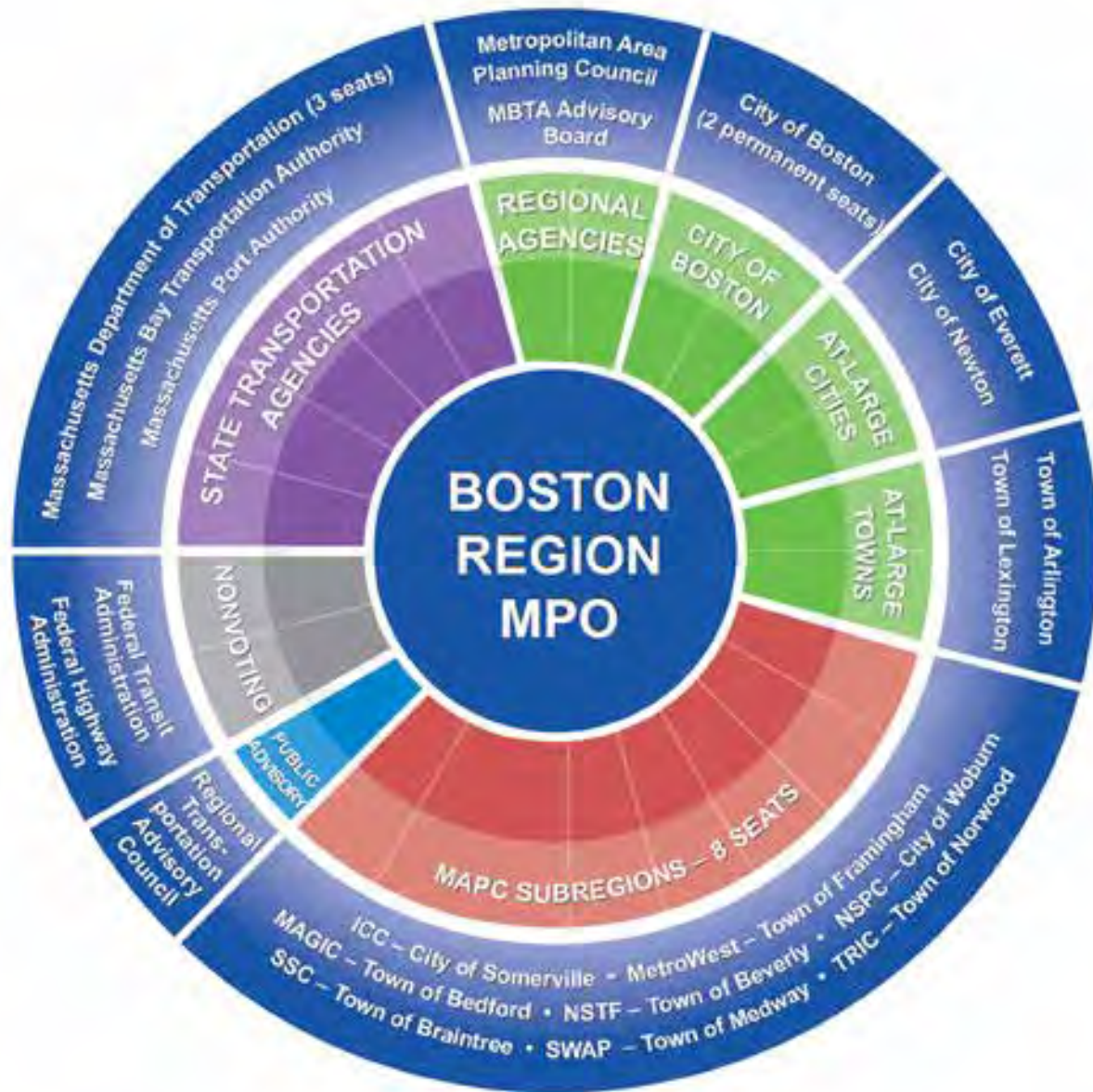
Figure 4
Boston Region MPO Area, MPO Municipal Members, and MAPC Subregions



*Community is in more than one subregion: Dover is in TRIC and SWAP; Milton and Needham are in Inner Core and TRIC.

- MAPC subregion boundary
- MPO representative from subregion
- MPO city or town at-large representative
- Boston has two permanent MPO representatives

Figure 5
Boston Region MPO Members



2014 Membership

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Chapter 3—The MPO’s Approach to Public Participation

The Boston Region MPO firmly believes that meaningful public participation should be integral to the organization’s transportation planning work. Public participation improves decision making by helping to illuminate many of the social, economic, and environmental benefits and drawbacks of transportation decisions.

As indicated in the introduction to this document, the MPO’s Program comprises activities the MPO undertakes and materials it produces to facilitate consultation on its planning and programming with all interested parties and members of the public. The Plan is the document (with text and graphics) that explains the Program and provides information about how to become involved in the MPO’s transportation decision-making process through Program activities.

3.1 FEDERAL REQUIREMENTS FOR PUBLIC PARTICIPATION

As discussed above, public participation is one of the five core functions of an MPO. Federal metropolitan transportation planning rules require MPO public participation plans to:

- Define details about how the MPO provides opportunities to be involved in its planning process, including methods used and the goals set
- Establish strategies for outreach to all interested parties, including the general public and particular groups (such as “representatives of the disabled”)
- Undergo periodic reviews and updates, along with involvement of the public, who are provided (at least) a 45-day review and comment period before the updated plan is adopted by the MPO

Other federal legislation, such as the Americans with Disabilities Act (ADA), and Title VI of the Civil Rights Act of 1964, also have public participation requirements that MPOs must implement to ensure access to the planning process for protected populations (please see Appendix A for a list of federal legislation). To meet these requirements, the MPO takes steps to include people with disabilities, minority and low-income populations, and those with limited English proficiency (LEP), as discussed throughout this Plan.

3.2 UPDATING THE PUBLIC PARTICIPATION PLAN

As indicated above, MPOs develop and update their public participation programs and plans in consultation with members of the public and other interested parties. Staff performs updates as needed, to reflect changes in federal guidance, requirements and regional needs, and improvements in the state of the practice.

The MPO will continue to seek feedback on its public participation program to help it improve and evolve.

The Boston Region MPO approved its previous public participation plan, *Be Informed, Be Involved* in 2007 and revised it in 2010 and 2012. This document (which is an updated version of *Be Informed, Be Involved*) reflects changing public participation requirements and practices. Prior to beginning this update, staff sought input from the public through meetings and a survey to gain insight into ways the public

likes to be ‘informed and involved.’ Staff also researched other MPOs to study the innovative and effective practices they currently use. Please see Appendix C for a full discussion of the survey and research on other MPO practices.

Using the results of the outreach and research discussed above, as well as general awareness of changing communication techniques and technologies, in-house problem solving, and federal guidance, staff identified areas where updates to the MPO’s Program would be beneficial and recommended a number of specific actions and practices that have been adopted through this updated Plan.

To ensure that the Program continues to evolve and reflect the most current and effective methods, MPO staff will adopt a regular, frequent and more rigorous process for gathering data and evaluating the MPO’s outreach practices, both quantitatively and qualitatively. Quantitative techniques include tracking the level of attendance at events, number of comments received, and use of the website. Qualitative measures include soliciting feedback from members of the public through surveys (both online and at meetings) about their satisfaction with process and outcome, and sense of fair treatment.

3.3 MPO PUBLIC PARTICIPATION VISION AND GUIDELINES

The MPO’s vision for public participation in the region is to hear, value, and consider—throughout its planning and programming work—the views of and feedback from the full spectrum of the public, and use this input in its decision making.

In order to accomplish its vision, the MPO has established a number of public participation guidelines, which have been updated to reflect the insights gained through its recent research. The MPO makes every effort to:

- Provide a predictable, easy-to-understand process
- Offer information that is clear, concise, current, and easily available
- Make great use of visualization techniques to enhance understanding
- Cast a wide and inclusive net to invite participation of interested parties and the general public: bolster outreach to minority, low-income, elderly, and youth communities, the LEP population, and persons with disabilities
- Respond to participants' interests, views, and need for information
- Arrange convenient, timely, and meaningful opportunities for involvement
- Respect the views offered by members of the public; utilize these opinions, and other information offered, in programming and planning
- Promote respect among all participants
- Create a framework that encourages constructive contributions by members of the public to the work and decisions made by the MPO
- Allow flexibility in the Program
- Remain open to adopting new avenues of communication
- Explore strategies for connecting with people who do not use or don't have ready access to computers
- Maximize effectiveness by coordinating with partner agencies and their outreach activities
- Embrace, as feasible, new technologies with which to engage the public in an interactive way

3.4 OPPORTUNITIES FOR PUBLIC PARTICIPATION

The MPO's website, www.bostonmpo.org, is a rich source of transportation information.

The MPO's activities and programs—presentations, discussions; various venues for meetings and forums; information on the MPO website; flyers; emails, other notification media, etc.—are designed to meet the preferences and needs of the public.

3.4a How to Be Informed

Primary among the MPO's outreach strategies is its website, which provides comprehensive information about all of the MPO's work and planning activities, including:

- Studies, statistical reports, technical memoranda, and other documents related to metropolitan transportation planning process
- Information about structure and composition of the MPO
- MPO meeting agendas and minutes
- Contact information for project managers of the MPO's major programs
- News Flashes that highlight MPO activities, programs, and results of MPO studies and reports—to capitalize on News Flashes' prominent location on the website (the home page) the MPO recently has increased their frequency and scope of topics covered
- *TRANSREPORT*, the MPO's bi-monthly, web-based newsletter, which covers timely MPO activities and transportation issues around the region—this is distributed via email to approximately 2,500 recipients, including public libraries, which can print it to make available to all visitors
- A comment section on the website, where people can express their views to the MPO and receive a response from staff
- Online surveys to collect public input periodically on important issues—going forward, staff will regularly evaluate potential for additional surveys

To improve access to, and the appeal of, information on the website, staff will explore the possibility of using an RSS¹ feed to notify interested parties of updated content on the MPO website. To the same end, staff also will use more graphics, such as text boxes in narratives for public information and flow charts, and other visualization techniques, in addition to and to augment written information. MPO staff has developed an internal *CTPS Nondiscrimination Handbook* that details the practices that staff follows to make the MPO website, and all documents posted on it, accessible.

To ensure web access for people with low or no vision, who use screen readers, all documents are posted in both PDF and HTML. In addition, the MPO makes every effort to make data presented in tables fully navigable by a screen reader and provides alternative text to describe those tables, figures, and images that cannot be read by a screen reader.

To make information more accessible for people with limited English proficiency, the website features a translation function for languages other than English, including Chinese (simplified and traditional), French, Italian, Portuguese, Russian, and Spanish. In addition, vital documents are professionally translated into the three most frequently spoken languages other than English in the MPO region (Spanish, Chinese, and Portuguese), and these translated versions are posted on the website. Staff will reevaluate annually whether additional MPO documents should be identified as “vital documents,” to be translated into the languages of policy. Documents currently defined as vital include:

- MPO Notice to Title VI Beneficiaries
- MPO compliant procedures and form
- Summaries of key materials: a description of the MPO transportation-planning process and the certification documents, LRTP, TIP, and UPWP
- Meeting notices: generally prepared for out-of-Boston MPO meetings, and all MPO-sponsored meetings, workshops, forums, and other similar input-sessions

All documents on the MPO website are available in PDF and HTML for those with low or no vision. Materials also may be translated into other languages.

Audio recordings of MPO meetings are posted on the website so that those who cannot attend meetings can listen to the discussions at any time. These

¹ RSS (Rich Site Summary) is a format for delivering regularly changing web content.

recordings also provide easy access to meeting content for individuals with low or no vision or with low literacy.

The MPO utilizes various other tools to keep the public informed, including an extensive email list with almost 3,000 contacts, MPOinfo, through which it sends information to interested individuals and entities. The MPO also has email lists for Transportation Equity, Access Advisory Committee to the MBTA (AACT), the Advisory Council, and interested parties. In general, notices sent via the email lists focus on major MPO milestones, such as certification document amendments or announcements of public comment periods. The MPO staff also has begun sending News Flashes to email list recipients and distributing more press releases, and will explore the use of Twitter as another way to share information. The MPO also intends to explore local access cable television as another medium of communication.

For those who are not connected to email or the internet, staff works with public libraries, requesting that they post and/or distribute MPO information.

3.4b How to Be Involved

Everyone is welcome to attend MPO and MPO committee meetings. They are held in Boston and in other municipalities around the region.

The MPO hosts a number of meeting and event types at which the public can learn about current MPO activities. Among these are the meetings of the MPO itself, meetings of MPO committees, and various public participation opportunities. One purpose of these meetings is to present and discuss information, solicit feedback, or gather input from the public on specific topics or plans, in order to inform transportation planning and programming

decisions for the region. The other primary purpose is to provide an open and constructive context in which those decisions are made by MPO members.

MPO and MPO Committee Meetings

The MPO typically meets on the first and third Thursday of each month at 10:00 AM. Most meetings are at the State Transportation Building, 10 Park Plaza, in Boston; however, once a quarter, the MPO convenes its meeting off site in one of the MPO municipalities.

MPO meetings follow the general process below, which includes opportunities for public comment:

- The Chair (the Secretary of Transportation or his designee) leads the meetings, recognizing speakers, and managing the flow of discussion
- Agendas include a public-comment time, in which any member of the public will be recognized to speak and present information
- At the discretion of the chair, members of the public also may be recognized to speak during discussions of other agenda items

The three MPO standing committees, UPWP, CMP, and A&F meet as needed. As with MPO meetings, these committee meetings usually are at the State Transportation Building, either before or after an MPO meeting. However, when necessary, committee meetings may be held off site in conjunction with an MPO meeting. Committee meetings are also open to the public.

To extend the public's ability to provide input to the MPO, staff will research, and if feasible and useful, create a mechanism for submitting public comments on MPO agenda items in advance of meetings

MPO staff takes comments and respond to questions from individuals who contact them via telephone or email. Individuals with low or no vision or with low literacy will be informed on the website and at meetings that they may submit comments via a recording or staff transcription of their spoken remarks, either before, during or after MPO or MPO-sponsored meetings.

Regional Transportation Advisory Council

The Regional Transportation Advisory Council (Advisory Council) is an independent transportation public advisory committee that is an active and voting member of the MPO. The primary function of the Advisory Council is to advise the MPO on transportation policy and planning. Advisory Council meetings provide an ongoing avenue for public participation that invites informed involvement. The Advisory Council's members are municipalities, professional organizations, transportation advocacy groups, and state and regional agencies. The chair of the Advisory Council is elected by its members.

The Advisory Council provides advice to the MPO on a broad range of issues and may discuss topics that do not always exactly track those of the MPO meetings. Advisory Council meetings are designed to foster broad-based and robust discussions on transportation issues and topics related to planning and

The Regional Transportation Advisory Council is an independent body that brings public viewpoints and advice to the MPO.

programming. Meetings are held each month, generally on the second Wednesday, at 3:00 PM in the State Transportation Building, 10 Park Plaza, Boston.

Advisory Council meetings adhere to the same general process as MPO meetings. Although the agendas do not routinely include a specific item for public comment, at the discretion of the Chair, members of

the public who are not Advisory Council members are allowed to speak and ask questions.

To improve the public participation opportunities offered by the Advisory Council, MPO staff will work with the Advisory Council to hold jointly-sponsored programs and forums on timely transportation topics; solicit the Advisory Council's views and ideas on specific, MPO-defined topics; and support the Advisory Council's membership outreach to low-income, minority, and LEP populations, persons with disabilities, and other traditionally underrepresented populations.

MPO-Sponsored Meetings

As part of its Program, the MPO sponsors a variety of public-engagement opportunities, convened and managed by MPO staff. The purpose of these meetings is to provide information about MPO work underway and gather information and views from members of the public. Therefore, they are designed for as much interaction as possible among all in attendance. When appropriate, the transportation agencies will be part of MPO-sponsored meetings.

The MPO often holds public meetings in areas with high concentrations of minority, low-income, and/or LEP populations to facilitate their inclusion. In addition, staff consults with personnel in host municipalities to learn about particular cultural or language issues that should be recognized and respected when planning and operating the meeting (for example, dates of community celebrations or observations and/or cultural preferences or restrictions).

Workshops:

MPO staff schedule workshop-type meetings in public venues in municipalities all throughout the MPO region. These workshops are set to coincide with the public review of the draft certification documents, typically in May or June every year. Other MPO documents and programs also may be discussed.

Often the workshops include brief presentations followed by question-and-answer sessions. Subsequently, there are opportunities for one-on-one interaction between members of the public and MPO staff. Workshop formats may follow an exhibit-style format, with tables, staffed by program managers, set up for each major topic on the agenda. Participants are invited to move from topic to topic as their interest guides. Materials may be in any number of communications vehicles: print, large print, web based, PowerPoint slides, table-top display boards, maps, etc.

General Information Sessions

The MPO staff regularly conducts informational meetings at its offices in the State Transportation Building in Boston, which is a central location for the region. The Program's practice is to hold these quarterly.

Session topics include current MPO activities, such as development of the certification documents and updates on other MPO ongoing programs, but also may include detailed presentations and discussions about the results of MPO studies and reports. The format generally consists of presentations by program and project managers, followed by questions and answers. Staff is available after the presentations for individual follow-up discussion with meeting participants.

TIP and UPWP Information Sessions

MPO staff conducts some public meetings (still open to all) whose topics are geared to persons who prepare their municipality's or other entity's official inputs to the TIP and UPWP development processes. Staff makes presentations on the current year's certification document process and discusses any changes from previous years, followed by questions and answers. After the presentations, staff is available for a roll-up-the-sleeves style working session with individual participants.

The MPO hosts various events throughout the year. Information about these is posted on the MPO website and distributed via email.

Forums

MPO staff collaborates with other entities to convene regional forums on important topics. Forums are focused on issues of interest to particular constituencies and generally feature a panel of expert speakers with time for questions and answers; sometimes followed by breakout sessions in which small groups of participants may have more intimate discussions. The purpose is to foster communication and cooperation among disparate entities that deal with the

issue under discussion, and to look for new solutions to existing problems. These meetings usually are held at the State Transportation Building.

Special Topic Discussions

The MPO occasionally brings together agencies and other entities to seek their input on specialized aspects of important topics in the metropolitan transportation planning process. Past special topic discussions dealt with transportation-equity and environmental issues.

Other Opportunities for Public Participation

In addition to the meeting opportunities discussed above, the MPO provides a number of other ways for the public to be involved in the planning process:

Surveys

From time to time, the MPO conducts surveys to learn the views of members of the public on targeted topics. Respondents submit their ideas via survey tools on the MPO website. Staff presents the survey results to the MPO.

Public Information Email

Members of the public can submit questions, comments, and ideas to the MPO and its staff via this email address. Staff replies to these queries and use information provided, as applicable. This email address is listed on meeting flyers and other MPO outreach materials.

Website Comments

The MPO website houses a general comment section that viewers can reach from any page on the site. Using this function, members of the public are invited to submit a comment on any topic. Comments are directed to the appropriate staff-level program manager, who will respond to the comments and use this input, as appropriate. Comments submitted during a formal comment period for a document under review, and their associated staff responses, are summarized and reported to the MPO.

MAPC Subregion Meetings and Coordinated Activities

The Metropolitan Area Planning Council has divided the municipalities in its area (which coincides exactly with the Boston Region MPO area) into eight subregions. The subregions convene their member municipalities regularly to discuss topics related to land use, urban and community planning, issues of general interest to local and regional planners, and transportation. MAPC and MPO staff attends meetings as needed to discuss pertinent MPO activities, schedules, and issues and to gather the subregions' and their municipalities' views and priorities.

In order to provide additional opportunities for public engagement, MPO staff will look for ways to collaborate with MAPC on specially targeted public outreach activities.

MPO “Invite Us Over”

MPO staff asks transportation advocacy groups, professional organizations, transportation-equity organizations, and other such groups to invite staff to attend their regularly scheduled meetings to discuss transportation issues that are important to them. MPO staff makes presentations, answers questions, and gathers comments at these meetings. Staff will work to increase the number of “Invite-Us-Over” speaker events in order to bolster the MPO’s visibility and heighten the effectiveness of such events as an outreach strategy.

Figure 6 summarizes the various ways that members of the public can receive MPO information and be involved in MPO activities and decision making.

3.4c Notice of MPO Activities

The MPO provides notification of meetings through the calendar on its website. MPO, MPO Committee, and Regional Transportation Advisory Council meeting agendas and materials are posted on the MPO’s website a week in advance of the meeting, except in cases of emergency or other constrained circumstances.

MPO-sponsored meetings and sessions also are posted on the website calendar, and usually include a flyer announcing the day, time, and location of the gathering and the topics to be discussed. These flyers are translated into the three most commonly spoken languages other than English in the MPO region: Spanish, Portuguese, and Chinese. Links to related documents may be included under the meeting’s entry.

Figure 6
Ways to be Informed and Involved



Meeting notifications also are provided in the *TRANSREPORT* calendar section. Flyers (as described above) are sent via the MPOinfo, Transportation Equity, and AACT email lists, as well as to Advisory Council members and contact lists of other interested parties.

3.4d Access to MPO and MPO-Sponsored Meetings

The MPO works to make all meetings accessible to all members of the public, regardless of their transportation alternatives, mobility limitations, or language skills. The *CTPS Nondiscrimination Handbook* described earlier also contains protocols to ensure physical access to meeting venues.

The MPO strives to make its meetings accessible to everyone, and is attentive to transportation, physical, and language access needs.

Transportation and Physical Access

All MPO-sponsored meetings are held in locations that are accessible to people with disabilities and are near public transportation.

To ensure accessibility for persons with disabilities, locations for meetings held outside the State Transportation Building are selected through a process that includes an on-site review of the meeting facilities. As part of this

review, staff uses an accessibility checklist with a list of physical characteristics that are necessary to accommodate individuals with a variety of mobility limitations.

Language Access

When selecting meeting venues, staff consults the MPO's Language Assistance Plan (LAP), which was developed as part of the Title VI program. The LAP identifies location of LEP populations; provides information regarding languages into which materials may need to be translated, based on the meeting location; and describes the language services that will be provided.

3.4e Recent Opportunities for Public Involvement

In keeping with FTA Title VI requirements, the MPO has prepared a summary of all public-involvement meetings since the last triennial Title VI Program submission. This summary, found in Appendix D, includes MPO-sponsored public meetings and forums that were held specifically for the purpose of public participation, and MPO meetings that were held outside of Boston, as of August 2014.

Not listed are the regularly scheduled Boston meetings of the MPO, the three MPO standing committees, the Advisory Council, and AACT (which is funded and staffed by the MPO). All of these meetings are open to the public and provide opportunities for public input, as discussed above.

3.4f Federal Transit Administration (FTA) Public Hearing Requirements

The MBTA, Cape Ann Transportation Authority, and MetroWest Regional Transit Authority, which are FTA Section 5307(c) applicants, have consulted with the MPO and concur that the public involvement process adopted by the MPO for the development of the TIP satisfies the public hearing requirements that pertain to the development of the Program of Projects for regular Section 5307, Urbanized Area Formula Program, grant applications, including the provision for public notice and the time established for public review and comment.



Chapter 4—Public Participation Schedule and the Transportation Planning Process

Sections 4.1, 4.2, and 4.3a of this chapter were amended on March 30, 2017 to change the duration of public review and comment periods from 30 days to 21 days. This amendment (Amendment 1) is temporary, and expires on September 30, 2017. Each instance of this change is noted in the text below.

Work for the metropolitan transportation planning process is underway all year. This includes developing the certification documents and the other programs and studies conducted as part of the process. Development of the certification documents follows established cycles as depicted in Figure 7. Public outreach to support this work follows the same cycles. The MPO makes the public aware of the details of each year's public participation timeframes at the beginning of the federal fiscal year to assure predictability for those who wish to participate in the transportation planning process. Public participation opportunities for other MPO programs, such as Transportation Equity, and some studies occur throughout the year, as needed.

4.1 PUBLIC PARTICIPATION SCHEDULE FOR THE TIP AND UPWP

At the beginning of each federal fiscal year, the MPO develops and posts its schedule of certification activities, laying out its plans for developing the certification documents due in that year and for conducting the other planning work scheduled to be accomplished.

The development of the TIP and UPWP typically move forward in tandem on the following schedule:

October:

- MPO staff reviews and updates evaluation criteria for TIP projects and the emphasis areas used to help evaluate new UPWP studies. The development program for the documents—the approach to data collection, analyses to be conducted, and steps and activities to inform and involve the public—also is formulated.

November–January:

- MPO staff discusses the upcoming document development activities and schedules and any changes to the selection criteria with members of the public through various activities:

- Briefing the Regional Transportation Advisory Council
- Attending Metropolitan Area Planning Council subregional meetings
- Conducting information sessions on the TIP, UPWP, and other topics

February:

- MPO staff receives information on new TIP projects and develops ideas for possible studies to be included in the UPWP universe of study proposals.
- Staff begins the process of evaluating TIP projects against selection criteria and UPWP study proposals against emphasis areas
- The MPO's UPWP Committee begins to discuss UPWP study proposals

The MPO follows an annual schedule for development of the TIP and UPWP.

March:

- Staff completes evaluations of TIP projects and UPWP study proposals
- Feedback from project proponents is collected and considered
- MassDOT specifies the amount of federal funding that will be available for projects in the TIP for the next four federal fiscal years and for studies in the UPWP in the next year:
 - Staff prepares a first-tier list of TIP highway projects as a resource for preferred projects for programming considerations
 - Staff prepares a recommendation about how to allocate the TIP target highway program dollars (the money available to the MPO for funding projects)
 - Staff develops a UPWP budget and recommendation for new studies
 - Staff generally conducts two information sessions in March to discuss the TIP and UPWP proposals and schedule for development of the final documents

April:

- Staff presents its recommendations for programming UPWP funds to the UPWP Committee
- Staff presents its recommendations for programming TIP funds to the MPO

April through Mid-May:

- The UPWP Committee reviews the staff recommendation and the budget and makes its own recommendation to the MPO
- The MPO discusses the staff recommendations and comments on both the TIP and the UPWP and releases draft documents for a 30-day public

review and comment period (*Amendment 1 changes this 30-day period to 21 days for the period of March 30 through September 30, 2017*)

Mid-May to Mid-June:

- The public review for the draft documents is conducted; the MPO holds several workshops and information sessions to discuss the draft TIP and UPWP documents with members of the public; and gathers feedback and input
- All comments are reviewed and considered by the MPO and necessary changes are made to the documents.

End of June:

- The MPO endorses a final version of both documents; after they are finalized, documents are submitted to the federal agencies for their review and approval

October 1:

- The approved documents go into effect at the beginning of the federal fiscal year

Figure 7 displays the MPO's annual process for producing the TIP and the UPWP, and the related public participation opportunities.

4.2 THE LONG-RANGE TRANSPORTATION PLAN

The Long-Range Transportation Plan is updated every four years, although some LRTP work is underway all year, every year. A specific public participation plan is developed for each LRTP update. The most significant public participation takes place during the fourth year, leading up to endorsement of the LRTP update. Although the public participation schedule is different for the LRTP, it follows the same general sequence and set of outreach tools used for the TIP and UPWP, and if possible public participation activities for the LRTP are coordinated with TIP and UPWP outreach. (*Amendment 1 adds the following sentence at the end of this paragraph: "The MPO releases the draft LRTP for a public review and comment period that is, at minimum, 21 days long." This amendment applies to the period of March 30 through September 30, 2017.*)

4.3 PUBLIC PARTICIPATION SCHEDULE FOR CHANGES TO CERTIFICATION DOCUMENTS

The certification documents are dynamic—they can be modified or amended to reflect changes made throughout the course of a typical federal fiscal year, for example: revisions to project scopes; changes in cost; new project schedules;

new projects added or programmed projects removed. These changes are made through the processes of administrative modification or amendment.

For the TIP, consistent with federal guidelines, if a project is valued at \$5 million or less, the threshold for defining a change to the project as an amendment is a change of \$500,000 or more. The threshold for projects valued at greater than \$5 million is 10 percent or more of the project value. Changes below these thresholds may be considered administrative modifications. Any changes to the LRTP generally are considered amendments. Changes to the UPWP are infrequent; however, the addition or deletion of an MPO-funded study or program may trigger an amendment.

Amendments to any of the three certification documents—LRTP, TIP, and UPWP—follow the same public process, as described below.

4.3a Amendments to Certification Documents

When the MPO considers amending one of its certification documents it votes to do so at an MPO meeting. The proposed draft amendment then is posted on the MPO's website and a 30-day public comment period begins. *(Amendment 1 changes this 30-day period to 21 days for the period of March 30 through September 30, 2017.)*

The Advisory Council and affected municipalities and constituencies are notified of pending amendments to inform them about the proposed changes, when and where decisions will be made, and how they can provide comments. The MPO informs members of the public by posting notices of pending amendments on the MPO website and distributes the notices through its email lists. The MPO also informs TIP Contacts and proponents of affected projects.

The MPO invites public input when considering amendments to the TIP, UPWP, LRTP, and Public Participation Plan.

In extraordinary circumstances, such as an unforeseen regulatory requirement or funding deadline, the MPO may vote to shorten the 30-day public comment period by as much as 15 days. *(Amendment 1 changes this 30-day period to 21 days; it also changes "as much as 15 days" to "to a minimum of 15 days" for the period of March 30 through September 30, 2017.)* In emergency circumstances, such as the need to take immediate action to protect

public safety or take advantage of an extraordinary funding opportunity, the comment period may be waived.

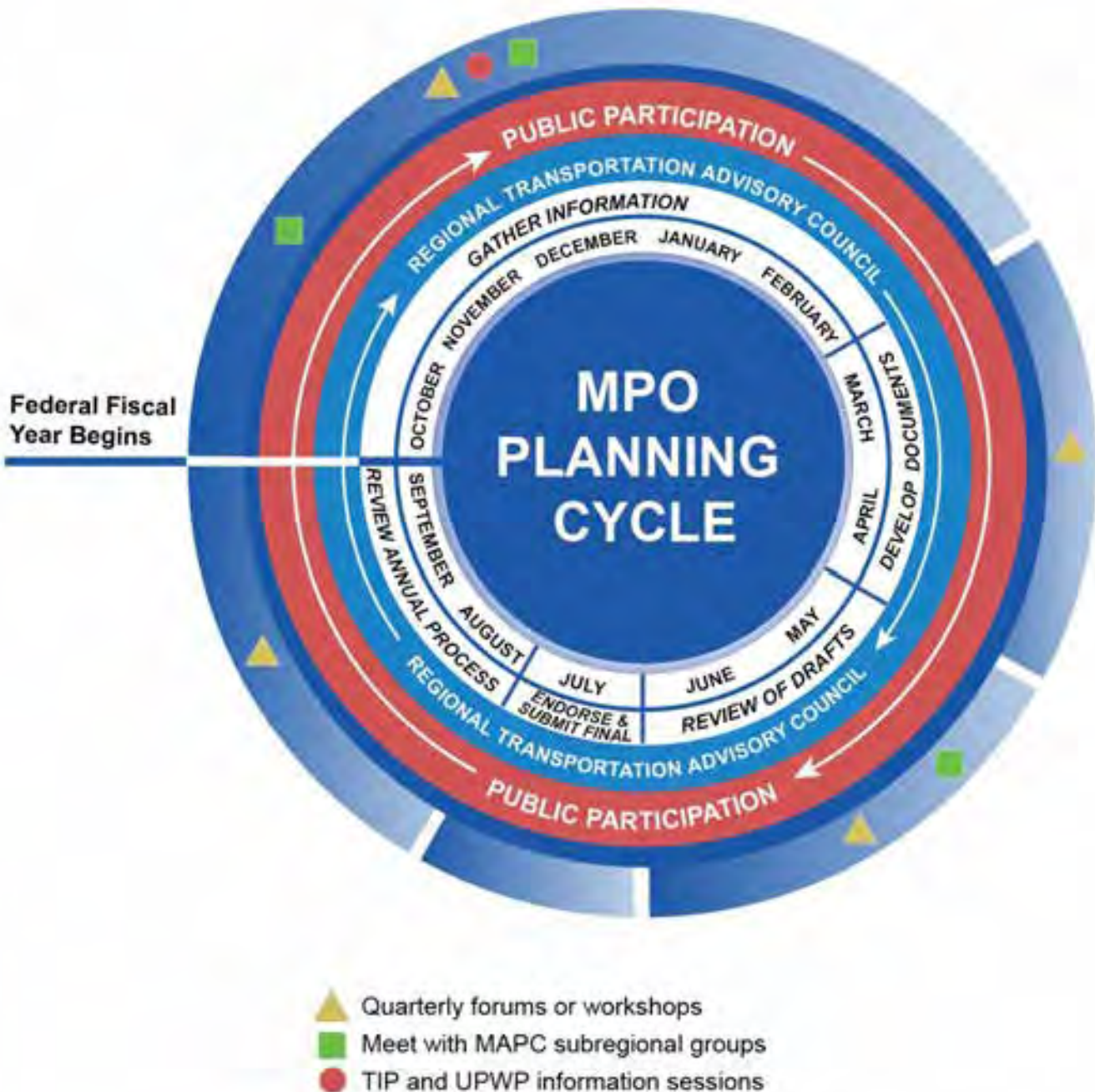
A public comment period will be extended an additional 15 days if a proposed amendment is significantly altered during the initial public comment period. An additional comment period of 30 days will be scheduled if a significant alteration occurs after the close of the initial public comment period. *(Amendment 1 changes this 30-day period to 21 days for the period of March 30 through September 30, 2017.)*

Public comments are collected by MPO staff, and relayed to the MPO in both a summary form and in full text, as submitted. MPO members consider these comments as they decide what action to take regarding the proposed amendment.

4.3b Administrative Modification of Certification Documents

Changes to a certification documents that do not rise to the level of an amendment may be addressed through an administrative modification. The MPO may decide to make an administrative modification without issuing a public comment period, though one may be scheduled, at the MPO's discretion. If one is scheduled, public notification follows the same process that is used for amendments.

Figure 7
Annual MPO Planning Cycle for Development of Transportation Improvement Program and Unified Planning Work Program, and Public Participation



4.4 PUBLIC PARTICIPATION SCHEDULE FOR LONGER-TIME-HORIZON PLANNING ACTIVITIES

There are many activities at the MPO that have longer or less predictable time horizons. The public participation schedules for these events are, therefore, tailored to the specific event and its timing.

4.4a Federal Recertification Reviews

Federal recertification reviews also are conducted every four years. At this time, the federal transportation agencies evaluate the programs and activities of the MPO to determine whether they are in keeping with the required 3C process. If so, the federal agencies certify that the MPO is operating as it should. A recertification review is conducted, typically over the course of a work week, in a series of public sessions. Members of the public are invited to attend and participate. They also are invited to submit written comments before and during the review sessions. The federal agencies may contact certain parties to hear their views on MPO programming and operations, including public participation. The material prepared for the recertification review and the report of the federal agencies is posted on the MPO's website. The most recent recertification review was conducted in July 2010. The next is scheduled for December 2014.

4.4b The Transportation Equity Program

The MPO's Transportation Equity program is ongoing all year long. This program is the MPO's method of consulting with low-income and minority residents, and with groups representing their interests, and those of the elderly, youth, and persons with limited English proficiency in order to identify the transportation needs of these populations and promote their involvement in the planning process.

The program focuses on outreach to organizations serving environmental-justice areas in the region and their umbrella organizations. These organizations and other community contacts are involved in, and knowledgeable about, the transportation issues and needs of their areas.

Contacts include social-service organizations, community-development corporations, regional employment boards, civic groups, business and labor organizations, transportation advocates, environmental groups, and environmental-justice and civil-rights groups.

The MPO also has begun communicating with the Statewide Mobility Management Program

The MPO works to gather input from low-income and minority residents and the elderly, youth, and those with limited English proficiency.

and its Regional Coordinating Council. The MPO's process for working with these organizations consists of conducting surveys, holding forums to facilitate inter-organizational communication and problem solving, holding regional and local meetings, and sharing information.

Transportation equity is also a frequent topic at MPO workshops and information sessions. In addition to soliciting public feedback at these events, staff conducts surveys to seek input from persons living in environmental-justice neighborhoods and from the transportation-equity contacts.

4.4c Development of the Public Participation Program and Plan

The MPO reviews the Program's progress and effectiveness on an ongoing basis, and updates both the Program and Plan accordingly. Updates are performed as needed to reflect changes in federal guidance, requirements and regional needs, and improvements in the state of the practice, and occur in consultation with members of the public and other interested parties.

Outreach for this update of the Plan began in the spring of 2013 in tandem with MPO outreach of the draft TIP and UPWP; discussions were held at two public workshops and two "Be Informed, Be Involved Sessions" in 2013. In addition, in 2013, the MPO conducted surveys through its MPOinfo email list, *TRANSREPORT*, public workshops, and the website. Public input gathered through this process and from the MPO was incorporated into a draft Plan that was circulated for a 45-day public review process in August, 2014.

During the public review process, the draft Plan was posted on the MPO website and discussed with the Advisory Council. In addition, four MPO public workshops were held to provide information and solicit feedback, and information was made available at the Fall Forum for the long-range transportation Plan. The public was notified about the public review process via *TRANSREPORT*, MPOinfo emails, website News Flashes, a press release, and an MPO Tweet. As discussed elsewhere in this document, information from the public outreach process helped guide the changes that are reflected in this final document, which was approved by the MPO on October 16, 2014.

Appendix A—Federal Public Participation Mandates

A.1 TITLE 23, SECTION 450 CODE OF FEDERAL REGULATION (CFR)

A.1a §450.316 Interested Parties, Participation, and Consultation

The federal regulations concerning public participation in metropolitan transportation planning decision making are specified in Title 23, Section 450.316, of the Code of Federal Regulations (CFR). These regulations require that public-involvement processes be proactive and provide complete information, timely public notice, full public access to key decisions, and opportunities for early and continuing involvement; they leave the choice of methods for facilitating participation to the discretion of each MPO. The regulations specify that public participation processes must provide:

- Adequate notice of involvement opportunities and time for review and comment at key decision points
- Early and continuing opportunities for public involvement
- Timely information on transportation issues and decision-making processes
- Visualization techniques to describe the proposed plans and studies
- Reasonable access to technical and policy information
- Electronically accessible public information on the Web
- Public meetings at convenient and accessible locations and convenient times
- Procedures for demonstrating explicit consideration of and responses to public input
- A process for soliciting and considering the needs of traditionally underserved populations
- Periodic review and evaluation of the participation process

- A public-review period of 45 calendar days, which includes written comment on public participation procedures in the development of the Long-Range Transportation Plan (LRTP) and the Transportation Improvement Program (TIP) before new procedures and any major revisions to existing procedures are adopted
- Coordination with the statewide transportation-planning public-involvement and consultation processes

A.1b §450.318

This section specifies the public participation requirements for MPO planning studies and project development.

A.1c §450.322

This section specifies the public participation requirements for the development and content of the MPO's LRTP.

A.1d §450.324

This section specifies the public participation requirements for the development and content of the MPO's TIP.

A.1e §450.334

This section specifies that MPOs certify at least every four years that the metropolitan transportation planning process is being carried out in accordance with all applicable requirements including:

- 23 USC 134, 49 USC 5303 regarding metropolitan transportation planning
- Nonattainment and maintenance areas, sections 174 and 176 (c) and (d) of the Clean Air Act, as amended (42 USC. 7504, 7506 (c) and (d)) and 40 CFR part 93
- Title VI of the Civil Rights Act of 1964, as amended (42 USC. 2000d-1) and 49 CFR part 21
- 49 USC. 5332, prohibiting discrimination on the basis of race, color, creed, national origin, sex, or age in employment or business opportunity
- Section 1101(b) of the SAFETEA-LU (Pub. L. 109-59) and 49 CFR part 26 regarding the involvement of disadvantaged business enterprises in USDOT funded projects

- 23 CFR part 230, regarding the implementation of an equal employment opportunity program on Federal and Federal-aid highway construction contracts
- Americans with Disabilities Act of 1990 (42 USC. 12101 et seq.) and 49 CFR parts 27, 37, and 38
- Older Americans Act, as amended (42 USC. 6101), prohibiting discrimination on the basis of age in programs or activities receiving Federal financial assistance
- Section 324 of title 23 USC. regarding the prohibition of discrimination based on gender
- Section 504 of the Rehabilitation Act of 1973 (29 USC. 794) and 49 CFR part 27 regarding discrimination against individuals with disabilities

A.2 AMERICANS WITH DISABILITIES ACT OF 1990 (ADA)

The Americans with Disabilities Act of 1990 states that “no qualified individual with a disability shall, by reason of such disability, be excluded from participation in or be denied the benefits of services, programs, or activities of a public entity, or be subjected to discrimination by any such entity.” Therefore, ADA requires that locations for public participation activities, as well as the information presented, must be accessible to persons with disabilities.

A.3 TITLE VI OF THE CIVIL RIGHTS ACT OF 1964

Title VI of the Civil Rights Act of 1964, together with related statutes and regulations, provides that “no person in the United States shall, on the ground of race, color, or national origin be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.” The entire institution, whether educational, private or governmental, must comply with Title VI and related federal civil rights laws, not just the program or activity receiving federal funds.

FTA C 4702.1B (2012), Title VI Requirements and Guidelines for Federal Transit Administration Recipients, provides guidance on promoting inclusive public participation. This circular recommends seeking out and considering the viewpoints of minority, low-income, and LEP populations when conducting public outreach and involvement activities. It identifies the following effective practices for fulfilling the inclusive public participation requirement:

- Schedule meetings at times and locations, that are convenient and accessible for minority and LEP communities
- Employ different meeting sizes or formats
- Coordinate with community- and faith-based organizations, educational institutions, and other organizations to implement public-engagement strategies to reach out specifically to members of the affected minority and/or LEP communities
- Consider radio, television, or newspaper ads on stations and in publications that serve LEP populations (could also include audio programming on podcasts)
- Provide opportunities for public participation through means other than written communication, such as personal interviews, or audio and video recording devices

A.4 ENVIRONMENTAL JUSTICE

Executive orders and regulations regarding environmental justice (EJ) also include public participation mandates for recipients of federal funds and their subrecipients.

A.4a Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, 1994

This executive order states that “each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.” Traditionally underserved groups such as low-income and minority populations must be identified and given increased opportunity for involvement in order to ensure effective participation.

A.4b Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, 2000

This executive order requires that recipients of federal financial aid ensure that their programs and activities that are normally provided in English are accessible to persons with limited English proficiency.

A.4c FTA Circular 4703.1, Environmental Justice Policy Guidance for Federal Transit Administration Recipients, 2012

The purpose of this circular is to provide recipients and subrecipients of FTA financial assistance with guidance in order to incorporate EJ principles into their plans, projects, and activities. The circular identifies full and fair participation by all potentially affected communities in the transportation decision-making process as one of the guiding principles of EJ. The circular provides strategies and techniques for public engagement that are intended to help recipients and subrecipients identify the needs and priorities of EJ populations to inform the planning process and help balance the benefits and burdens of transportation decisions.



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Appendix B—MPO Memorandum of Understanding

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**MEMORANDUM OF UNDERSTANDING RELATING TO
THE COMPREHENSIVE, CONTINUING AND
COOPERATIVE
TRANSPORTATION PLANNING PROCESS IN THE
BOSTON METROPOLITAN AREA**

**Approved by the Boston Region Metropolitan Planning Organization
July 7, 2011**

**Massachusetts Department of Transportation
Massachusetts Bay Transportation Authority
Advisory Board to the MBTA
Massachusetts Port Authority
Metropolitan Area Planning Council
City of Boston
City of Newton
City of Somerville
Town of Bedford
Town of Braintree
Town of Framingham
Town of Hopkinton**

Effective November 1, 2011

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MEMORANDUM OF UNDERSTANDING RELATING TO THE COMPREHENSIVE, CONTINUING AND COOPERATIVE TRANSPORTATION PLANNING PROCESS IN THE BOSTON METROPOLITAN AREA

1. INTRODUCTION

WHEREAS, the Massachusetts Department of Transportation (MassDOT), formerly the Executive Office of Transportation and Construction, has the statutory responsibility, under Chapter 25 of the Acts of 2009, An Act Modernizing the Transportation Systems of the Commonwealth, to conduct comprehensive planning for and to coordinate the activities and programs of the state transportation agencies and, under Chapter 161A of the General Laws, to prepare the capital investment program and plans of the MBTA in conjunction with other transportation plans and programs; and its Highway Division, formerly the Massachusetts Highway Department, has the statutory responsibility under this Chapter for the construction, maintenance and operation of state roads and bridges, and also has the responsibility under this Chapter for the ownership, administration, control, operation, and responsibility for maintenance, repair, reconstruction, improvement, rehabilitation, finance, refinance, use, and policing of the Massachusetts Turnpike and the Metropolitan Highway System in the vicinity of Boston and the surrounding metropolitan area; and

WHEREAS, the Massachusetts Bay Transportation Authority (“MBTA”) under the provisions of Chapter 161A of the General Laws, has the statutory responsibility to design and construct transit development projects, to determine the character and extent of services and facilities to be furnished, as well as to operate the public transportation system for the area constituting the MBTA; and

WHEREAS, the Advisory Board to the MBTA (“Advisory Board”) established under Chapter 161A of the General Laws is composed of the chief elected official, or designee, from each of the 175 cities and towns within the MBTA district, and is the body authorized by statute to review and advise the MBTA on its annual operating budget and the Program for Mass Transit; and

WHEREAS, the Metropolitan Area Planning Council (“MAPC”) comprises representatives from each of the 101 cities and towns in the Boston Metropolitan Region, gubernatorial appointees, and representatives of various state, regional, and City of Boston agencies; has statutory responsibility for comprehensive regional planning under MGL Chapter 40B; is the designated Economic Development District under Title IV of the Public Works and Economic Development Act of 1965; and promotes smart growth and regional collaboration in order to implement the current regional plan, *MetroFuture: Making a Greater Boston Region*; and

WHEREAS, the Massachusetts Port Authority (“Massport”) has the statutory responsibility, under St. 1956, c. 465 (Appendix to Chapter 91 of the General Laws), to plan, construct, own, and operate transportation and related facilities (including Logan

Boston Region MPO Memorandum of Understanding

Airport, Hanscom Field, Black Falcon Cruise Terminal, and the Conley Terminal), as may be necessary for the development and improvement of commerce in Boston and the surrounding metropolitan area; and

WHEREAS, the municipalities in the Region, including the City of Boston, as the central city in the Region, and all other municipal governments, have an essential role in transportation planning and programming decisions; and

WHEREAS, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU); or its successors and Federal Highway Administration (“FHWA”) / Federal Transit Administration (“FTA”) joint planning regulations (23 CFR Part 450 and 49 CFR Part 613) require metropolitan areas to have a comprehensive, continuing, and cooperative transportation planning process (“3-C”) that results in plans and programs that consider all transportation modes and supports metropolitan community development and social goals. These plans and programs shall lead to the development and operation of an integrated, intermodal transportation system that facilitates the efficient, economic movement of people and goods;

WHEREAS, the Objectives of the 3-C Process are:

- a comprehensive, continuing, and cooperative transportation planning process resulting in plans, programs and operations consistent with the planning objectives of the metropolitan area.
- comprehensive, including the effective integration of the various stages and levels of transportation planning and programming for the entire Region and examining all modes so as to assure a balanced planning effort. There is simultaneous analysis of various related non-transportation elements, such as land use, economic and residential development, demographics, sustainability, and equity within a total planning process.
- continuing, affirming the necessity to plan for the short and long range needs of the regional transportation system, emphasizing the iterative character of the progression from systems planning to project planning, programming, operations and implementation. Frequent updating and re-evaluation of data and plans is necessary.
- cooperative, requiring effective coordination among public officials at all levels of government, and inviting the wide participation of all parties, public or private, at all stages of the transportation planning process. A key objective of the process is to resolve issues and controversies by providing a forum for negotiation and consensus building. At the same time, the process is not intended to operate, and cannot operate, to dilute the ultimate authority or responsibility of those state, regional, or local public officials who, pursuant to statute or under contract, review and/or implement transportation plans, programs, and projects.

- intermodal, and are intended to help provide the Boston region with the ability to maintain, manage and operate a multimodal transportation system that provides a high level of mobility and safety for people and freight, consistent with fiscal and environmental resources;

WHEREAS, in response to the FHWA/FTA Transportation Planning Certification Review Final Report of April 2004; and

WHEREAS, the Signatories recognize that transportation planning and programming must be conducted as an integral part of and consistent with the comprehensive planning and development process, and that the process must involve the fullest possible participation by state agencies, regional entities, local governments, private institutions and other appropriate groups;

NOW, THEREFORE, the Signatories hereto jointly agree as follows:

2. COMPOSITION AND ROLES OF THE BOSTON REGION METROPOLITAN PLANNING ORGANIZATION (MPO)

The Boston Region MPO consists of the following entities:

- Massachusetts Department of Transportation, with three representatives appointed by the Secretary, at least one of which is from its Highway Division
- Massachusetts Bay Transportation Authority
- Advisory Board to the MBTA
- Massachusetts Port Authority
- Metropolitan Area Planning Council
- City of Boston, with two representatives
- Twelve other municipalities elected from the Boston Region:
 - four at-large (two cities and two towns), and
 - eight (no city or town designation) from, respectively, each of the eight Metropolitan Area Planning Council subregional groups, and
- The Regional Transportation Advisory Council

In addition, the Federal Highway Administration and the Federal Transit Administration are ex-officio, non-voting members.

Each elected municipality shall be represented by its chief elected official or their designee. The terms of office of the elected municipalities shall be three-years, except, in the initial implementation phase, for six members who will have one four year term (as specified in the Updated MPO Membership election Process, dated 6/30/11). The 101 municipalities of the Boston Region will elect the elected municipalities. Permanent member entities of the MPO are not eligible to run for an elected membership.

A. Officers

The Chair of the Boston Region MPO shall be the Secretary of MassDOT or the Secretary's designee. The Vice Chair shall be a municipal representative or an official of one of the two regional agencies and shall be elected to a one-year term by the MPO members by majority vote. This election shall take place at the first meeting after the election of Boston Region MPO elected municipal representatives.

The Chair or his/her official designee shall: set agenda with the advice and input of the Vice Chair; call meetings; preside at meetings; and disseminate timely information to members. The Vice Chair or his/her official designee shall preside at meetings in the absence of the Chair or his/her official designee.

B. Records

The Central Transportation Planning Staff (CTPS) shall be the official custodian of the Boston Region MPO records. These records will be prepared and maintained by the CTPS, and shall be accessible in a central location.

C. Municipal Membership

The City of Boston is a permanent member. The process for nominating and electing the twelve other municipal members shall be approved by the Boston Region MPO to fulfill the objective of having a diverse membership. The municipal nomination and election process shall be administered by MAPC working jointly with the Advisory Board to the MBTA.

Election procedures should allow all municipalities an opportunity to be elected to the Boston Region MPO. Any changes to the election procedures shall be presented to the Boston Region MPO for approval.

D. The Regional Transportation Advisory Council (Advisory Council)

To accomplish the objectives of the 3-C process, the Boston Region MPO has established a special advisory committee, known as the Regional Transportation Advisory Council (Advisory Council). The Boston Region MPO shall support the Advisory Council by providing financial and staff support through the Boston Region MPO staff. The members of the Boston Region MPO shall support the Advisory Council individually by rendering institutional support and also by attending the Advisory Council meetings, as practical.

In setting policy and work priorities for said staff, the Boston Region MPO shall be advised by the Advisory Council and, subject to overall work priorities, shall

Boston Region MPO Memorandum of Understanding

provide information and analysis to the Advisory Council to assist the Advisory Council in advising on issues arising out of the 3-C process.

The principal mission of the Advisory Council is to foster broad and robust participation in the transportation planning process by bringing together concerned citizens, community-based organizations, Environmental Justice populations, business and institutional leaders, representatives of cities and towns, and state agencies.

The Advisory Council will best serve the Boston Region MPO and the public by acting as a primary mechanism for public input to the transportation planning process. To accomplish the Advisory Council mission, the Boston Region MPO acknowledges that:

- the Advisory Council is defined as a principal public outreach and education arm of the Boston Region MPO;
- The Chair of the Advisory Council will also chair any Public Participation Committee of the Boston Region MPO; and
- The Advisory Council shall assist with the implementation of the public participation plan in cooperation with the agencies and staffs as designated in the Unified Planning Work Program (UPWP).

Boston Region MPO staff will provide ongoing support to the Advisory Council Chair to:

- Implement the Public Participation Plan and
- Further educate members of the public regarding activities of the Boston Region MPO and critical transportation issues generally.

Any additional specific revised functions, duties, and membership of the Advisory Council, proposed by the Boston Region MPO, shall be determined in cooperation with the Advisory Council.

E. Voting Rules

Votes of the Boston Region MPO on all certification documents and amendments to these documents shall be a two-thirds majority vote of those present and voting, provided that a quorum, at least twelve member representatives, is present. Other votes will be by majority, and require a quorum.

3. FUNCTIONS AND ROLES OF THE BOSTON REGION MPO AND ITS COMMITTEES

A. Overview

The Boston Region MPO shall perform all functions as required by federal or state law including jointly adopting an annual unified transportation planning work program for the region, as well as such transportation plans, programs and conformity determinations as may from time to time be required of the Boston Region MPO by federal and state laws and regulations.

The Boston Region MPO shall be the forum for cooperative decision making by principal elected officials of general purpose governments in the Boston region, and shall endeavor to provide the federal government the views of “responsible local officials” of the Region where called for under federal law with respect to the initiation of certain transportation programs and projects.

In the resolution of basic regional transportation policy, the Boston Region MPO shall seek and consider the advice of the Advisory Council. In so doing, the Boston Region MPO shall provide the Advisory Council with information and analysis in the form of reports, briefings, and discussion concerning their plans, programs, and priorities so that the Advisory Council can carry out its functions in a timely fashion.

In addition to the advice of the Advisory Council, the MPO shall seek the involvement of members of the public and the many entities and organizations with interests and views relative to the Boston Region’s planning and programming. To facilitate this, the Boston Region MPO will post on its website, at least 48 hours in advance of meetings, all materials related to meeting action items, unless waived by unanimous consent of the Boston Region MPO. The Boston Region MPO will also meet quarterly at locations outside of the City of Boston.

The Boston Region MPO will consider geographic and demographic equity a goal when approving all certification documents. This means that after other factors, such as need, are used in evaluating and selecting projects, a final view toward geographic and demographic balance and fairness over the span of the document will be applied.

B. Planning and Programming

The Boston Region MPO is responsible for planning and programming financial resources for a multi-modal transportation system for the Boston region by conducting the federal metropolitan planning process (3C Process) for the region, as referenced in Section 1 of this Memorandum. This includes preparation of the fiscally constrained certification documents (Long-Range Transportation Plan, Unified Planning Work Program, and Transportation Improvement Program), and

the Congestion Management Program and other studies supporting MPO decision-making.

The Unified Planning Work Program identifies the transportation planning studies conducted in the region, along with their funding amounts and sources, during a given federal fiscal year.

The Long Range Transportation Plan is the comprehensive transportation planning document for the MPO. It defines transportation visions, establishes goals and policies, and allocates projected revenue to regionally significant programs and projects.

The Transportation Improvement Program lists projects programmed and expected to be funded over the immediate four-year period. It is developed annually.

The Signatories agree to the arrangements outlined in Section 4 for the allocation of federal and state funds. Nothing in this document shall preclude the Boston Region MPO's ability to use the provisions of SAFETEA-LU (and successors) to transfer funds between highway and transit uses.

C. Establishment of Committees and Task Forces

The Boston Region MPO shall appoint committees it determines necessary and task forces to accomplish its business and assign duties to them.

D. Central Transportation Planning Staff (CTPS)

The Boston Region MPO agencies shall contribute resources in the form of funds, staff, and other contributions, to support a unified inter-agency transportation planning staff, known as the Central Transportation Planning Staff ("CTPS"), to assist in carrying out the Region's 3-C process under the policy control of the Boston Region MPO.

CTPS shall provide planning services to the Boston Region MPO. From time to time, other parties may provide additional resources through the state planning program and through other resources. All work undertaken for the Boston Region MPO shall be in an approved UPWP. All work funded through federal financing for metropolitan transportation planning under 23 USC 104(f) and 49 USC 5338(g)(1) shall be approved by the Boston Region MPO in accordance with applicable rules provided that the cities and towns shall have a substantial role in the development of the UPWP particularly in the activities specified for metropolitan planning funds.

Since CTPS is not an agency, the Boston Region MPO retains a fiduciary agent for all of the Boston Region MPO's financial resources. MAPC is currently the fiduciary agent. While the CTPS staff shall be defined legally as employees of the fiduciary agent, they shall be administered according to policies established by the Boston Region MPO subject to applicable federal, state and local laws and regulations and to the availability of funds.

At any time during which the fiduciary agent is a member of the Boston Region MPO, the role and actions of the fiduciary agent are distinguished from its role and actions as a policy member of the Boston Region MPO in that the fiduciary agent shall be limited to implementing actions of the Boston Region MPO subject to the applicable federal, state and local laws, and regulations and to the availability of funds.

The Boston Region MPO shall indemnify and hold the fiduciary agent harmless from liabilities occurring out of actions taken under its normal administration of the Boston Region MPO's activities. The Boston Region MPO and the fiduciary agent shall enter into an agreement detailing the financial and legal obligations of each party as determined by the Boston Region MPO.

All work not subject to federal transportation rules governing metropolitan planning funds must be approved by the Boston Region MPO for inclusion in the UPWP. CTPS may be selected by the sponsoring agency or other parties to deliver transportation planning services using these funds. The Boston Region MPO shall approve such requests provided it determines that: 1) CTPS has sufficient resources to complete such work in a capable and timely manner; and 2) by undertaking such work, CTPS neither delays completion nor reduces the quality of other work in the UPWP.

4. TRANSPORTATION IMPROVEMENT PROGRAM (TIP)

A. Overview

The Boston Metropolitan Region, made up of urban, suburban and rural communities, requires a balanced approach to transportation investment. The Boston Region MPO shall endorse annually a multi-year spending plan for federal highway and transit funding. This Transportation Improvement Program (TIP) shall reflect a multi-modal transportation program that responds to the needs of the region.

The TIP shall be the result of a cooperative, open, and informed process that balances local, regional, and state input and priorities and applies established Boston Region MPO policies and priorities in a fiscally constrained document. TIP development and programming shall be in full compliance with federal regulations and guidance. The TIP may include projects and programs addressing needs on the Interstate and National Highway Systems, repair of deficient bridges, support of inter- and intra-regional mobility, community projects, multi-modal facilities, bicycle and pedestrian infrastructure, transportation enhancements, clean air and mobility, operations and management, and all forms of transit. The state, regional, and municipal members of the Boston Region MPO shall work in a unified, timely, and cooperative manner to develop and establish priorities for the TIP.

The Boston Region MPO shall maintain two lists of unfunded projects: a First Tier Projects list and a Universe of Projects list. These lists shall be compiled by the Boston Region MPO for information purposes and shall be included annually in an appendix to the TIP.

B. Establishment of Financial Constraint and Development of TIP Targets

Development of the statewide federal aid and non-federal aid highway funding estimate shall be cooperative and shall be discussed with a statewide group representing regional planning agencies and other MPOs; currently the Massachusetts Association of Regional Planning Agencies (MARPA) is this group.

An initial step in the financial constraint and TIP target development process shall be timely transmission to MARPA of federal funding information on obligation authority. In each TIP year, the state will propose its priorities for non-High Priority Projects, mega-projects, statewide infrastructure, change orders, planning, statewide CMAQ expenditures, and other items as needed. The estimated cost of these will be subtracted from the estimates of federal obligation authority of the state to show the estimated amount available for federal funding for MPO targets in the state. This amount and the state match for this funding will be allocated among the MPOs based on the MARPA formula. The Boston Region MPO share of available federal and non-federal aid has provided the Boston Region MPO with 42.97% of available funds since 1991. This will be termed the TIP Target. The resulting targets, federal and state funding levels, and projects and programs and their cost estimates will be discussed with the Boston Region MPO and other members of MARPA at a meeting early in the TIP development process of each year. Boston Region MPO Staff shall accompany MAPC to these MARPA consultation meetings. The state will be responsible for explaining the derived targets and providing additional information as requested.

The Boston Region MPO shall use these numbers as the estimate of available funding. The Boston Region MPO's portion of federal and non-federal aid will be programmed in its constrained TIP and MassDOT shall seek to advertise projects in the region in that amount.

C. Prioritization Criteria

The Boston Region MPO has developed criteria to be used to evaluate projects considered for programming. These criteria are a means to inform the MPO's decisions for all elements of the TIP. These criteria are consistent with and advance the visions and policies adopted for the latest Long-Range Transportation Plan. The criteria shall be reviewed each year and updated and improved as needed.

MassDOT and other member entities implementing federally-funded transportation projects shall consider MPO priorities when setting their priorities.

D. Transit

It is the responsibility of the Boston Region MPO, working with the MBTA, MassDOT Rail and Transit Division, and other transit providers in the region, to coordinate regional transit planning and funding with other transportation modes within the Boston region. This work shall be conducted in full compliance with federal and state regulations. It shall include programming for all federally-funded transit modes and programs, including the federal Job Access and Reverse Commute and New Freedom Programs.

The MBTA's authorizing legislation directs that every five years the MBTA shall prepare and submit to the Massachusetts General Court its Program for Mass Transportation (PMT), a long-range, fiscally unconstrained plan that outlines a vision for regional mass transit and a process for prioritizing infrastructure investments. Implementation of this plan is through the five-year fiscally constrained Capital Investment Program (CIP), which is updated annually.

Boston Region MPO regulatory requirements call for development every four years of a 25-year fiscally constrained Long-Range Transportation Plan (LRTP) that defines a comprehensive plan and vision for the region's surface transportation network. Implementation of the LRTP with federal transportation funds is through the Boston Region MPO's fiscally constrained TIP.

The Boston Region MPO and MassDOT and the MBTA will coordinate the parallel planning activities of the PMT/CIP and the LRTP/TIP and provide consistency between planned outcomes. This includes mutual consideration of visions and priorities articulated in each entity's transportation planning documents and project selection process. The MassDOT Rail and Transit Division will coordinate RTA investment with the MPO when setting priorities for programming.

E. Highway, Bridge, Bicycle, and Pedestrian

The TIP shall contain the Boston region's portion of all federal and state aid for each of the TIP's four federal fiscal years. It shall be prepared in accordance with federal regulation. It shall include programming for all roadway, bridge, bicycle, pedestrian projects and programs in the region, including costs for the Central Artery/Tunnel and the Accelerated Bridge Program. It shall include projects and programs that address the needs of truck and rail freight movement in the region.

1. Central Artery/Tunnel Project

The Boston Region MPO shall detail future federal aid payments for the Central Artery/Tunnel Project through FFY 2014 or until federal aid obligations to the project have been met.

2. Accelerated Bridge Program

The Boston Region MPO shall be informed of the commitments to Accelerated Bridge Program funding. All bridges leveraging federal aid via this program shall be listed in the appropriate TIP element. There shall continue to be a section in the TIP that details the amount of federal aid returning to the federal government for payment on this program until such time as full obligation repayment is received.

3. Road and Bridge Program

The Boston Region MPO shall have the ability to program projects for federal and non-federal aid. The ability to include non-federal funds in a TIP does not in any respect imply the application of federal standards, regulations or related requirements to state-funded projects, programs or initiatives. The fiscal year shall be from October 1st to September 30th for both federal and non-federal aid.

MassDOT Highway Division shall be responsible for administering the road and bridge elements of the TIP, which includes meeting the requirements for implementing them. These requirements include acquiring right of way, obtaining necessary permits and completing design review before or during the federal fiscal year in which projects are programmed so that they can be advertised in the federal fiscal year in which they are programmed.

F. Improvement of TIP-Related Information

1. Overview

All members of the Boston Region MPO recognize the importance of delivering timely, accurate and reliable information on projects and on the levels of transportation funding expected to be available to the region. This information is critical for the development of the financially constrained TIP. This information also provides a valuable resource for planning by the cities and towns in the region as future funding levels help inform local decision making about whether, or when, to invest local resources in project design and development.

At the same time, the Boston Region MPO recognizes that funding levels may be affected by circumstances beyond its control, such as changes in state or federal authorizations or appropriations; increased need for emergency or security-related expenditures; legislative requirements; or other unanticipated events. While the Boston Region MPO recognizes these contingencies may affect funding, it nonetheless needs to deliver a regional transportation program based on good project information and a realistic assessment of available funds.

2. TIP Project Information and Dissemination

The implementing agencies shall keep the Boston Region MPO informed of project status on a regular basis to support MPO planning and programming and to enable the Boston Region MPO to notify project sponsors of the outstanding issues that could cause the project to be deferred to a subsequent fiscal year. At least quarterly and on request, the implementing agencies shall submit this information to the Boston Region MPO Chair and staff for coordination and for distribution to the MPO members. This information shall include project status and other issues of interest to the MPO members and shall be compiled from all available resources, including municipalities, regional entities, state transportation agencies, and other sources. Boston Region MPO members shall provide needed and relevant information to Boston Region MPO staff for dissemination to the full Boston Region MPO. Staff shall utilize appropriate and up-to-date information systems for maintaining, processing, analyzing, and reporting information.

At the end of the federal fiscal year, the state agencies shall offer a full summary of how projects fared in the previous fiscal year before asking the Boston Region MPO to vote on the new TIP.

Boston Region MPO staff shall have primary responsibility for informing local governments regarding transportation funding and for collecting local input to the Boston Region MPO. All members of the Boston Region MPO, however, shall have a role in informing local governments about transportation aid and the programming process and in considering local input to the Boston Region MPO.

The Boston Region MPO shall discuss and decide on the TIP development process for the upcoming TIP in the first quarter of each federal fiscal year. The process shall be documented in the TIP Development Memorandum to the MPO. The process shall provide for the collection of current information about projects to be considered for programming; review and possible revision of TIP project-selection criteria; application of the criteria in project evaluations; and maintenance of certain lists of projects, such as the set in use at the signing of this Memorandum of Understanding, the “First Tier” set of projects. (The First Tier Project List is in addition to the set of programmed projects and serves as the first resource pool from which to identify projects for programming. This list is comprised of projects that earn a high score based on the evaluation criteria but that might not meet fiscal-constraint standards or immediate-readiness factors.)

5. OPERATIONS PLAN

The Boston Region MPO shall adopt a revised operations plan, which shall detail the operations of the transportation planning system and the preparation of all certification documents for the Boston Region MPO. The Boston Region MPO shall be responsible for fully complying with all federal and state regulations governing the 3-C transportation planning process in the Boston metropolitan area.

The plan should, at a minimum, address the following functional areas:

- Administration and Finance;
- Programming;
- Policy; and
- Technical Products

6. REVIEW OF THIS DOCUMENT

This document shall be reviewed every year, beginning in April, by the Signatories. Upon execution of this Memorandum of Understanding and in an effort to enhance municipal understanding of the Boston Region MPO process, the Boston Region MPO shall circulate this document to the municipalities of the Boston Region MPO. Proposed amendments will be circulated to the public prior to consideration by the Boston Region MPO.

7. EFFECT OF MEMORANDUM

This Memorandum follows from: the Memorandum dated January 1973 and its Supplement dated March 1974; the Memorandum dated June 1976 and its Supplement dated May 1984; and the Memorandum dated November 1982; the Memorandum dated January 1997; and the Memorandum dated December 2001. However, in the event of any conflicts between this Memorandum and any previous Memoranda, this Memorandum shall prevail.


This Memorandum shall be effective as of November 1, 2011. Elected Municipal Signatories as of the date of the approval of this Memorandum shall serve in the new appropriate at-large or subregional designations established by this memorandum, until the end of their current term.

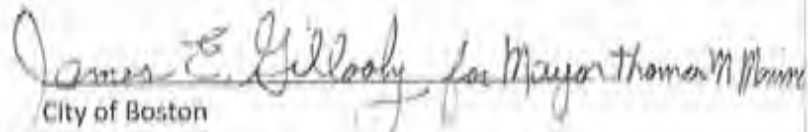
MEMORANDUM OF UNDERSTANDING RELATING TO THE COMPREHENSIVE, CONTINUING, AND COOPERATIVE TRANSPORTATION PLANNING PROCESS IN THE BOSTON METROPOLITAN AREA

EXECUTED on the third day of November 2011, by member-entity representatives or designees.

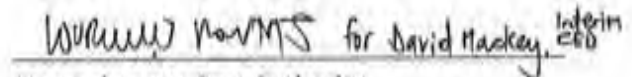

Massachusetts Department of Transportation


Metropolitan Area Planning Council


Advisory Board to the MBTA


City of Boston

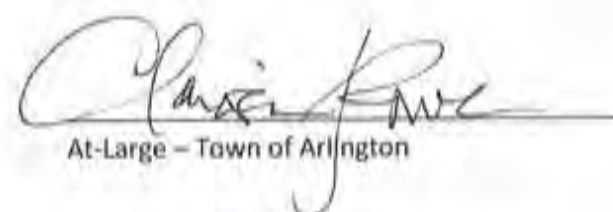

Massachusetts Bay Transportation Authority

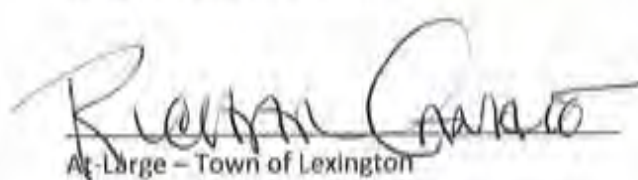

Massachusetts Port Authority

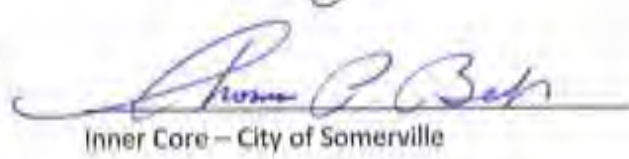

Regional Transportation Advisory Council


At-Large - City of Everett

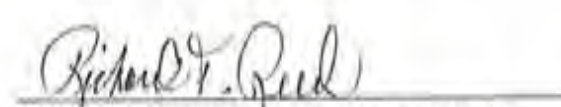

At-Large - City of Newton

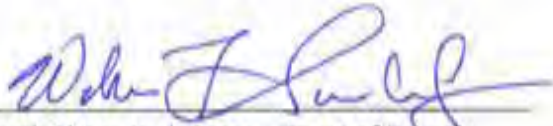

At-Large - Town of Arlington


At-Large - Town of Lexington


Inner Core - City of Somerville


MetroWest Growth Management Committee -
Town of Framingham


Minuteman Advisory Group on Interlocal
Coordination - Town of Bedford




North Shore Task Force – Town of Beverly



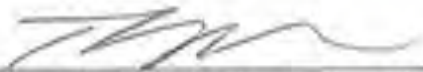
North Suburban Planning Council – City of Woburn



South Shore Coalition – Town of Braintree



SouthWest Advisory Planning Committee – Town of Medway



Three Rivers Interlocal Council – Town of Norwood

Appendix C—Research Conducted by MPO Staff

This appendix contains information about public-participation research conducted by MPO staff, and ideas for potential changes to the MPO's Public Participation Program (the Program) and Public Participation Plan (the Plan), which stemmed from that research. Also included is a discussion of the MPO's current public-participation practices, along with the full set of possible changes that were considered for the update to the Plan.

C.1 RESEARCH ON PUBLIC PARTICIPATION NEEDS AND PRACTICES

MPO staff recently completed two types of research to gain a more in-depth understanding of the public's needs regarding its involvement in the transportation-planning process, and to uncover interesting ideas that the MPO could consider incorporating into its Plan in the future.

C.2 PUBLIC PARTICIPATION SURVEY

Staff designed a survey to gather information from the public about the effectiveness of the MPO's current outreach program, and collect ideas about how it might be improved. The survey comprised both multiple-choice and open-ended questions.

C.2a Survey Questions

Below are the questions that were included in the survey:

What are your preferred methods for receiving MPO news? (Check all that apply.)

- MPO website
- Email from MPO Info
- TRANSREPORT* E-Newsletter
- Newspaper legal notice
- Public meeting
- Other (please specify)

What are your preferred methods of providing input to the MPO? (Check all that apply.)

- Public meeting
- Website
- Email
- Printed comment card

- Letter to MPO Chair
- Other (please specify)

If you have provided comments to the MPO in the past, do you feel that your voice has been heard?

- Not Applicable
- Yes
- No
- Sometimes

Why do you feel that way?

What aspects of the MPO would you like more information about? (Check all that apply.)

- MPO membership
- MPO visions and policies
- Project/study selection process
- How to be involved
- Funding sources
- Civil rights provisions
- Other (please specify)

What can the MPO do to raise awareness and improve its outreach program?

How did you learn about this survey?

- MPO website
- Email from MPOinfo
- TRANSREPORT E-Newsletter
- Public meeting
- Other (please specify)

The survey was available online and in print format; it was distributed via MPOinfo, the MPO's email list, and in print at Metropolitan Area Planning Council (MAPC) subregion meetings and MPO outreach events during May and June 2013. MPO staff organized and analyzed the 74 surveys received.

C.2b Survey Responses

Below is a summary of the survey responses, with the number of replies in parentheses. For the multiple-choice questions (numbers 1 through 4 and 6), there were several choices that respondents selected repeatedly. For the one open-ended question (number 5), we present the most often-stated responses, as well as some other interesting suggestions.

- 1) Respondents' top-three preferred methods of getting MPO news: through MPOinfo (58), *TRANSreport* (27), and the website (21). The next highest answer was "public meeting" (9).
- 2) The top-three preferred methods of providing input to the MPO: email (52), and public meeting (32) or through the website (32). The next highest answer was "letter to MPO chair" (11).
- 3) About one-third of respondents who had made prior comments to the MPO felt that their voices were heard. Approximately 60 percent of respondents felt heard "sometimes." Nearly 10 percent believed that their voices were not heard.
- 4) The top-four topics about which respondents would like more information: project/study selection process (46), MPO visions and policies (33), funding sources (24), and how to be involved (21). The next highest answer was "civil rights provisions" (6).
- 5) The top-two suggestions for ways the MPO could raise awareness and improve its outreach program: A) getting more media exposure (8), and B) having a presence through social media (8). The next most frequently mentioned methods were MPO website improvements (4) and informational packets/emails (4).
- 6) Other interesting and feasible ideas suggested by respondents to this question include:
 - Work or partner with other organizations to disseminate information and solicit involvement
 - Increase and target outreach to community groups and community leaders
 - Share interagency mailing lists
 - Make information and notices more timely and interesting
 - Conduct more surveys
 - Provide short education pieces and executive summaries of the long reports
 - Use more graphics to communicate ideas
 - Learn from successful public-participation models, such as MAPC
 - Provide clear and easy ways to give input from the website's home page
 - Make the website more interactive and easy to navigate

- 7) The primary way that respondents learned about the survey was through email from the MPO (42). The second-largest number of respondents (20) checked “other,” indicating that they learned about the survey through various means not specified in the survey question, such as a forwarded email or through news from another organization.

These results emphasize the importance of email and the website in public involvement. They also indicate preferences for information in succinct formats and for quick, interactive ways to exchange information (such as surveys).

C.3 RESEARCH OF OTHER MPO PUBLIC PARTICIPATION PRACTICES

C.3a Research Approach

In July and August 2013, MPO staff conducted research on the public-participation programs and plans of five MPOs that are somewhat comparable to the Boston Region MPO in size and characteristics, including:

- Miami-Dade MPO
- Metropolitan Transportation Commission, which serves the San Francisco Bay area
- Delaware Valley Regional Planning Commission, which serves the Greater Philadelphia region
- New York Metropolitan Transportation Council
- Puget Sound Regional Council, which serves the Puget Sound region, including the city of Seattle

The purpose of the research was to learn what public-participation methods these MPOs use, and to examine the kinds of information they include in their plans and how they present it.

C.3b Public-Involvement Methods and Techniques

This research identified some interesting ways that the selected MPOs communicate and consult with agencies, officials, and all other interested parties. Below are listed some of those methods, some of which the Boston Region MPO currently uses or may wish to use in its updated Program. We include notes on these practices, their characteristics, and functions in parentheses.

Gatherings for Discussion

- In-person, traditional-style gatherings, such as meetings and workshops (timely topics for discussion with members of the general public; public education and input gathering)

- Special forums (topic specific, on timely issues or topics of regional or MPO interest; public education and input gathering)
- Citizens' Advisory Committees, which may be regional or subregional (long-term, consistent and informed involvement on many issues; input gathering)
- Working Groups (topic/task-specific, to provide on-going, expert or informed views on particular topics; input gathering)
- Special Topic Discussions (topic specific single event with targeted invited participants, to gauge the views of target participants; public education and input gathering)
- Speakers' Bureau (MPO members and staff available to speak at meetings of outside entities; education and input gathering)

Media Used for Information and Notices

- Press releases and public notices; coordination with the media (topic specific information; public education and requests for action)
- Flyers on transit vehicles (information nuggets; requests for action)
- Informational kiosk at transit station (general and topic-specific information; public education)
- Social media: Facebook (information nuggets; requests for action)
- YouTube (general and topic-specific information and information nuggets)
- Twitter (information nuggets; requests for action)
- Rich Site Summary or "RSS" Feeds (information nuggets)
- Cable TV coverage of meetings (general information)

Media Used for Interaction

- MPO website with special pages to give information, gather comments, take surveys (general and topic-specific information; public education, input gathering, requests for action)

- Various instruments for taking surveys and gathering input, such as “MindMixer” (web-based tool designed to engage the public through the use of technology rather than physical meetings)
- Agenda item pre-meeting comment tool (allows members of the public to submit written comments on specific agenda items with a web-based tool; input gathering)

Miscellaneous

- Collaborating with other agencies’ public-participation staffs
- Reaching out to newspaper editorial boards
- Briefing reporters
- Ongoing use of process-evaluation tools

Outreach to Protected Populations

Through its research on other MPOs, staff also found interesting approaches to reaching protected populations that the Boston MPO could incorporate into its own Plan:

- Preparing summaries of important documents that can be easily translated into the major languages spoken in the region
- Translating the Plan into the major languages spoken
- Using audio recording devices to collect oral comments at public meetings
- Translating a glossary of transportation terms
- Posting on the MPO website an already-translated notification of the availability of translation services

Structure and Content of Public-Participation Plans

The MPOs studied utilize various types of information in their public-participation plans, including the topics below.

- The CMP, Air Quality processes, Transportation Enhancements, and other MPO programs
- Procedures and schedules for providing input into the certification documents
- Federal and state regulations and guidance for public-involvement activities
- Processes for developing their plan, including meetings and public-comment periods

- Lists of public-involvement techniques that would be applied in various situations
- Information about how to find MPO-provided data resources
- Information about how the MPO coordinates with other agencies
- Descriptions of MPO committees and their responsibilities
- Links to the MPOs' Title VI, Environmental Justice, and Language Access plans
- Appendices
 - Glossaries of transportation terms, including acronyms
 - Contact information for MPO staff
 - MPO policies on using social media
 - Details about outreach activities that coincide with specific MPO activities
 - MPO policies about documenting and responding to public comments or requests for public records
 - Results of consultations with other agencies

MPOs also sometimes prepare companion documents to their public-participation plans. One example is a citizen guide that explains topics of general importance, such as background on the MPO, and information about funding sources and document-development processes. Also, some MPOs prepare annual reports highlighting MPO achievements.

Graphics and Styles of Public-Participation Plans

An MPO's public-participation plan is itself a tool that can encourage transportation stakeholders to learn about and interact with the MPO; therefore, the plan content should be informative, clear, and visually appealing. MPO staff analyzed public-participation plan designs along with their content, and found that plans were made more communicative through the use of the following graphics and styles:

- Text boxes to highlight important information succinctly
- Tables to organize and present information clearly and with minimal wording
- Figures showing relationships (such as between transportation stakeholders), steps in decision-making processes, and schedules

C.4 RECOMMENDATIONS FOR UPDATING PUBLIC PARTICIPATION PROGRAM AND PLAN

The MPO's current Plan, *Be Informed, Be Involved*, includes:

- General information on the Boston Region MPO Area, including demographics, geography, and the regional transportation system
- Background information on the MPO, including a description of its regulatory foundations and membership
- An explanation of the metropolitan transportation-planning process and certification documents
- Details on the Program, including:
 - A discussion of its objectives
 - Specified participants
 - Ways to be informed and involved
 - MPO processes for conducting public outreach
 - Specific steps for document development
 - Specific steps for amending and modifying documents
 - Information about how the MPO evaluates its Program

Staff has analyzed all aspects of the current Plan to identify areas that need improvement. Below, we present the identified areas and ideas for updating both the Program and Plan. These ideas have come from the research discussed above, as well as through observations of current practice, and recommendations from the federal agencies and the Massachusetts Department of Transportation (MassDOT).

C.5 ISSUES RELATED TO THE CURRENT PUBLIC PARTICIPATION PROGRAM

The MPO's current Program utilizes a mix of outreach practices and techniques, which have proved effective with all of the interested parties the MPO consults with, listens to, and strives to keep informed. Using results of the research discussed above, awareness of changing practices, and in-house problem solving, staff identified areas where changes in the MPO's Program would be beneficial

Accordingly, staff recommended that the MPO consider changes to its Program that would:

- Respond to the most contemporary thinking in Title VI accommodations and accessibility for persons with disabilities and limited English proficiency
- Make participating easier and more satisfying for the public and more useful for the MPO
- Continue activities that broaden the community of participants in the MPO's planning processes
- Provide clear and concise information about the Program and MPO activities; make information readily understood
- Make information easily available
- Keep information about the MPO current
- Keep the Plan up to date
- Use more graphics to communicate
- Continue to connect with persons who do not use or have ready access to computers
- Maximize effectiveness through coordinating with partner agencies and their outreach activities
- Continue to actively explore innovative venues for reaching people, providing information, and gathering input

C.5a Practices and Techniques for Public Outreach

Current Practices and Techniques

The MPO's current public-outreach practices include:

- Web-based communication (web pages on 3C documents and programs; TRANSreport; the MPO meeting calendar; comment button on the MPO main page; comment links from document pages; News Flashes; surveys; interactive data bases, data resources, and applications)
- Meeting-based discussions (MPO and committee meetings; the Regional Transportation Advisory Council; general information sessions; TIP and UPWP information sessions; workshops; coordination with MAPC)

subregions; special forums; special topic discussions; interagency consultations; Invite-Us-Over program)

- Email-based notices (MPOinfo; MPOmedia; TRANSreport mailing list; TEcontacts; TIPcontacts; publicinformation@ctps; public libraries)

Ideas for Improving Practices and Techniques

Through the update to its Program, the MPO sees opportunities to allow or encourage the public to engage with MPO documents, information, and decision-making processes in an interactive way. Based on the survey results, staff's research, and considering MPO resources, there are a number of ways the MPO could enhance its Program:

- Request the Advisory Council to co-sponsor programs and forums on timely MPO topics: solicit the council's views and ideas on specific, MPO-defined topics, and support the Advisory Council's membership outreach to low-income, minority, and LEP populations and persons with disabilities
- Develop a more frequent and rigorous process for gathering data to evaluate the effectiveness of the MPO's Program
- Research the possibility and feasibility of creating create a mechanism for the public to submit comments on MPO agenda items in advance of meetings
- Make resources and information for people with limited English proficiency more prominent on the website
- Conduct more Web-based surveys throughout the year
- Develop a "user group" list of individuals/entities/organizations that will forward MPOinfo notices to their email lists and press releases to transportation bloggers
- Use more graphics, including text boxes, relationship and flow charts, and other visuals within documents, presentations, and on the website
- Build short press releases from the News Flashes to increase the amount of news sent to MPOmedia and MPOinfo
- Explore the possibility of using tools to track media usage (publication) of MPO press releases

- Coordinate with MassDOT's media office to seek help in increasing the publication rate of MPO press releases
- Increase the frequency and scope of the News Flashes:
 - Present more information about how the MPO functions
 - Focus more on the MPO-funded work underway or recently completed
 - Include news about topics to be discussed at upcoming MPO meetings and Regional Transportation Advisory Council meetings
 - Provide more information on projects' and studies' selection process, MPO goals and objectives, funding, and how to be involved
- Ask MAPC to collaborate on specially targeted public outreach activities, and explore possibilities for working in teams
- Increase the visibility of MPO's "Invite-Us-Over" speaker events through which organizations can invite a representative from the MPO to attend and speak at one of their meetings
- Reach out to public libraries to improve active cooperation for posting and distributing MPO information
- Explore the possibility of an RSS feed to notify interested parties of updated content on the MPO website

C.5b Outreach to Protected Populations

Current Outreach to Protected Populations

Since the current Plan was written, the MPO has adopted many outreach practices related to: Title VI, ADA, and other civil rights executive orders, regulations, and guidance that prohibits discrimination and facilitates the full participation of all, particularly populations that are considered to be "traditionally underserved" by former public outreach practices. Although these processes are now a part of the Program, they have not been documented in the Plan.

C.5c Improving Outreach to Protected Populations

MPO practices are, for the most part, consistent with those recommended by MassDOT, whose public-participation plan was recently approved (and commended) by the Federal Highway Administration; however, there are several additional practices that staff have explored that could enhance the ability of the MPO to reach populations that have traditionally been hard to engage, such as

people with limited English proficiency. As a result, staff recommends the MPO add the following practices to its Program:

For all MPO and MPO-sponsored meetings:

- Increase the number of languages into which meeting notices—and any other vital materials associated with meetings—are translated from two to three (Spanish, Portuguese and Chinese) as a matter of policy, and post them on the website
- Translate materials for specific public outreach efforts into language(s) spoken in the geographic area of the meeting location, as identified through analysis or consultation with local community leader(s)
- Consult with local community leader(s) to learn about cultural issues in the vicinity of a meeting venue and respond to these with sensitivity
- Make an effort to provide at least two weeks' notice for MPO-sponsored meetings or events

As a matter of general practice:

- Regularly update the MPO's Title VI Four Factor Analysis (an analysis of language needs in the area) and reevaluate whether other languages should be added to those into which vital documents are regularly translated.
- Reevaluate annually whether additional MPO documents should be identified as vital documents, for translation into the languages of policy. Vital documents currently include:
 - MPO Notice to Title VI Beneficiaries (posted on website, made into a board to be displayed at MPO meetings, and posted visibly near the MPO front desk)
 - MPO-compliant procedures and form
 - Summaries of key materials: a description of the MPO transportation-planning process and the certification documents, LRTP, TIP, and UPWP
 - Meeting notices (generally prepared for out-of-Boston MPO meetings, and all MPO-sponsored meetings, workshops, forums, and other similar input-sessions)
- Update annually the internal list of staff who speak languages other than English and who could assist limited English proficient individuals who may be seeking information at the MPO office

- Increase the number of large-print versions of key meeting materials (such as the agenda, project summaries, TIP Tables) that staff currently bring to meetings from two to three
- Continue to expand the MPO's Transportation Equity database to reach more minority, low-income, and other traditionally underserved populations and organizations
- Post an already-translated notification of the availability of translation services on the MPO website
- Use an audio recording device to collect oral comments from persons with low literacy, or no or low vision

C.6 ISSUES RELATED TO THE CURRENT PUBLIC PARTICIPATION PLAN

The format and structure of the current MPO Plan has become outdated, as communication styles and methods of obtaining information have changed. Today, many people prefer visiting a website and reading on their computers, smart phones, or other mobile devices. If they want some section of the material in hard copy, they print it themselves. Because good graphics communicate information effectively and quickly, they value information presented in graphical form.

C.6a Format and Function of the Plan

Current Drawbacks

The MPO's current Plan, *Be Informed, Be Involved*, was intended to be read as a printed booklet that would provide the reader with all the information necessary to understand the MPO Program, along with ways to be informed and be involved. Although primarily text based, the current Plan utilizes photographs, maps, and other graphics as visualization tools to help understand the Program and its activities.

The Plan is posted in PDF and HTML on the MPO website, and staff prepares a small number of printed copies of this document to take to outreach sessions.

Several aspects of the current Plan are outdated or underperforming; for example, the current Plan is:

- A large booklet: Today's trend is to rely on Web-based information, and avoid printing or archiving hard-copy documents
- Text-heavy, which can make it hard to find information
- Static and vulnerable to becoming out of date

Ideas for Improvements

Most agencies and organizations use their websites as their primary method of communication. At the Boston Region MPO, the website already houses information about almost every aspect of the MPO and serves as an interactive, multi-dimensional communications vehicle with constantly growing and evolving capabilities for gathering, housing, and distributing information. The website is a powerful tool, which the MPO should use to maximum advantage to accomplish public-participation goals.

Staff suggests two main ideas for improving the format and function of the Plan:

- First: In addition to a printed document (which will be posted as a PDF), create a web-based format for the Plan. The public participation page on the website would provide a portal through which the public could link to other web pages to get information about the Program in an easy-to-use format.
- The public participation web page would include the major public participation topic areas with links to further information about public involvement, as well as to topics found on other parts of the website. Viewers could go to the public participation page to learn how to be 'informed and involved,' and from there go directly to the MPO planning document or program that interests them. This approach would fully embed the Program in all MPO activities and products.
- Second: Present much more public participation related information in graphical form to facilitate quick and easy access to (at times) complex information and processes.

These two concepts would address the current Plan drawbacks listed above and inform the public in a way that:

- Reflects contemporary standards and preferences for presenting and accessing information
- Provides links anywhere in the MPO website, interactively directing readers to greater detail on topics that interest them
- Offers an organizational framework for those seeking information specifically about public participation; and reduces redundancy by linking to Program information already on the website rather than repeating it in a static publication-participation plan

- Presents more up-to-date material, as individual web pages may be easily amended
- Ensures accessibility for people with no or low vision, because text on the MPO's web pages is in a format that can be read by screen readers, and all graphics are accompanied by alternative text

In addition, staff suggests these visual improvements, which would enhance web-based Plan content:

- Briefer text
- Text boxes for highlighting important information
- Tables for organizing and presenting material with few words
- Greater use of graphics to explain the MPO and its processes

Plan information and graphics presented on the web could be transformed into modular marketing materials to replace the current booklet format. In this form, topics could be updated individually to stay current, without reproducing the entire booklet.

C.7 SUMMARY OF SUGGESTIONS FOR PUBLIC-PARTICIPATION PROGRAM AND PLAN UPDATE

The following table summarizes the suggestions presented above. Items in the table are coded by suggestion type:

- A = Activity
- F = Format and function
- T = Title VI or other civil rights practices

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Table C.1
Summary of Suggestions for the Public-Participation Program and Plan Update

Key: A = Activity; F = Format and function; T = Title VI or other civil rights practices.				
Type/ Number	Suggestion	Explanation; Purpose	Implementation	Frequency
A. 1	Seek to partner with the Advisory Council to sponsor forums on MPO/ RTAC defined topics and questions	The Advisory Council is a primary arm of public involvement for the MPO; to generate useful public input to the MPO for its decision making	Plan special Advisory Council/ MPO forums in collaboration with MPO; seek involvement of a broad set of Advisory Council and MPO-related participants	At least one a year
A. 2	Collaborate with MAPC on specially targeted public outreach events	Invite MAPC to partner with the MPO in one or two major outreach events per year; to reach a broader set of participants; improve effectiveness of MPO outreach; incorporate new techniques	Work with MAPC (and possibly other partners) to plan one or two forums or special topic discussions	One or two events per year
A. 3	Conduct more evaluations of public-participation program effectiveness	Important to know how well the Program is performing and where improvements are needed	Implement a more rigorous program of data collection and a regular schedule for evaluations	Data collection, ongoing; evaluations, annually
A. 4	Post more News Flashes; cover more topics	Use the website and News Flashes as the initial media for MPO news and convert them to other media for broad distribution; to interest and inform the public	Prepare News Flashes related to major actions at MPO, Advisory Council and AACT meetings; invite participation; feature MPO-funded products	Ongoing
A. 5	Send more press releases on MPO activities	Use the MPO's News Flashes as the basis for short press releases; to increase opportunities for media coverage and public participation	Expand News Flash text into press release format and distribute through MPOmedia	Ongoing
A. 6	Encourage forwarding of email notices and News Flash postings	Sensitize recipients to importance of forwarding MPO notices and updates; to expand distribution of MPO notices to involve new parties	Incorporate text into all MPOinfo messages that encourages recipients to forward notices	Ongoing
A. 7	Track publication of MPO news	Explore which organizations are publishing MPO news; to gauge effectiveness and know where there are gaps in outreach	Research cost of tracking publication of MPO news; if feasible, plan and implement a program	Ongoing

Key: A = Activity; F = Format and function; T = Title VI or other civil rights practices.

Type/ Number	Suggestion	Explanation; Purpose	Implementation	Frequency
A. 8	Seek help from MassDOT media office	MassDOT is in frequent contact with the media and may have useful ideas for MPO communications; to improve publication of MPO news	Meet with MassDOT media office	Early each fiscal year, coinciding with MPO public outreach for new documents
A. 9	Work with public libraries to encourage them to make MPO information available	The MPO no longer mails printed materials unless specifically requested; to elicit public library support in printing and posting notices and <i>TRANSREPORT</i>	Conduct outreach to regional consortiums of public libraries, explaining the work of the MPO and the role libraries could play in the public-information and participation process	One-time initial outreach to libraries; Ongoing communication
A. 10	Use an RSS feed	Research using an RSS feed to alert parties of new News Flash postings; attract more interest; share more information	Staff will research using RSS feed	Initial research, and if promising, a trial period before implementation
A. 11	Facilitate and accept public comment before MPO meetings	Solicit comment (possibly through links on the calendar page for each MPO meeting) in advance of meetings; to use the website to collect input and bring it directly into MPO meetings	Collect comments prior to MPO meeting and submit to Chair for reading into the record during public-comment time	With every MPO meeting (bi-monthly, usually)
A. 12	Create more surveys on the MPO website	Use surveys more frequently to gather public input; to increase website use as a tool for public input	Identify survey topics based on upcoming MPO planning and decision making	Approximately four per year
A. 13	Update website for improved LEP accessibility	Post MPO vital documents and accessibility statement more prominently; to facilitate LEP and other Title-VI-related persons' access to MPO information and processes	Review and implement	One update
A. 14	Use more graphics	Improve communication through graphical representation of processes and information; to communicate more clearly and facilitate translation	Convert narratives in Plan to graphics	For initial Program and Plan updates and as future practice

Key: A = Activity; F = Format and function; T = Title VI or other civil rights practices.

Type/ Number	Suggestion	Explanation; Purpose	Implementation	Frequency
A. 15	Increase use of MPO's "Invite Us Over" speaker program	Promote work of the MPO and offer Staff's participation at an organization's meeting; to provide a participant-convenient venue and format and reach new and members of the public	Consider creating a spot on the MPO's website listing topics and personnel to be contacted to schedule a presentation/discussion at a regularly scheduled meeting of an organization	Ongoing
F. 1.	Have the website function as an online alternative to the printed public participation plan and an easy point of access to other MPO content on the website	Break the information in the Plan into basic components and use the Public Involvement webpage as a portal to access each; to give the public more direct access to information, to better keep the Plan current and dynamic, and use contemporary methods	Prepare topic modules for revised Public Involvement webpage	Reorganization and to post material will be one-time project; updating will be ongoing
F. 2.	Prepare topic modules as meeting handouts and easily updated informational materials	Create individual topic pieces for each of the major Program components; these will be easy to update and use individually, as needed	Prepare topic materials	Creating materials will be a one-time project; updating will be ongoing
F. 3	Present most key information in graphical form	Graphical depictions of MPO processes and other information will be created to post on the website and use at MPO-sponsored meetings; to support clarity and simplicity of information, facilitate communication with LEP populations	Prepare graphics and tables to explain MPO processes and other information; these can be translated for LEP populations	Design will be one-time project; updating will be ongoing
T. 1	Translate the vital MPO documents	Regulations require vital documents be identified and translated into the languages indicated by the Four Factor Analysis	Translate vital documents into the languages of policy for posting on the website; use the Four Factor Analysis to determine other languages, based on the location for MPO or MPO-sponsored meetings	Initial translation of vital documents will be one-time project; annual update of documents and translations will be conducted each September; translation of meeting notices and document summaries will be done as needed
T. 2	Conduct a triennial Four-Factor Analysis and apply results to MPO ongoing meeting and outreach planning	See above	Develop a protocol for using the Four Factor Analysis for ongoing operations	Reviews for translations will be conducted in planning for each meeting

Key: A = Activity; F = Format and function; T = Title VI or other civil rights practices.

Type/ Number	Suggestion	Explanation; Purpose	Implementation	Frequency
T. 3	Consult with local leaders on language needs and cultural issues for each MPO-sponsored meeting outside of the State Transportation Building	Conversations with local leader(s) in vicinity of a planned meeting can provide insights on particular needs that would facilitate public participation; to encourage and facilitate participation by all members of the public	Ask a local leader when planning a meeting outside of the STB	Ongoing, for each meeting outside of STB
T. 4	Use audio recording devices to collect oral comments	People with low or no vision or low literacy may be encouraged to make comments if they could be submitted orally; to facilitate public participation	Provide this capability at each MPO and MPO-sponsored meeting	Ongoing, for each meeting
T. 5	Post translations of meeting and other notifications on website	Posting translated versions of notices would eliminate a step for an LEP person seeking opportunities to participate; to facilitate participation by LEP persons	Standardly post translations of meeting notifications (in the three primary languages other than English) on the website	Ongoing, for each meeting outside of STB
T. 6	Make large-format versions of key meeting materials available	Support accessibility of information provided at public meetings; to facilitate participation	Implement a standard practice of bringing three copies of large-format documents to meetings	Ongoing

AACT Access Advisory Committee to the MBTA. LEP limited English [language] proficiency. MAPC Metropolitan Area Planning Council. MassDOT Massachusetts Department of Transportation. MPO Metropolitan Planning Organization. P3 Public-Participation Program and Plan. RSS Rich Site Summary [feeds]. RTAC Regional Transportation Advisory Council. STB State Transportation Building.

Appendix D—MPO-Sponsored Meetings and MPO Meetings Outside of Boston

Date	Location	EJ and/or LEP Community	Type of Meeting	Topics Discussed
8-Feb-11	Peabody	No	TIP-Building Workshop	TIP development
10-Feb-11	Saugus	No	Regional Transportation Needs Assessment Workshop	MPO's draft needs assessment, Transportation needs
15-Feb-11	Needham	No	Regional Transportation Needs Assessment Workshop	MPO's draft needs assessment, Transportation needs
15-Feb-11	Framingham	Yes	TIP-Building Workshop	TIP development
16-Feb-11	Boston (2/ Park Plaza)	Yes	TIP-Building Workshop	TIP development
16-Feb-11	Boston (2/ Park Plaza)	Yes	Regional Transportation Needs Assessment Workshop	MPO's draft needs assessment, Transportation needs
22-Feb-11	Hingham	No	TIP-Building Workshop	TIP development
23-Feb-11	Boston	Yes	Transportation Equity Special Topic Discussion	Transportation needs of low income and minority residents in the region
21-Apr-11	Boston	Yes	MPO Structure Workshop	MPO's MOU, MPO membership
27-Apr-11	Lynn	Yes	MPO Structure Workshop	MPO's MOU, MPO membership
2-May-11	Framingham	Yes	MPO Structure Workshop	MPO's MOU, MPO membership
15-Jun-11	Boston (2/ Park Plaza)	Yes	MPO Structure Workshop	MPO's MOU, MPO membership
21-Jun-11	Waltham	Yes	MPO Structure Workshop	MPO's MOU, MPO membership
22-Jun-11	Braintree	No	MPO Structure Workshop	MPO's MOU, MPO membership
26-Jul-11	Boston	Yes	Environmental Special Topic Discussion on LRTP	Consultation among MPO and state and federal environmental agencies on LRTP

Date	Location	EJ and/or LEP Community	Type of Meeting	Topics Discussed
3-Aug-11	Boston (2/ Park Plaza)	Yes	MPO Open House	Draft LRTP, Draft FFYs 2012-15 TIP, Draft FFY 2012 UPWP, Livability Program
24-Aug-11	Boston	Yes	General Workshop	Draft LRTP, Draft FFYs 2012-15 TIP
31-Aug-11	Bedford	No	General Workshop	Draft LRTP, Draft FFYs 2012-15 TIP
7-Sep-11	Norwood	No	General Workshop	Draft LRTP, Draft FFYs 2012-15 TIP
12-Oct-11	Boston	Yes	Candidates Forum	Meet candidates for MPO municipal members election
12-Jan-12	Winchester	No	TIP-Building Workshop	TIP development
18-Jan-12	Canton	No	TIP-Building Workshop	TIP development
25-Jan-12	Boston (2/ Park Plaza)	Yes	MPO Open House	Introduction to MPO, TIP development, UPWP development
1-Mar-12	Beverly	No	Regular MPO Meeting (Outside Boston)	MPO topics typical of regular meetings
15-May-12	Melrose	No	General Workshop	Draft FFYs 2013-16 TIP and FFY 2013 UPWP
22-May-12	Randolph	Yes	General Workshop	Draft FFYs 2013-16 TIP and FFY 2013 UPWP
23-May-12	Boston (2/ Park Plaza)	Yes	General Workshop	Draft FFYs 2013-16 TIP and FFY 2013 UPWP
6-Jun-12	Woburn	No	General Workshop	Draft Amendment to LRTP
7-Jun-12	Lexington	No	Regular MPO Meeting (outside Boston)	MPO topics typical of regular meetings
12-Jun-12	Boston (2/ Park Plaza)	Yes	General Workshop	Draft Amendment to LRTP
20-Sep-12	Newton	No	Regular MPO Meeting (Outside Boston)	MPO topics typical of regular meetings
6-Dec-12	Norwood	No	Regular MPO Meeting (Outside Boston)	MPO topics typical of regular meetings
11-Dec-12	Quincy	Yes	TIP and UPWP Building Workshop	TIP and UPWP development

Date	Location	EJ and/or LEP Community	Type of Meeting	Topics Discussed
13-Dec-12	Everett	Yes	TIP and UPWP Building Workshop	TIP and UPWP development
16-Jan-13	Boston (2/ Park Plaza)	Yes	Be Informed, Be Involved	Planning Schedule, Needs around Region, UPWP and TIP Development
7-Mar-13	Braintree	No	Regular MPO Meeting (outside Boston)	MPO topics typical of regular meetings
29-May-13	Lynn	Yes	General Workshop	Draft FFYs 2014-17 TIP and FFY 2014 UPWP, Transportation needs of EJ residents, Public Participation Plan
30-May-13	Framingham	Yes	General Workshop	Draft FFYs 2014-17 TIP and FFY 2014 UPWP, Transportation needs of EJ residents, Public Participation Plan
5-Jun-13	Boston (2/ Park Plaza)	Yes	General Workshop	Draft FFYs 2014-17 TIP and FFY 2014 UPWP, Transportation needs of EJ residents, Public Participation Plan
6-Jun-13	Woburn	No	Regular MPO Meeting (outside Boston)	MPO topics typical of regular meetings
16-Jul-13	Norwood	No	General Workshop	Proposed Canton Interchange Project, Amendment Two of LRTP
17-Oct-13	Framingham	Yes	Regular MPO Meeting (outside Boston)	MPO topics typical of regular meetings
3-Dec-13	Dedham	No	TIP and UPWP Development, Be Informed/Be Involved	TIP and UPWP development, Transportation needs
5-Dec-13	Franklin	No	Regular MPO Meeting (outside Boston)	MPO topics typical of regular meetings
11-Dec-13	Chelsea	Yes	TIP and UPWP Development, Be Informed/Be Involved	TIP and UPWP development, Transportation needs
7-Jan-14	Boston (2/ Park Plaza)	Yes	Be Informed, Be Involved	TIP and UPWP development, Transportation priorities

Date	Location	EJ and/or LEP Community	Type of Meeting	Topics Discussed
14-Jan-14	Boston	Yes	Human Services and Equity in Transportation Forum	Human Services and Equity in Transportation
6-Mar-14	Melrose	No	Regular MPO Meeting (outside Boston)	MPO topics typical of regular meetings
5-Jun-14	Salem	Yes	Regular MPO Meeting (outside Boston)	MPO topics typical of regular meetings
12-Jun-14	Reading	No	TIP and UPWP Workshop	Draft FFYs 2015-2018 TIP and FFY 2015 UPWP, Transportation needs
17-Jun-14	Boston (2/ Park Plaza)	Yes	TIP and UPWP Workshop	Draft FFYs 2015-2018 TIP and FFY 2015 UPWP, Transportation needs
18-Jun-14	Randolph	Yes	TIP and UPWP Workshop	Draft FFYs 2015-2018 TIP and FFY 2015 UPWP, Transportation needs

Appendix E—List of Acronyms and Abbreviations

3C process = continuing, comprehensive, and cooperative transportation planning process

A&F = Administration and Finance

AACT = Access Advisory Committee to the MBTA

ADA = Americans with Disabilities Act

Advisory Council = Regional Transportation Advisory Council

CFR = Code of Federal Regulations

CIP = Capital Investment Program

CMAQ = Congestion Mitigation and Air Quality Improvement Program

CMP = Congestion Management Process

CTPS = Central Transportation Planning Staff

EJ = Environmental Justice

FHWA = Federal Highway Administration

FTA = Federal Transit Administration

HTML = Hypertext Markup Language

ICC = Inner Core Committee

LAP = Language Assistance Plan

LEP = Limited English Proficiency

LRTP = Long-Range Transportation Plan

MAGIC = Minuteman Advisory Group on Interlocal Coordination

MAP-21 = Moving Ahead for Progress in the 21st Century Act

MAPC = Metropolitan Area Planning Council

MARPA = Massachusetts Association of Regional Planning Agencies

MassDOT = Massachusetts Department of Transportation

MBTA = Massachusetts Bay Transportation Authority

MetroWest = MetroWest Regional Collaborative

MOU = Memorandum of Understanding

MPO = Metropolitan Planning Organization

NSPC = North Suburban Planning Council

NSTF = North Shore Task Force

PDF = Portable Document Format

PMT = The MBTA's Program for Mass Transportation

RSS = Rich Site Summary

SAFETEA-LU = The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users

SSC = South Shore Coalition

STIP = State Transportation Improvement Program

SWAP = Southwest Advisory Planning Committee

TE = Transportation Equity

TIP = Transportation Improvement Program

TRIC = Three Rivers Interlocal Council

UPWP = Unified Planning Work Program

USC = United States Code

USDOT = United States Department of Transportation



APPENDIX H

GEOGRAPHIC DISTRIBUTION OF UPWP FUNDED STUDIES, FFYS 2017 AND 2018



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APPENDIX D

Geographic Distribution of UPWP Funded Studies

D.1 INTRODUCTION

This appendix summarizes the Metropolitan Planning Organization (MPO)-funded work products produced by MPO staff and the staff of the Metropolitan Area Planning Council (MAPC) during federal fiscal years (FFY) 2010 through 2015, as well as those expected to be completed by the end of FFY 2016. The narrative below describes the methodology used to compile this information, as well as some of the additional factors that could be used to further analyze and use this data to inform and guide public involvement and regional equity purposes.

D.2 PURPOSE AND METHODOLOGY

Purpose

The purpose of this data collection and analysis is to better understand the geographic spread of Unified Planning Work Program (UPWP) work products (i.e., reports and technical memoranda) throughout the region. In other words, this exercise serves to illuminate which communities and areas of our metropolitan region have been the subject of transportation studies and analyses (or recipients of technical support) conducted by the MPO staff with 3C (continuing, comprehensive, and cooperative) planning funds. The data presented below covers UPWP tasks completed from FFY 2010 through FFY 2016 and includes work that resulted in benefits to specific municipalities as well as studies that had a regional focus.

This is the first FFY in which this data has been compiled, and MPO staff intends to continue to compile this information each FFY. Maintaining a database to track the geographic distribution of UPWP studies (those benefiting specific communities as well as those benefiting a wider portion of the region) can serve as one important input into the UPWP funding decisions made each FFY. When considered in combination with other data, such as the presence and size of a municipal planning department or the percentage of minority residents, this data on geographic distribution of MPO-funded UPWP studies can help guide the MPO's public outreach to help ensure that, over time, we are meeting the needs of the region with the funds allocated through the UPWP.

Methodology

As noted above, this analysis examined FFYs 2010 through 2016. In order to generate information on the number of UPWP studies produced during these FFYs that benefited specific cities and towns in the Boston region, MPO staff performed the following main steps:

- Reviewed all work products listed as complete in UPWPs from FFYs 2011 through 2017
- Excluded all agency and other client-funded studies and technical analyses in order to focus the analysis on MPO-funded work only

- Excluded all work products that had a regional focus rather than benefiting specific municipalities
- Excluded all work related to certification requirements (Chapter 5) and administration, resource management, and support activities (Chapter 8)
- Compiled a count of all reports and technical memoranda completed specifically for one municipality, or reports and technical memoranda directly benefiting multiple municipalities. In the case where multiple municipalities directly benefit from a report or technical memoranda, the work product was counted once for each municipality that benefited. Examples of studies and reports that benefited multiple municipalities include the Massachusetts Bay Transportation Authority (MBTA) Bus Route 1 Transit Signal Priority Study (both Boston and Cambridge were beneficiaries of this study) and the Route 126 Corridor Study (both Bellingham and Medway were beneficiaries of this study)
- Reviewed and discussed the status and focus of studies, technical memoranda, and reports with project managers and technical staff

D.3 PLANNING STUDIES AND TECHNICAL ANALYSES BY COMMUNITY

Table D-1 shows the number of completed MPO-funded UPWP work products from FFY 2010 through FFY 2016 that are determined to provide benefits to specific municipalities. Studies and technical analyses are grouped by the year in which they were completed, rather than the year in which they were first programmed in the UPWP. Examples of the types of studies and work in the table include:

- Evaluating Transit-Oriented Development opportunities at specific MBTA Stations
- Technical assistance on Massachusetts Environmental Policy Act (MEPA) Environmental Impact Reports
- Complete streets analyses for specific municipalities
- Operations analyses and alternative conceptual design recommendations for specific intersections



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Table D-1: Number of UPWP Tasks by Federal Fiscal Year and Community, Grouped by Subregion

Community	2010	2011	2012	2013	2014	2015	2016	Total	2010 Population	2010 Minority Population Count	2010 Median Household Income	2010 Roadway Miles	Subregion
Boston	3	4	5	2	4	4	3	25	617,594	327,282	\$50,684	778	Inner Core
Everett	2	1	2	2	3	3	2	15	41,667	19,351	\$49,737	57	Inner Core
Waltham	2	2	2	2	2	2	3	15	60,632	18,954	\$66,346	115	Inner Core
Somerville	4	3	2	2	1	1	1	14	75,754	23,395	\$61,731	88	Inner Core
Cambridge	2	2	2	1	1	1	4	13	105,162	39,903	\$64,865	120	Inner Core
Newton	1	2	3	2	2	2		12	85,146	17,345	\$107,696	276	Inner Core
Quincy	3	1	3	2	2			11	92,271	31,823	\$59,803	185	Inner Core
Chelsea	4	1	2	1	1	1		10	35,177	26,295	\$40,487	44	Inner Core
Malden	2	2	3	1	1	1		10	59,450	28,239	\$56,347	93	Inner Core
Lynn	3		1	3			1	8	90,329	47,360	\$43,200	153	Inner Core
Medford	2	1	1	1	1		1	7	56,173	13,384	\$70,102	92	Inner Core
Revere	1		2	2	2			7	51,755	19,456	\$49,759	85	Inner Core
Brookline		1	1	1	1	1	1	6	58,732	15,692	\$95,448	92	Inner Core
Melrose	1		1	2	1	1		6	26,983	2,822	\$82,482	71	Inner Core
Belmont	1	1			1		2	5	24,729	4,611	\$95,197	72	Inner Core
Arlington	2	1					1	4	42,844	7,040	\$82,771	101	Inner Core
Saugus	1		1	1				3	26,628	2,768	\$71,023	77	Inner Core
Winthrop	1		1					2	17,497	2,011	\$67,535	36	Inner Core
Watertown	1							1	31,915	5,850	\$74,081	72	Inner Core
Nahant								0	3,410	153	\$81,831	17	Inner Core
Inner Core Subtotals	36	22	32	25	23	17	17	172	1,603,848	653,734		2624	

Table D-1(cont.)

Community	2010	2011	2012	2013	2014	2015	2016	Total	2010 Population	2010 Minority Population Count	2010 Median Household Income	2010 Roadway Miles	Subregion
Lexington	2	1	3	1	1	2		10	31,394	8,256	\$130,637	117	MAGIC
Lincoln	1	1	3	2	1	1		9	6,362	1,096	\$121,104	51	MAGIC
Acton			2			4	1	7	21,924	5,369	\$105,523	103	MAGIC
Bedford	3		1		1	2		7	13,320	2,136	\$107,639	70	MAGIC
Hudson		2	2	1		2		7	19,063	2,118	\$74,983	83	MAGIC
Maynard			2	1		4		7	10,106	996	\$75,597	35	MAGIC
Sudbury	2	2	1	1		1		7	17,659	1,880	\$153,295	138	MAGIC
Concord			1	1	1	3	1	7	17,668	2,266	\$119,858	104	MAGIC
Littleton			2			3		5	8,924	685	\$103,616	62	MAGIC
Bolton	1	1	1			1		4	4,897	320	\$125,741	60	MAGIC
Boxborough			1			3		4	4,996	1,056	\$102,222	33	MAGIC
Stow			2	1		1		4	6,590	511	\$117,440	52	MAGIC
Carlisle			1			1		2	4,852	595	\$155,000	55	MAGIC
MAGIC Subtotals	9	7	22	8	4	28	1	79	167,755	27,284		963	
Weston	4	2	2	2	2	2	2	16	11,261	1,868	\$148,512	88	MetroWest
Framingham	3	3	3	2	2	1	1	15	68,318	23,693	\$64,061	219	MetroWest
Wellesley	3	1	2	2	1	2	1	12	27,982	4,921	\$139,784	109	MetroWest
Natick	3	2	2	2			1	10	33,006	4,817	\$87,568	123	MetroWest
Southborough	2	2	2	1		1		8	9,767	1,362	\$140,184	69	MetroWest
Marlborough	1	1	1	2	1			6	38,499	9,546	\$71,617	129	MetroWest
Holliston	2			1	1			4	13,547	902	\$103,600	86	MetroWest
Ashland	2			1				3	16,593	3,063	\$92,974	73	MetroWest

Table D-1(cont.)

Community	2010	2011	2012	2013	2014	2015	2016	Total	2010 Population	2010 Minority Population Count	2010 Median Household Income	2010 Roadway Miles	Subregion
Wayland	1	1		1				3	12,994	1,912	\$129,805	87	MetroWest
MetroWest Subtotals	21	12	12	14	7	6	5	77	231,967	52,084		983	
Burlington	3	2	2	2	1	1	1	12	24,498	5,106	\$90,341	94	NSPC
Reading	2		1	3	2	2	1	11	24,747	1,870	\$99,130	89	NSPC
Woburn	2		1	3		1	1	8	38,120	6,990	\$71,060	121	NSPC
Wilmington	1		1	3			1	6	22,325	1,725	\$94,900	95	NSPC
Winchester	1		1	2			2	6	21,374	3,065	\$121,572	73	NSPC
Lynnfield	1			1		2	1	5	11,596	758	\$87,590	66	NSPC
Stoneham	1			2		1	1	5	21,437	2,033	\$76,574	65	NSPC
Wakefield	1		1	1			1	4	24,932	1,751	\$89,246	85	NSPC
North Reading				1		1	1	3	14,892	901	\$96,016	76	NSPC
NSPC Subtotals	12	2	7	18	3	8	10	60	203,921	24,199		764	
Salem	2	3				2	1	8	41,340	9,963	\$56,979	88	NSTF
Danvers	1	2	2		1			6	26,493	1,654	\$75,310	104	NSTF
Beverly		2		1	1	1		5	39,502	3,397	\$66,671	125	NSTF
Peabody	2	2						4	51,251	6,317	\$65,515	159	NSTF
Rockport		2		1				3	6,952	286	\$70,625	33	NSTF
Swampscott	1		1	1				3	13,787	963	\$90,763	43	NSTF
Gloucester				1	1			2	28,789	1,689	\$60,506	88	NSTF
Marblehead	1			1				2	19,808	990	\$97,097	66	NSTF
Hamilton		1						1	7,764	676	\$99,732	45	NSTF
Ipswich		1						1	13,175	704	\$80,816	73	NSTF

Table D-1(cont.)

Community	2010	2011	2012	2013	2014	2015	2016	Total	2010 Population	2010 Minority Population Count	2010 Median Household Income	2010 Roadway Miles	Subregion
Middleton							1	1	8,987	1,142	\$87,728	46	NSTF
Wenham		1						1	4,875	268	\$132,697	27	NSTF
Essex								0	3,504	135	\$76,989	24	NSTF
Manchester								0	5,136	184	\$105,000	24	NSTF
Topsfield								0	6,085	283	\$115,015	50	NSTF
NSTF Subtotals	7	14	3	5	3	3	2	37	277,448	28,651		995	
Braintree	5		1	2		1	1	10	35,744	5,273	\$81,146	104	SSC
Weymouth	3			1	1	1		6	53,743	6,379	\$65,849	141	SSC
Cohasset				2		1		3	7,542	288	\$114,214	32	SSC
Holbrook	1			2				3	10,791	2,070	\$62,623	34	SSC
Scituate				2		1		3	18,133	856	\$86,723	101	SSC
Hingham	1			1				2	22,157	1,022	\$98,890	110	SSC
Marshfield			1	1				2	25,132	1,005	\$86,486	131	SSC
Norwell				2				2	10,506	495	\$108,944	69	SSC
Duxbury				1				1	15,059	560	\$114,565	103	SSC
Hanover				1				1	13,879	579	\$100,233	85	SSC
Hull				1				1	10,293	591	\$72,166	50	SSC
Pembroke				1				1	17,837	699	\$80,694	91	SSC
Rockland	1							1	17,489	1,610	\$64,512	48	SSC
SSC Subtotals	11	0	2	17	1	4	1	36	258,305	21,427		1099	
Milford	1			3	3	1		8	27,999	4,895	\$66,636	109	SWAP
Hopkinton	2	1		3		1		7	14,925	1,238	\$120,240	106	SWAP
Medway	1		1	2				4	12,752	828	\$102,002	70	SWAP

Table D-1(cont.)

Community	2010	2011	2012	2013	2014	2015	2016	Total	2010 Population	2010 Minority Population Count	2010 Median Household Income	2010 Roadway Miles	Subregion
Sherborn	1			3				4	4,119	274	\$145,250	56	SWAP
Bellingham	1			2				3	16,332	1,347	\$78,290	83	SWAP
Franklin				2	1			3	31,635	2,709	\$89,330	132	SWAP
Millis	1			2				3	7,891	576	\$85,472	52	SWAP
Wrentham	1			2				3	10,955	414	\$94,406	67	SWAP
Norfolk				2				2	11,227	1,734	\$113,266	70	SWAP
SWAP Subtotals	8	1	1	21	4	2	0	37	137,835	14,015		745	
Needham	2		1	2	1	1	1	8	28,886	3,156	\$114,365	119	TRIC
Dedham	1		1	2		1	1	6	24,729	3,682	\$80,865	82	TRIC
Westwood	1		1	2	1	1		6	14,618	1,237	\$114,250	80	TRIC
Foxborough				2	1	1		4	16,865	1,400	\$93,397	82	TRIC
Randolph	4							4	32,112	19,559	\$64,607	93	TRIC
Walpole	2			1		1		4	24,070	2,222	\$89,697	117	TRIC
Stoughton	1	1			1			3	26,962	5,822	\$67,175	108	TRIC
Canton	1				1			2	21,561	3,610	\$89,705	92	TRIC
Norwood	1			1				2	28,602	4,960	\$72,472	93	TRIC
Medfield						1		1	12,024	731	\$126,048	72	TRIC
Sharon								0	17,612	3,341	\$115,172	106	TRIC
Milton	2	3						5	27,003	6,514	\$97,421	94	TRIC/Inner Core
Dover	1			3				4	5,589	490	\$164,583	59	TRIC/SWAP
TRIC Subtotals	16	4	3	13	5	6	2	49	280,633	56,724		1197	
Grand Total	120	62	82	121	50	74	38	547	3,161,712	878,118		9370	

MAGIC = Minuteman Advisory Group on Interlocal Coordination. NSPC = North Suburban Planning Council. NSTF = North Shore Task Force. SSC = South Shore Coalition. SWAP = South West Advisory Planning Committee. TRIC = Three Rivers Interlocal Council.

D.4 REGIONWIDE PLANNING STUDIES AND TECHNICAL ANALYSES

In addition to work that benefits specific municipalities, many of the projects funded by the MPO through the UPWP have a regional focus. Table D-2 lists MPO-funded UPWP studies completed from 2010 through 2016 that were regional in focus.

More information on these studies and other work can be found on the MPO’s website (http://bosmpo.ctps.org/recent_studies) or by contacting Alexandra Kleyman, UPWP Manager, at akleyman@ctps.org.

Table D-2: Regionally-Focused MPO Funded UPWP Studies

FFY 2016	
Central Transportation Planning Staff	Metropolitan Area Planning Council
<ul style="list-style-type: none"> • Modeling Capacity Constraints • Identifying Opportunities to Alleviate Bus Delay • Research Topics Generated by MPO Staff (FFY 2016): Transit dependence scoring system using driver license data • Title VI Service Equity Analyses: Methodology Development • Exploring the 2011 Massachusetts Travel Survey: MPO Travel Profiles • Exploring the 2011 Massachusetts Travel Survey: Barriers and Opportunities Influencing Mode Shift • Core Capacity Constraints • EJ and Title VI Analysis Methodology Review • Transportation Investments for Economic Development 	<ul style="list-style-type: none"> • Right-Size Parking Report • Transportation Demand Management— Case Studies and Regulations • Hybrid Electric Vehicle Retrofit Procurement • Autonomous Vehicles and Connected Cars research • MetroFuture Implementation technical memorandums
FFY 2015	
Central Transportation Planning Staff	Metropolitan Area Planning Council
<ul style="list-style-type: none"> • Barriers and Opportunities Influencing Mode Shift • Bicycle Network Gaps: Feasibility Evaluations • Greenhouse Gas Reduction Strategy Alternatives: Cost-Effectiveness Analysis • Roadway Network for Emergency Needs • 2012 Inventory of Bicycle Parking Spaces and Number of Parked Bicycles at MBTA stations • 2012-2013 Inventory of Park-and-Ride Lots at MBTA Facilities • Title VI Service Equity Analyses: Methodology Development 	<ul style="list-style-type: none"> • Population and Housing Projections for Metro Boston • Regional Employment Projections for Metro Boston • Right-size parking calculator

FFY 2014	
Central Transportation Planning Staff	Metropolitan Area Planning Council
<ul style="list-style-type: none"> • Bicycle Network Evaluation • Household Survey-Based Travel Profiles and Trends • Exploring the 2011 Massachusetts Travel Survey: Focus on Journeys to Work • Methodology for Evaluating the Potential for Limited-Stop Service on Transit Routes 	<ul style="list-style-type: none"> • Transportation Demand Management Best Practices and Model Municipal Bylaw • Land Use Baseline for Bus Rapid Transit • MetroFuture community engagement
FFY 2013	
Central Transportation Planning Staff	Metropolitan Area Planning Council
<ul style="list-style-type: none"> • Regional HOV-Lane Systems Planning Study, Phase II • Roadway Network Inventory for Emergency Needs: A Pilot Study • Carbon Dioxide, Climate Change, and the Boston Region MPO: 2012 Update • Massachusetts Regional Bus Study • Boston Region MPO Freight Program 	<ul style="list-style-type: none"> • Regional Trail Network Map and Greenway Planning • MetroFuture engagement at the local level, updates to the Regional Indicators Reports, and Smart Growth Profiles
FFY 2012	
Central Transportation Planning Staff	Metropolitan Area Planning Council
<ul style="list-style-type: none"> • Analysis of JARC and New Freedom Projects • Safety and Security Planning • Emergency Mitigation and Hazard Mapping, Phase II • Impacts of Walking Radius, Transit Frequency, and Reliability • MBTA Systemwide Passenger Survey: Comparison of Results • Pavement Management System Development • Roundabout Installation Screening Tool • TIP Project Impacts Before/After Evaluation • Regional HOV System Planning Study • Freight Survey 	<ul style="list-style-type: none"> • Snow Removal Policy Toolkit • MetroFuture implementation strategies— updated implementation strategies including focus on equity indicators

FFY 2011	
Central Transportation Planning Staff	Metropolitan Area Planning Council
<ul style="list-style-type: none"> • Charlie Card Trip Paths Pilot Study • Early Morning Transit Service • Maintenance Cost of Municipally Controlled Roadways • Analysis of Responses to the MBTA Systemwide Onboard Passenger Survey by Respondents in Environmental-Justice Areas • MBTA Core Services Evaluation • MPO Freight Study, Phase I and Phase II • MPO Freight/Rail Study 	<ul style="list-style-type: none"> • MPO Pedestrian Plan • MPO Regional Bike Parking Program • Toolkit for Sustainable Mobility— focusing on local parking issues
FFY 2010	
Central Transportation Planning Staff	Metropolitan Area Planning Council
<ul style="list-style-type: none"> • An Assessment of Regional Equity Outreach 2008–2009 • Coordinated Human Services Transportation Plan Update • Greenbush Commuter Rail Before and After Study • Mobility Assistance Program and Section 5310 Review • Safety Evaluation of TIP Projects • Red Line-Blue Line Connector Study Support 	<ul style="list-style-type: none"> • Creation of a GIS coverage and related database of MAPC-reviewed projects and their mitigation commitments • Implementation of the regional and statewide bicycle and pedestrian plans, and work on bicycle/pedestrian-related issues, including coordination with relevant national, state, and regional organizations

EJ = environmental justice. FFY = federal fiscal year. GIS = geographic information systems. HOV = high-occupancy vehicle. JARC = job access reverse commute program. MAPC = Metropolitan Area Planning Council. MBTA = Massachusetts Bay Transportation Authority. MPO = Metropolitan Planning Organization. TIP = Transportation Improvement Program.

D.5 NEXT STEPS

As mentioned previously, this is the first year that this type of data has been comprehensively compiled for the MPO staff’s work as programmed through the UPWP. Going forward, MPO staff intends to collect this data on an annual basis and to continue to use it as one input that can inform UPWP funding decisions. The data summarized in this appendix and future UPWP funding data that is added to it could be used in a number of different ways to help guide the spending decisions made in future UPWPs. Some analyses that the MPO could complete in the future include:

- Compare the number of tasks per community to the presence and size of a municipal planning department in each city and town
- Examine the use of different measures to understand the geographic distribution of benefits derived from funding programmed through the UPWP. For example, in addition to analyzing the number of tasks per community, the MPO could consider the number of dollars spent per community or the magnitude of benefits that could be derived from UPWP studies (e.g., congestion reduction, air quality improvement, etc.)
- Examine in more detail the geographic distribution of UPWP studies and technical analyses per subregion or per MAPC community type to understand the type of tasks being completed and how these compare to municipally identified needs
- Examine the number of tasks per community and compare the data to the number of road miles, the median household income, or the minority population in each community
- Compare the number of tasks directly benefiting each municipality with the geographic distribution of transportation needs identified in the Long-Range Transportation Plan (LRTP), *Charting Progress to 2040*. The transportation needs of the region for the next 25 years are identified and organized in the LRTP according to the MPO's goal areas, which include safety, system preservation, capacity management and mobility, clean air and clean communities, transportation equity, and economic vitality.

Making these comparisons with the data will provide the MPO with a clearer understanding of the impacts of the work that is programmed through the UPWP. Additionally, the MPO will be able to make more informed decisions about how we choose to distribute funding for transportation studies and technical analyses throughout the region.



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APPENDIX D

Geographic Distribution of UPWP Funded Studies

[Under Development]

APPENDIX D: GEOGRAPHIC DISTRIBUTION OF UPWP STUDIES AND TECHNICAL ANALYSES

D.1 INTRODUCTION

This appendix summarizes the Metropolitan Planning Organization (MPO)-funded work products produced by MPO staff (CTPS) and the staff of the Metropolitan Area Planning Council (MAPC) during federal fiscal years (FFY) 2010 through 2016, as well as those expected to be completed by the end of FFY 2017. The narrative below describes the methodology used to compile this information, as well as some of the additional factors that could be used to further analyze and use this data to inform and guide public involvement and regional equity purposes.

D.2 PURPOSE AND METHODOLOGY

Purpose

The purpose of this data collection is to better understand the geographic spread of Unified Planning Work Program (UPWP) work products (i.e., reports and technical memoranda) throughout the region. In other words, this exercise serves to illuminate which communities and areas of our metropolitan region have been the subject of transportation studies and analyses (or recipients of technical support) conducted by the MPO staff with 3C (continuing, comprehensive, and cooperative) planning funds. The data presented in Table D-1 below covers UPWP tasks completed from FFY 2010 through FFY 2017 and includes work that resulted in benefits to specific municipalities. Studies that had a regional focus are presented in Table D-2.

Maintaining a database to track the geographic distribution of UPWP studies (those benefiting specific communities as well as those benefiting a wider portion of the region) can serve as one important input into the UPWP funding decisions made each FFY. When considered in combination with other information this data on geographic distribution of MPO-funded UPWP studies can help guide the MPO's public outreach to help ensure that, over time, we are meeting the needs of the region with the funds allocated through the UPWP.

Methodology

As noted above, this analysis examined FFYs 2010 through 2017. In order to generate information on the number of UPWP studies produced during these FFYs that benefited specific cities and towns in the Boston region, MPO staff performed the following main steps:

- Reviewed all work products listed as complete in UPWPs from FFYs 2010 through 2017
- Excluded all agency and other client-funded studies and technical analyses in order to focus the analysis on MPO-funded work only
- Excluded all work products that had a focus that was regional or not limited to a specific geography.

- Excluded all work related to certification requirements (Chapter 5) and administration, resource management, and support activities (Chapter 8)
- Compiled a count of all reports and technical memoranda completed specifically for one municipality, or reports and technical memoranda directly benefiting multiple municipalities. In the case where multiple municipalities directly benefit from a report or technical memoranda, the work product was counted once for each municipality that benefited
- Reviewed and discussed the status and focus of studies, technical memoranda, and reports with project managers and technical staff

D.3 PLANNING STUDIES AND TECHNICAL ANALYSES BY COMMUNITY

Table D-1 shows the number of completed MPO-funded UPWP work products from FFY 2010 through FFY 2017 that are determined to provide benefits to specific municipalities. Studies and technical analyses are grouped by the year in which they were completed, rather than the year in which they were first programmed in the UPWP. Examples of the types of studies and work in the table include:

- Evaluating Transit-Oriented Development opportunities at specific MBTA Stations
- Technical assistance on Massachusetts Environmental Policy Act (MEPA) Environmental Impact Reports
- Complete streets analyses for specific municipalities
- Operations analyses and alternative conceptual design recommendations for specific intersections

**Table D-1: Number of UPWP Tasks by Federal Fiscal Year and Community,
Grouped by Subregion**

Community	2010-2014				2010-2017			
	Total	2015	2016	2017	Total	Population	Minority %	Low-Income %
Boston	18	4	3	1	26	617,599	53.0%	44.1%
Everett	10	3	2	1	16	41,667	46.4%	45.1%
Waltham	10	2	3	1	16	60,632	31.3%	32.2%
Somerville	12	1	1	1	15	75,754	30.9%	33.3%
Cambridge	8	1	4	5	18	105,163	37.9%	33.1%
Newton	10	2			12	85,145	20.4%	20.8%
Quincy	11				11	92,272	34.5%	36.3%
Chelsea	9	1		2	12	35,178	74.7%	47.3%
Malden	9	1		2	12	59,451	47.5%	41.8%
Lynn	7		1		8	90,330	52.4%	48.4%
Medford	6		1		7	56,173	23.8%	29.9%
Revere	7				7	51,755	37.6%	44.3%
Brookline	4	1	1	2	8	58,732	26.7%	27.8%
Melrose	5	1		1	7	26,983	10.5%	25.1%
Belmont	3		2	1	6	24,729	18.6%	21.3%
Arlington	3		1	3	7	42,845	16.4%	24.7%
Saugus	3				3	42,845	16.4%	24.7%
Winthrop	2				2	17,497	11.5%	35.7%
Watertown	1				1	31,915	18.3%	23.5%
Nahant	0				0	3,410	4.5%	33.2%
Inner Core Subtotals	138	17	19	20	194			
Lexington	8	2			10	31,393	26.3%	18.1%
Lincoln	8	1			9	6,362	17.2%	16.4%
Acton	2	4	1		7	21,924	24.5%	19.1%
Bedford	5	2			7	13,320	16.0%	16.8%
Hudson	5	2			7	19,063	11.1%	30.7%
Maynard	3	4		1	8	10,106	9.9%	30.8%
Sudbury	6	1			7	17,659	10.6%	10.8%
Concord	3	3	1	3	10	17,668	12.8%	18.2%
Littleton	2	3			5	8,925	7.7%	23.2%
Bolton	3	1		1	5	4,897	6.5%	18.7%
Boxborough	1	3			4	4,996	21.1%	23.1%
Stow	3	1			4	6,590	7.8%	19.5%
Carlisle	1	1			2	4,852	12.3%	15.6%
MAGIC Subtotals	50	28	2	5	85			
Weston	12	2	2	2	18	11,261	16.6%	14.8%
Framingham	13	1	1	2	17	68,321	34.7%	36.3%
Wellesley	9	2	1	1	13	27,984	17.6%	13.8%
Natick	9		1	1	11	33,005	14.6%	24.5%

Southborough	7	1		1	9	9,766	13.9%	13.2%
Marlborough	6			2	8	38,498	24.8%	31.5%
Holliston	4			1	5	13,547	6.7%	25.8%
Ashland	3			1	4	16,593	18.5%	22.0%
Wayland	3			1	4	12,994	14.7%	20.2%
MetroWest Subtotals	66	6	5	12	89			
Burlington	10	1	1	1	13	24,498	20.8%	22.4%
Reading	8	2	1	1	12	24,746	7.6%	20.7%
Woburn	6	1	1	2	10	38,120	18.3%	28.8%
Wilmington	5		1	1	7	22,324	7.7%	16.4%
Winchester	4		2	1	7	21,374	14.3%	14.9%
Lynnfield	2	2	1	1	6	11,595	6.5%	18.7%
Stoneham	3	1	1	1	6	21,437	9.5%	31.5%
Wakefield	3		1	1	5	24,931	7.0%	24.4%
North Reading	1	1	1	1	4	14,892	6.1%	17.7%
NSPC Subtotals	42	8	10	10	70			
Salem	5	2	1	3	11	41,340	24.1%	40.6%
Danvers	6			1	7	26,493	6.2%	27.5%
Beverly	4	1		1	6	39,502	8.6%	32.8%
Peabody	4			2	6	51,252	12.3%	36.6%
Rockport	3			1	4	6,952	4.1%	31.4%
Swampscott	3			2	5	13,787	7.0%	22.3%
Gloucester	2			1	3	28,789	5.9%	40.1%
Marblehead	2			2	4	19,809	5.0%	22.3%
Hamilton	1			1	2	7,764	8.7%	25.5%
Ipswich	1			1	2	13,175	5.3%	30.6%
Middleton	0		1	2	3	8,988	12.7%	21.1%
Wenham	1			1	2	4,875	5.5%	22.5%
Essex	0			1	1	3,504	3.9%	25.5%
Manchester	0			2	2	5,136	3.6%	25.9%
Topsfield	0			1	1	6,085	4.7%	15.8%
NSTF Subtotals	32	3	2	22	59			
Braintree	8	1	1		10	35,745	14.7%	26.2%
Weymouth	5	1			6	53,744	11.9%	32.7%
Cohasset	2	1			3	7,542	3.8%	17.9%
Holbrook	3				3	10,792	19.2%	32.3%
Scituate	2	1			3	18,133	4.7%	22.3%
Hingham	2				2	21,962	4.6%	24.0%
Marshfield	2				2	25,132	4.0%	26.2%
Norwell	2				2	10,506	4.7%	18.0%
Duxbury	1				1	15,059	3.7%	18.7%
Hanover	1				1	13,879	4.2%	20.1%
Hull	1				1	10,293	5.7%	32.4%
Pembroke	1				1	17,837	3.9%	22.1%
Rockland	1				1	17,489	9.2%	35.8%
SSC Subtotals	31	4	1	0	36			

Milford	7	1			8	28,000	17.5%	31.4%
Hopkinton	6	1			7	14,925	8.3%	14.1%
Medway	4				4	12,752	6.5%	20.5%
Sherborn	4				4	4,119	6.7%	13.1%
Bellingham	3				3	16,333	8.2%	22.8%
Franklin	3				3	31,635	8.6%	19.9%
Millis	3				3	7,891	7.3%	20.8%
Wrentham	3				3	10,955	3.8%	20.9%
Norfolk	2				2	11,227	15.4%	13.7%
SWAP Subtotals	35	2	0	0	37			
Needham	6	1	1		8	28,886	10.9%	15.2%
Dedham	4	1	1		6	24,729	14.9%	25.1%
Westwood	5	1			6	14,618	8.5%	19.2%
Foxborough	3	1			4	16,865	8.3%	25.2%
Randolph	4				4	32,111	60.9%	36.6%
Walpole	3	1			4	24,071	9.2%	21.6%
Stoughton	3			1	3	26,963	21.6%	31.9%
Canton	2				2	21,561	16.7%	24.3%
Norwood	2				2	28,603	17.3%	30.1%
Medfield	0	1			1	12,024	6.1%	12.7%
Sharon	0				0	17,612	19.0%	16.2%
Milton	5				5	27,002	24.1%	22.3%
Dover	4				4	5,589	8.8%	10.7%
TRIC Subtotals	41	6	2	1	50			
Grand Total	435	74	41	70	620			

MAGIC = Minuteman Advisory Group on Interlocal Coordination. NSPC = North Suburban Planning Council. NSTF = North Shore Task Force. SSC = South Shore Coalition. SWAP = South West Advisory Planning Committee. TRIC = Three Rivers Interlocal Council.

D.4 REGIONWIDE PLANNING STUDIES AND TECHNICAL ANALYSES

In addition to work that benefits specific municipalities, many of the projects funded by the MPO through the UPWP have a regional focus. Table D-2 lists MPO-funded UPWP studies completed from 2010 through 2017 that were regional in focus. Some regionally focused studies may have work products that overlap with those analyzed in table D-1 above.

More information on these studies and other work can be found on the MPO’s website (http://bosmpo.ctps.org/recent_studies) or by contacting Sandy Johnston, UPWP Manager, at sjohnston@ctps.org.

Table D-2: Regionally-Focused MPO Funded UPWP Studies

FFY 2017	
Central Transportation Planning Staff	Metropolitan Area Planning Council
<ul style="list-style-type: none"> • Planning for Autonomous and Connected Vehicles • Study of Promising GHG-Reduction Strategies • Using GTFS Data to Find Shared Bus Route Segments with Excessively Irregular Headways • Pedestrian Level-of-Service Metric Development • Exploring the 2011 Massachusetts Travel Survey: MPO Travel Profiles • Exploring the 2011 Massachusetts Travel Survey: Barriers and Opportunities Influencing Mode Shift • Core Capacity Constraints • Barriers and Opportunities Influencing Mode Shift • Bicycle Network Gaps: Feasibility Evaluations 	<ul style="list-style-type: none"> • North Suburban Mobility Study • North Shore Mobility Study • Perfect Fit Parking Report and Website • Hubway Bikeshare Coordination • MetroWest LandLine Gaps Analyses
FFY 2016	
Central Transportation Planning Staff	Metropolitan Area Planning Council
<ul style="list-style-type: none"> • Modeling Capacity Constraints • Identifying Opportunities to Alleviate Bus Delay • Research Topics Generated by MPO Staff (FFY 2016): Transit dependence scoring system using driver license data 	<ul style="list-style-type: none"> • Right-Size Parking Report • Transportation Demand Management—Case Studies and Regulations • Hybrid Electric Vehicle Retrofit Procurement • Autonomous Vehicles and Connected Cars research

<ul style="list-style-type: none"> • Title VI Service Equity Analyses: Methodology Development • EJ and Title VI Analysis Methodology Review • Transportation Investments for Economic Development 	<ul style="list-style-type: none"> • MetroFuture Implementation technical memorandums
FFY 2015	
Central Transportation Planning Staff	Metropolitan Area Planning Council
<ul style="list-style-type: none"> • Greenhouse Gas Reduction Strategy Alternatives: Cost-Effectiveness Analysis • Roadway Network for Emergency Needs • 2012 Inventory of Bicycle Parking Spaces and Number of Parked Bicycles at MBTA stations • 2012-2013 Inventory of Park-and-Ride Lots at MBTA Facilities • Title VI Service Equity Analyses: Methodology Development 	<ul style="list-style-type: none"> • Population and Housing Projections for Metro Boston • Regional Employment Projections for Metro Boston • Right-size parking calculator
FFY 2014	
Central Transportation Planning Staff	Metropolitan Area Planning Council
<ul style="list-style-type: none"> • Bicycle Network Evaluation • Household Survey-Based Travel Profiles and Trends • Exploring the 2011 Massachusetts Travel Survey: Focus on Journeys to Work • Methodology for Evaluating the Potential for Limited-Stop Service on Transit Routes 	<ul style="list-style-type: none"> • Transportation Demand Management Best Practices and Model Municipal Bylaw • Land Use Baseline for Bus Rapid Transit • MetroFuture community engagement
FFY 2013	
Central Transportation Planning Staff	Metropolitan Area Planning Council
<ul style="list-style-type: none"> • Regional HOV-Lane Systems Planning Study, Phase II • Roadway Network Inventory for Emergency Needs: A Pilot Study • Carbon Dioxide, Climate Change, and the Boston Region MPO: 2012 Update • Massachusetts Regional Bus Study • Boston Region MPO Freight Program 	<ul style="list-style-type: none"> • Regional Trail Network Map and Greenway Planning • MetroFuture engagement at the local level, updates to the Regional Indicators Reports, and Smart Growth Profiles
FFY 2012	
Central Transportation Planning Staff	Metropolitan Area Planning Council
<ul style="list-style-type: none"> • Analysis of JARC and New Freedom Projects 	<ul style="list-style-type: none"> • Snow Removal Policy Toolkit

- Safety and Security Planning
- Emergency Mitigation and Hazard Mapping, Phase II
- Impacts of Walking Radius, Transit Frequency, and Reliability
- MBTA Systemwide Passenger Survey: Comparison of Results
- Pavement Management System Development
- Roundabout Installation Screening Tool
- TIP Project Impacts Before/After Evaluation
- Regional HOV System Planning Study
- Freight Survey
- MetroFuture implementation strategies— updated implementation strategies including focus on equity indicators

FFY 2011

Central Transportation Planning Staff

Metropolitan Area Planning Council

- | | |
|--|--|
| <ul style="list-style-type: none"> • Charlie Card Trip Paths Pilot Study • Early Morning Transit Service • Maintenance Cost of Municipally Controlled Roadways • Analysis of Responses to the MBTA Systemwide Onboard Passenger Survey by Respondents in Environmental-Justice Areas • MBTA Core Services Evaluation • MPO Freight Study, Phase I and Phase II • MPO Freight/Rail Study | <ul style="list-style-type: none"> • MPO Pedestrian Plan • MPO Regional Bike Parking Program • Toolkit for Sustainable Mobility— focusing on local parking issues |
|--|--|

FFY 2010

Central Transportation Planning Staff

Metropolitan Area Planning Council

- | | |
|--|--|
| <ul style="list-style-type: none"> • An Assessment of Regional Equity Outreach 2008–2009 • Coordinated Human Services Transportation Plan Update • Greenbush Commuter Rail Before and After Study • Mobility Assistance Program and Section 5310 Review • Safety Evaluation of TIP Projects • Red Line-Blue Line Connector Study Support | <ul style="list-style-type: none"> • Creation of a GIS coverage and related database of MAPC-reviewed projects and their mitigation commitments • Implementation of the regional and statewide bicycle and pedestrian plans, and work on bicycle/pedestrian-related issues, including coordination with relevant national, state, and regional organizations |
|--|--|

EJ = environmental justice. FFY = federal fiscal year. GIS = geographic information systems. HOV = high-occupancy vehicle. JARC = job access reverse commute program. MAPC = Metropolitan Area Planning Council. MBTA = Massachusetts Bay Transportation Authority. MPO = Metropolitan Planning Organization. TIP = Transportation Improvement Program.

D.5 NEXT STEPS

MPO staff intends to continue to collect this data on an annual basis and develop a process for using it as one input that can inform UPWP funding decisions. The data summarized in this appendix and future UPWP funding data that is added to it could potentially be used in a number of different ways to help guide the spending decisions made in future UPWPs. Depending on the direction the development of this process takes, some analyses that the MPO could complete in the future include:

- Compare the number of tasks per community to the presence and size of a municipal planning department in each city and town
- Examine the use of different measures to understand the geographic distribution of benefits derived from funding programmed through the UPWP. For example, in addition to analyzing the number of tasks per community, the MPO could consider the number of dollars spent per community or the magnitude of benefits that could be derived from UPWP studies (e.g., congestion reduction, air quality improvement, etc.)
- Examine in more detail the geographic distribution of UPWP studies and technical analyses per subregion or per MAPC community type to understand the type of tasks being completed and how these compare to municipally identified needs
- Examine the number of tasks per community and compare the data to the number of road miles, the median household income, or the minority population in each community
- Develop graphics illustrating the geographic distribution of UPWP studies and spending and mapping that distribution relative to Environmental Justice and Transportation Equity concern areas.
- Compare the number of tasks directly benefiting each municipality with the geographic distribution of transportation needs identified in the Long-Range Transportation Plan (LRTP), *Charting Progress to 2040*. The transportation needs of the region for the next 25 years are identified and organized in the LRTP according to the MPO's goal areas, which include safety, system preservation, capacity management and mobility, clean air and clean communities, transportation equity, and economic vitality.

Making these comparisons with the data will provide the MPO with a clearer understanding of the impacts of the work that is programmed through the UPWP. Additionally, the MPO will be able to make more informed decisions about how we choose to distribute funding for transportation studies and technical analyses throughout the region.



APPENDIX I

GLOSSARY OF TERMS



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- **Community of Potential Disadvantage:** A transportation analysis zone in which the percent of the population of meets the MPO’s regional thresholds for either 1) minority or low-income populations, OR 2) three other demographic indicators (LEP, elderly, female-headed households with children, people with disabilities, or zero-vehicle households). This categorization is used primarily to identify neighborhoods in which there are multiple overlapping factors of potential disadvantage, largely for public engagement purposes.
- **Disparate Impact/Disproportionate Burden (DI/DB) Policy:** A policy that sets thresholds for determining whether a collection of proposed projects in the Long-Range Transportation Plan or Transportation Improvement Program would cause disparate impacts or disproportionate burdens on minority or low-income populations, respectively. The policy contains thresholds for several metrics, each of which is analyzed separately for the presence of a disparate impact or disproportionate burden.
- **Disparate Impact:** The result of a facially neutral policy or practice that disproportionately affects members of a group identified by race, color, or national origin, where the recipient’s policy or practice lacks a substantial legitimate justification and where there exists one or more alternatives that would serve the same legitimate objectives but with less disproportionate effect on the basis of race, color, or national origin.
- **Disproportionate Burden:** The result of a facially neutral policy or practice that disproportionately affects low-income populations more than non-low-income populations.
- **Elderly Persons:** In the Boston Region MPO, persons who are 75 years of age or older.
- **Environmental Justice Populations:** Low-income and/or minority populations.
- **Equity Analysis:** A quantitative analysis used by the MPO to determine whether projects within a Long-Range Transportation Plan or a Transportation Improvement Program would, in the aggregate, cause a disparate impact for minority populations or a disproportionate burden for low-income populations.
- **Female-Headed Households with Children (FHWC):** Households that are headed by a female have at least one child, and in which no spouse is present.
- **Limited English Proficiency (LEP) Person:** A person for whom English is not their primary language and who have a limited ability to read, write, speak, or understand English. It includes people who reported to the U.S. Census Bureau that they speak English “well,” “not well,” or “not at all.”
- **Long-Range Transportation Plan (LRTP):** States the MPO’s transportation policies and goals and lays out a program for preserving and expanding the region’s transportation system for the upcoming 20-year-plus period. It is fiscally constrained so the MPO selects projects that reflect the goals of the MPO and the transportation needs of the region.

- **Low-income Households:** The MPO defines a low-income household as one in which the annual income is \$45,624 or less (or less than 60 percent of the MPO area’s median household income).
- **Low-income Population:** A readily identifiable group of low-income persons who live in geographic proximity, and, if warranted, geographically dispersed or transient persons who will be similarly affected.
- **Minority Persons:** Persons who are American Indian/Alaska Native; Asian; Black/African American; Hispanic/Latino, regardless of race; and/or Native Hawaiian or other Pacific Islander.
- **Minority Population:** A readily identifiable group of minority persons who live in geographic proximity, and if warranted, geographically dispersed or transient populations who will be similarly affected.
- **People with Disabilities:** People who have cognitive or physical disabilities.
- **Protected Populations:** Populations covered by Title VI of the Civil Rights Act of 1964, EJ EO 12898, and/or other federal non-discrimination laws.
- **Recipient:** Organization that receives funding directly from a federal agency.
- **Regional Threshold:** The MPO region-wide average for an equity population, or, for low-income, 60 percent of the median household income.
- **Subrecipient:** An organization that receives federal funding through a recipient. Subrecipients are subject to same Title VI reporting requirements as recipients; however, they submit documentation to recipients instead of directly to federal agencies. The Boston Region MPO is a subrecipient of the Massachusetts Department of Transportation.
- **Title VI Population:** Minority or LEP populations.
- **Transportation Analysis Zone (TAZ):** A geographic area, approximately the size of a Census block group, that is used in qualitative and quantitative transportation analyses at the Boston Region MPO.
- **Transportation Equity (TE) Populations:** General term used by the MPO to refer to any of the seven populations that are included in the MPO’s TE program: low-income, minority, and LEP populations, people with disabilities, the elderly, female-headed households with children, and zero-vehicle households. All of these seven equity populations are considered by the MPO to be particularly vulnerable to changes in the transportation system and to have been traditionally excluded from participating in the metropolitan transportation-planning process. Three of the “equity populations” are explicitly protected under Title VI and/or the Environmental Justice Executive Order (minority, low-income, and LEP). The term “other transportation equity populations” is used by the MPO to refer to the

four other demographic groups served by the TE program (people with disabilities, the elderly, female-headed households with children, and zero-vehicle households), which are protected through other non-discrimination laws.

- **Transportation Improvement Program (TIP):** Produced every year, the TIP allocates funding to projects within the MPO region during at least a four-year period. Projects that are selected for inclusion in the TIP reflect the MPO's vision, goals, and objectives, as identified in the MPO's LRTP.
- **Unified Planning Work Program (UPWP):** The UPWP identifies the projects, studies, and programs that the MPO will fund in the course of a year. It includes certification requirements, transportation studies that MPO staff conduct, and ongoing/continuing work programs.
- **Zero-Vehicle Households:** Households that do not have access to a leased or owned vehicle.



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APPENDIX J

PUBLIC PARTICIPATION AND COMMENT PERIOD



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MPO staff followed the procedures set in the MPO's adopted *Public Participation Plan for the Boston Region Metropolitan Planning Organization* in the development of this report. (Please refer to Appendix G for the complete document.) The MPO developed these procedures to ensure public involvement in the transportation planning process.

As a report that documents the activities the MPO has undertaken over the previous three years to comply with FTA's and FHWA's Title VI program requirements, staff solicited public comments following the MPO's approval to circulate a draft for public review. Staff posted the document on the MPO's website (<http://bostonmpo.org/equity>) in PDF and accessible formats, including translations. Staff emailed the MPO's contact list and equity contact list to notify recipients of the document's availability and the 30-day period for public review and comment. Staff also sent out notices via Twitter, notifying followers of the availability of the document for review and comment, and of the opportunity to visit staff during Office Hours.

During the review period, MPO staff held two public meetings at the State Transportation Building: an extended Office Hours open-house style meeting specifically to accommodate the public comment period, and an Office Hours session during regular working hours. Staff sent emails to MPO and equity contacts about the opportunity to meet with staff at these Office Hours events. At both, staff made themselves available, either in-person or on the phone, to interested parties who wanted to discuss the draft Title VI report. Printed copies of the report were available to attendees. The State Transportation Building is accessible via transit and to people with disabilities.

Staff received three public comment letters, which are provided on the following pages. These comment letters represent an increase over previous MPO Title VI triennial reports (in 2014, for example, the MPO did not receive any comment letters). Receiving these few letters reflect the success of the increased public outreach efforts undertaken by MPO staff, particularly the regular MPO-hosted Office Hours open-house style events.

The comment letters contain suggestions about what the MPO could do differently with regards to MPO efforts to satisfy federal Title VI requirements. MPO staff will consider these comments when developing its upcoming work plan for the Title VI program and in the implementation of Title VI-related analyses.



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Members of the Boston MPO,

We are favorably impressed by the report. In general, we think that the MPO has made laudable efforts toward ensuring that transit and transportation are spent in an equitable manner, and we are supportive of the MPO's public outreach process. Thanks to the MPO's office hours and Betsy Harvey's generosity with her time, many minor questions and concerns were answered and resolved in our face-to-face meeting with her. Below are specific comments from the Capital Investment & Finance (CIF) Subcommittee with the support of the MBTA Rider Oversight Committee (ROC) that we would like to document formally.

1. We support the MPOs Transportation Improvement Program (TIP) equity analysis. We understand that, as of this year, only the methodology has been validated, and we look forward to the analysis once the methodology has been finalized in FFY18. We also appreciate the challenges that the MPO faces in mapping out public transit projects beyond the first year, and we encourage the MPO to work with our CIF subcommittee in an effort to provide the MPO with the desired clarity beyond the first year.
2. In Tables 11 and 12 relating to TIP public transit investments, we observed that there were no threshold values determined for the minority and low-income populations for the various modes of transit as there were in the analysis of TIP target-funded project in Table 10. We understand that the region served by transit is smaller than the overall MPO region, but having analysis that shows the degree to which transit serves minority and low-income populations within its subset of TAZs could be insightful. For example, if with all other factors being equal, buses provide transit to minorities and individuals with low income that is above the thresholds for that subset of TAZs, then it may point to an area of equity concern. We also agree that though the results in Tables 13 and 14 show a lower investment per passenger for minority and low-income populations, the novelty of the analysis requires more time and data to see if a pattern emerges. That said, we support the MPOs transparency in making its analysis public at this stage.
3. We support the MPOs outreach and public participation strategy as described in Section 3.6. In addition to its current outreach practices, we suggest that the MPO consider live-streaming its outreach meetings and making it possible for the public to interact with participants at these meetings by either calling in via phone or communicating via online methods such as Twitter and Facebook.
4. We encourage the MPO to reach out to communities in order to make sure that they understand the MassDOT project development process. Since the universe of projects from which projects are selected come from this development process, providing assistance to community leaders and town officials in order to understand the MassDOT development process is essential for these communities to have a chance at getting the kind of transportation and transit projects that would be of benefit to their communities.

Thanks for your attention,

The Capital Investment & Finance Subcommittee of the MBTA Rider Oversight
Committee

Carl Seglem

Brighton, MA 02135

July 18, 2017

Members of the Boston Region MPO
Betsy Harvey, Title VI Specialist
State Transportation Building
10 Park Plaza, Suite 2150
Boston, MA 02116-3968

RE: Draft 2017 Triennial Title VI Report

Dear Members of the Boston Region MPO and Betsy Harvey:

Thank you for taking the time to consider my comments on the Draft 2017 Triennial Title VI Report.

Before my specific comments, I want to acknowledge and appreciate the effort that the Boston Region MPO and the CTPS staff put into transportation equity efforts generally, and the analyses described in the Draft Report itself. I'm grateful to the MPO and CTPS staff for thinking and working to go beyond the minimum that is required legally, not just in this Draft Report, but in other areas of work, such as the equity evaluation criteria for TIP projects.

My comments are grouped below under these headings, followed by each heading's page number:

Troubling transit funding numbers 2

Troubling impact and burden evaluation criteria 3

Worrying statistical analysis of UPWP projects 4

Equity analyses to be done 8

Confusion and concerns about Accessibility metrics, identical charts and similar highway and transit numbers 8

Limited contents of Executive Summary and impacts for public involvement and language accessibility 11

Appendices contents, page labeling and numbering 12

Troubling transit funding numbers

Comment #1

This comment relates to section 3.4.2 of the Draft Report titled Analysis of TIP Public Transit Investments .

In the Draft Report’s own words comparing TIP Public Transit Investments by Minority Status and Income: “the investment per passenger for both low-income and minority populations is lower, compared to non-low-income and non-minority populations, respectively” (p.61).

From Table 13, per-passenger Non-minority investment of \$5,936 is **47% greater** than Minority investment of \$4,045,



and, from Table 14, per-passenger Non-low-income investment of \$6,218 is **35% greater** than investment of Low-income \$4,606.



The report continues “this does not necessarily indicate that a disparate impact or disproportionate burden exists,” and that these figures should be compared over time to decide whether the MPO should do anything about the differences.

I hope the members of the MPO are struck by these large differences between levels of investment per-person in TIP Public Transit Investments and

- work diligently to invest TIP funds in transit more equitably starting with the next TIP,
- inform these TIP investment decisions based on better understanding of existing inequities as described below in my Comment #2.

Troubling impact and burden evaluation criteria

Comment #2

This comment relates to section 3.3 of the Draft Report and Appendix F, Chapter 7, results starting on page 7-9.

The approach taken by the MPO to determine disparate impacts or disproportionate burdens

- **only** takes into account whether the **percentage changes** in future conditions are **similar** between Title VI populations and non-Title VI populations, but
- **does not** take into account whether current or future conditions or metrics themselves are **equitable with each other**,
- and even allows inequities to increase.

Consider this thought experiment:

If some hypothetical metric is currently 100 for non-Title VI populations and 80 for Title VI populations (where higher numbers are better, like jobs accessible by transit within some amount of travel time),

The current condition is 20% worse for Title VI populations, but this current condition doesn't factor into the disparate impacts or disproportionate burdens analysis.

In the LRTP analysis relied upon in the Draft Title VI report, transportation in 2040 is modeled, comparing LRTP investments made ("Build") vs not made ("No Build"). In this example, imagine both improve by 0% in the No Build Scenario and both improve by 5% in the Build scenario, resulting in non-Title VI populations metric changing to 105 and Title VI populations metric changing to 84.

The test for disparate impacts or disproportionate burdens first compares the Build to No-Build scenarios for each of the populations. In this case, both populations are 5% better in the Build Scenario.

Then the test for disparate impacts or disproportionate burdens compares the improvements (or worsening) for the non-Title VI populations. In this case, both are 5% better and their ratio is 1.

This ratio of 1 is less than the threshold of 1.2 (20% difference) to find disparate impacts or disproportionate burdens, so no disparate impacts or disproportionate burdens are found.

However, in the modeled 2040 Build condition, Title VI population's metric is still just 84 compared to the non-Title VI population's better 105 — the Title VI population's metric is still 20% below of the non-Title VI population's metric.

So this approach to measuring disparate impacts or disproportionate burdens

1. does not consider existing inequities,

For example, Appendix F, Page 7-17 Air Quality Results: “Carbon monoxide emissions are essentially the same in the 2040 build network as in the 2040 No-Build network for all zones.” This doesn't say anything about differences between Title VI populations/areas and non-Title VI populations/areas.

2. and permits existing inequities to be maintained,

For example, Appendix F, Page 7-16: “Tables 7.5 and 7.6 show **disproportionate burdens and disparate impacts for average VMT, and a disproportionate burden for congested VMT** [*emphasis mine*]. However, because the changes between the 2040 No-Build and Build alternatives for each type of equity/non-equity analysis zone comparison are within the margin of error of the model, it is unlikely that the ratio of the changes is meaningful.”

3. and even permits them to get somewhat worse because the threshold is 20% and the ratio comparison permits non-Title VI populations to receive better outcomes than non-Title VI populations, as long as it is below the 20% threshold.

I hope the members of the MPO will find ways to take into account and address existing inequities **as well as** avoid disparate impacts or disproportionate burdens to Title VI and other transportation equity populations.

Worrying statistical analysis of UPWP projects

Comment #3

This comment relates to Section 3.4.3 Geographical Distribution of UPWP Investments, and Appendix H, FFY 2017 UPWP Table D-1, and FFY 2018 UPWP Table D-1.

As I looked at Section 3.4.3 Geographical Distribution of UPWP Investments, it seemed not to contain information about any Title VI-related findings, but it did refer to study counts by community Appendix H. In that appendix, I didn't find any analysis of the data to assess anything related to Title VI, just the raw data, summarized by MPO sub-region.

When I asked whether I was missing some Title VI-related analysis, like disparate impact of UPWP studies, Betsy Harvey replied and I've excerpted:

- “we can't determine the impacts of studies whose benefits and burdens are often impossible to reliably quantify”
- “just because the town has had a study it doesn't necessary mean they've received a particular 'benefit' in the same way that a TIP or LRTP might confer (such as reduced CO emissions).”
- “There may be other qualitative analyses we could do, which are described in Appendix H.”

One of the additional analyses described in Section D-5 Next Steps for both FFY 2017 and 2018 is:

- “Examine the number of tasks per community and compare the data to the number of road miles, the median household income, or the minority population in each community”

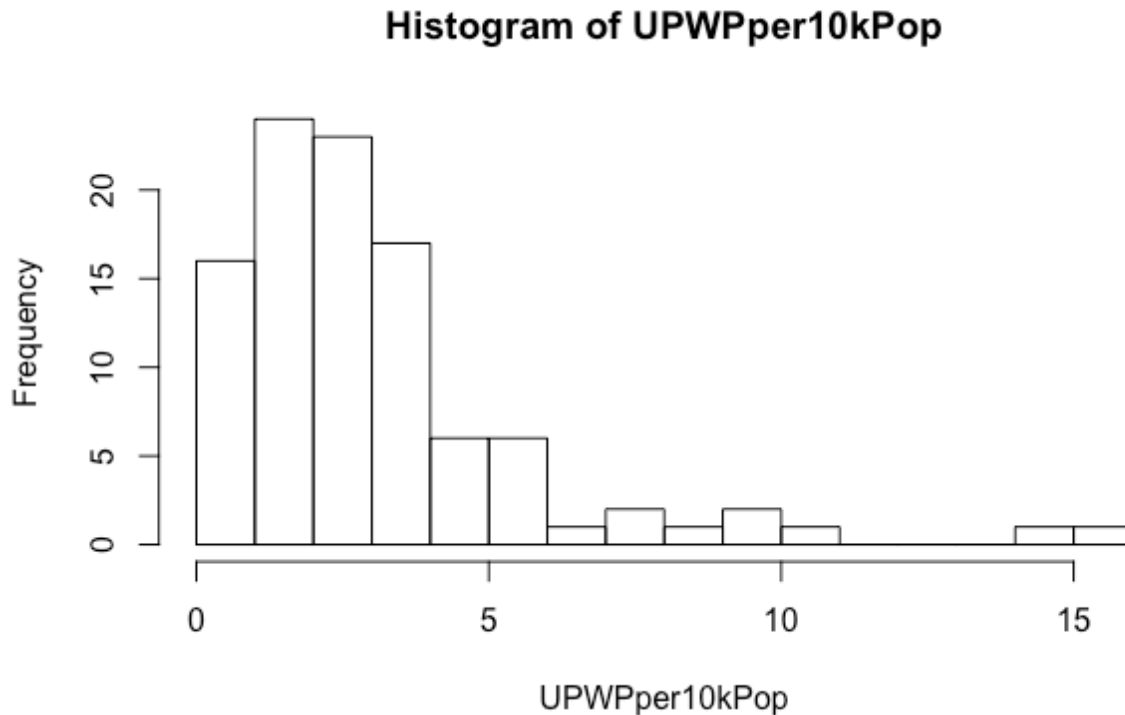
Being curious about the distribution of studies, and relying on my previous basic statistics learning, a scientist friend's advice, Wikipedia and other reference and tutorials, I did some statistical comparisons myself based on the FFY 2017 and 2018 Tables D-1. I don't claim expertise or authority in analysis with statistical methods, but the visual and numerical results of my analysis were simple and clear enough to me to share them here.

My approach was to compare UPWP studies from 2010 to 2017 per 10,000 residents between communities whose population percentages were above and below minority (27.8%) and income (31.8%) thresholds. For example:

- Cambridge had 18 studies per 105,162 population, translating to 1.7 studies per 10,000 population, and its 37.9% minority population and 33.1% low-income population are both above the regional thresholds.

- Salem had 11 studies per 41,340 population, translating to 2.7 studies per 10,000 population, its 24.1% minority population is below the threshold, while its 40.6% low-income population is above.

After loading the data into R statistical analysis software, I could see a histogram of the studies per 10,000 population for all communities, with most communities' having fewer than five studies per 10,000 population.

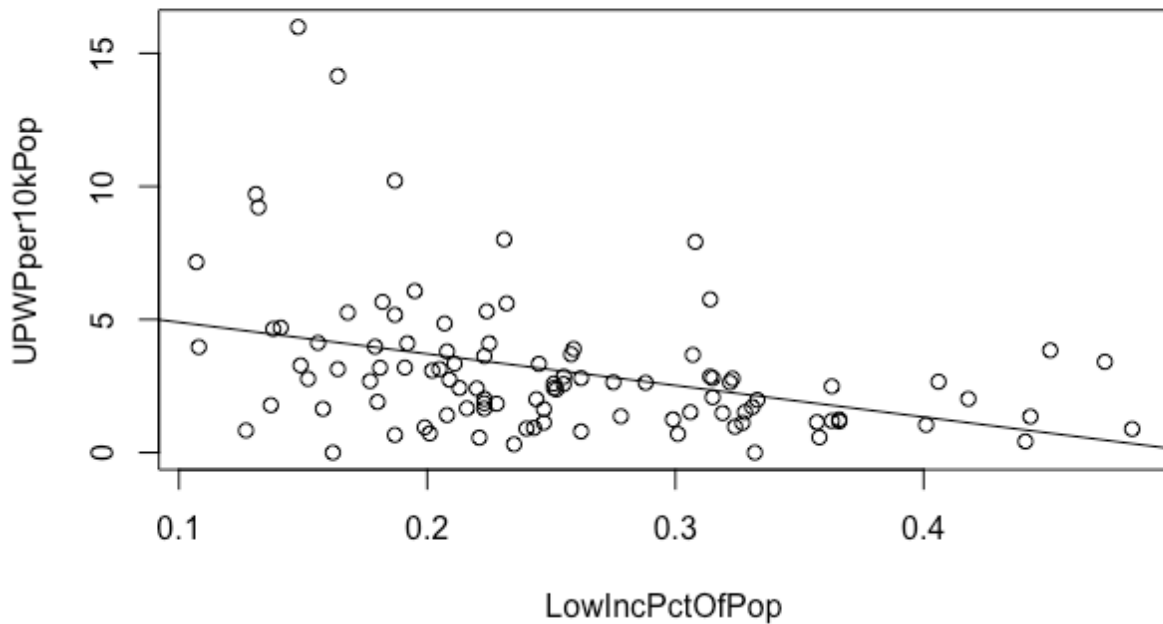


I ran an analysis of variance (ANOVA) based on the minority and low-income factors (whether the community population percentages were above or below thresholds) and the interaction between the factors. The analysis showed a significant result based on the low-income factor ($P = 0.00946$), but not the minority factor ($P = 0.10233$). This is an indication that low-income communities have statistically **different** outcomes in terms of number of studies per 10,000 population.

Looking at the effect of income more closely, I created a linear regression model in R based on the low income percent of population to find its correlation with studies per 10,000 population. The regression model showed low income population percentage as a significant factor ($P < 0.0001$) with a negative coefficient (-11.9) and a low R-squared (0.1446). The negative coefficient is an indication that the higher the percent of low income population for a community, the **lower** the number

of studies per 10,000 population, and the low R-squared value is an indication of a weak effect.

This is the plot of studies (Y-axis) against low income percent of population (X-axis) between 0 and 1, where 0.318 = 31.8%), with the regression line.



As Betsy Harvey pointed out to me, detailed quantification of benefits coming from any particular study is difficult to impossible to estimate. However, studies presumably provide **some** value to the communities they are conducted for, and the more studies, the more value to the communities. My analysis of the UPWP data by community shows me indications that communities with higher percent low income populations both have **different** outcomes with respect to number of studies (based on ANOVA), and **worse** outcomes, with fewer studies per 10,000 population (based on regression modeling).

Based on this preliminary worrying finding, I'd encourage the MPO to have skilled analysts actually carry out some of the proposed next steps outlined in UPWP documents, as well as other possible ways to check for signs of inequity in UPWP work.

Comment #4

While conducting the analysis above, I noticed a few inconsistencies in the UPWP tables.

Appendix H, FFY 2017 UPWP Table D-1 numeric inconsistencies:

- Inner Core Subtotals look like they should be 19 for 2016, and 174 for Total, based on adding the numbers in the column above.
- MAGIC Subtotals look like they should be 2 for 2016, and 80 for Total, based on adding the numbers in the column above.

Appendix H, FFY 2018 UPWP Table D-1 numeric inconsistencies:

- Stoughton 2010–2017 Total looks like it should be 4 based on adding the preceding columns in the row.

Equity analyses to be done

Comment #5

In section 3.3.2 it says:

“In 2016 and 2017, MPO staff undertook a UPWP study, Systemwide Title VI/ Environmental Justice Assessment of TIP Projects.”

According to Betsy Harvey, that project has not yet completed, but will be posted to the MPO web site when it is completed.

I hope that the MPO will use the findings to improve equity analyses, programming and funding in the region.

Confusion and concerns about Accessibility metrics, identical charts and similar highway and transit numbers

Comment #6

Accessibility metrics of average travel time to jobs and hospitals within a 40-minute transit trip and 20-minute seem troublesome because of their apparent circularity, and because of the low thresholds.

Appendix F, Accessibility Analysis, beginning on page 7-7, includes these metrics, among others:

- Average travel time to industrial, retail, and service jobs within a 40-minute transit trip and a 20-minute auto trip
- Average travel time to hospitals, weighted by number of beds, within a 40-minute transit trip and a 20-minute auto trip

These metrics seem circular, in that the quantities averaged (average travel time) are defined by the measure itself (travel times under the threshold). Some other examples may make this circularity clearer:

- Average height of adults under 5 feet 9 inches, and
- Average price of loaves of bread under \$2.

I understand that these thresholds might be used to keep extreme outliers from skewing analyses.

However, the 40-minute transit and 20-minute auto trip time thresholds seem low for this use.

First, from my own experience, and what I hear from others when I ask other people about their commutes and other trips, many trips are above these thresholds, not just extreme outliers.

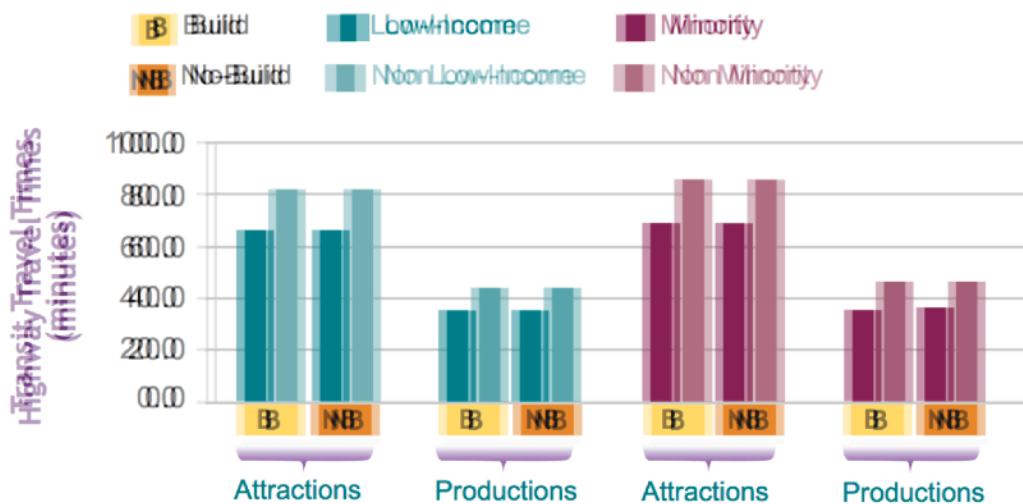
Second, the most of modeled average travel times in Tables 7.3 and 7.4 are above the 40-minute transit and 20-minute auto trip time thresholds.

Between the circularity of these metrics' definition and the apparently low thresholds, I hope the MPO and CTPS will consider different accessibility metrics — or at least raise the thresholds so that only a small fraction of actual or modeled trips are excluded from the averages.

Comment #7

Appendix F, Figures 7.6 and 7.7 look identical. Here they are superimposed and shifted horizontally slightly, and there is no discernible difference between the heights of any of the bars. (I do apologize for how unpleasant this visualization is to look at.)

FIGURE 7.6
Average Highway Travel Times for Equity Analysis Zones in the 2040 No-Build and 2040 Build Networks



While the figures seem to be based on data in Tables 7.3 and 7.4, which are very close to one another, I'd expect some differences to be visible, since differences between numbers in the tables are in some cases over 10%.

Comment #8

Appendix F, Tables 7.3 and 7.4 transit and highway numbers are surprisingly similar to one another.

From my own experience, and what I hear from others when I ask other people about their commutes and other trips, transit time is almost always significantly longer than highway travel time.

I hope the MPO and CTPS will look more closely at these modeled travel times to see that they correspond well with people's actual travel experiences.

Limited contents of Executive Summary and impacts for public involvement and language accessibility

Comment #9

The four-page Executive Summary describes the framework and process undertaken, but contains no findings. There's not even a reference to where to locate findings in the full report. I believe the emphasis on framework and process and the lack of any findings makes it difficult for people coming to the report with little prior background to begin to understand and become involved as a member of the public.

I hope that the MPO will include summaries of the findings of the analyses conducted along with the processes in the Executive Summary. To keep the Executive Summary brief, I suggest that the sections ES.1 and ES.2 could be summarized more briefly with reference to details in Chapters 1 and 2.

Comment #10

The Abstract on Page 10 says that the Title VI program “is consistent with the principles, federal laws and guidelines, and related requirements of Title VI, and is responsive to the needs of beneficiaries.” It's not clear to me whether it's only asserting that the process meets requirements, or that all the findings of the process are also consistent with “the principles, federal laws and guidelines, and related requirements of Title VI” and the activities that the MPO is reporting on are “responsive to the needs of beneficiaries” and/or whether there are disparate impacts or disproportionate burdens.

I hope that the MPO will clarify this language as to whether it refers to the process, the findings, or both.

Comment #11

Because, as I understand, only the Executive Summary is routinely translated, the findings themselves are not routinely translated, since they are not contained in the Executive Summary (as indicated above in Comment #9). This seems to me to be a barrier to access to important information in the Report for people with low English proficiency.

As indicated in Comment #9, I hope that the MPO will include summaries of findings in the Executive Summary and will be routinely translated to make them easily accessible to people with low English proficiency.

Appendices contents, page labeling and numbering

Comment #12

The Appendices PDF file posted on the MPO web site does not include a table of contents. To understand and navigate the appendices, a reader needs to refer to a page in the main Draft Report document.

I hope the compilers of the Report and Appendices will include a table of contents in the document itself.

Comment #13

The Appendices do not have page numbers on them in the context of the overall Title VI Report. This lack of page numbers makes it very difficult to navigate and refer to particular contents.

I hope the compilers of the Report and Appendices will include page numbers or some other Appendix labels or footers to make it easy to navigate and refer to specific contents.

Thank you again for considering my comments.

Sincerely yours,



Carl Seglem



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July 16, 2017

Boston Region Metropolitan Planning Organization
10 Park Plaza, Suite 2150
Boston, MA 02116

RE: Comments on the 2017 draft Triennial Title VI Report: Improving Transportation Equity Analyses

Thank you for the opportunity to comment on the Boston Metropolitan Planning Organization's (MPO's) 2017 draft Triennial Title VI Report. As researchers at MIT's Department of Urban Studies and Planning, we have been studying transportation equity analyses that public agencies across the US employ to guard against potential civil rights violations.

Under the Boston MPO's current framework, the benefits or burdens from a project can be distributed unequally as long as the difference in treatment does not exceed twenty percent. The draft Title VI report explains that the MPO "proposed a 20 percent threshold based on the belief that a 10 percent differential would be meaningful, plus the model's 10 percent margin of error." We believe that the twenty percent threshold does not reflect best practices in transportation equity analyses.

First, the policy states that differential treatment by race or income is not meaningful if the size of the difference is below a 10 percent threshold. The purpose of Title VI of the Civil Rights Act of 1964 is to ensure that federal money does not perpetuate discrimination, either intentional discrimination or unintentional discrimination, through a policy's disparate impacts. In recognition of the seriousness of discrimination at any scale, the application of Title VI is not limited by statute to disparities above any set threshold. Rather than imposing an additional barrier to the realization of civil rights, MPOs like the Metropolitan Transportation Commission in San Francisco define disparate impact as any statistically significant difference that disadvantages a protected class.¹

¹ MTC Title VI 2014 Compliance Report. Available at:
http://files.mtc.ca.gov/pdf/title_vi/MTC_Title_VI_2014_Compliance_Report-Final.pdf

Recognizing that any statistically significant difference that disadvantages a protected class constitutes a disparate impact better advances equity while avoiding both the risks of disparities compounding over time and the subjective exercise of defining an arbitrary cutoff for “meaningfulness.”²

The second reason given for the higher 20 percent threshold is to account for uncertainty in the model. There are better ways to address uncertainty in an equity analysis than by changing the definition of a disparate impact. These include constructing a confidence interval or using a t-test or chi-square test, as the New York Metropolitan Transportation Authority does.³ The 20 percent threshold creates an additional barrier to finding a disparate impact without providing certainty.⁴ It should be removed in favor of a more workable and transparent test of statistical significance.

The methodology used for assessing disparities in project impacts is a critical part of the Boston MPO’s overall civil rights program. For this reason, the draft report rightfully highlights the importance of reviewing and updating the methods the MPO uses to evaluate the civil rights implications of its programs. We applaud this effort and urge the MPO to consider replacing the 20 percent threshold method with a more accurate, more reliable method for determining whether a proposed suite of projects is likely to have a disparate impact or disproportionate burden.

Please let us know if you would like additional details about this recommendation. We would be pleased to discuss in more detail. You can contact Peter Damrosch at (917) 863-9952 or peterdam@mit.edu.

Sincerely,

Peter Damrosch
Master’s Candidate

Jeffrey Rosenblum
PhD Candidate

Justin Steil
Assistant Professor of Law and Urban Planning

² It can be hard to explain, for example, why the 5% threshold used by WMATA is any less valid than a 20% threshold.

³ MTA New York City Transit and MTA Bus Company: Major Service and Fare Change Policy . Available at: <http://web.mta.info/mta/compliance/pdf/Title-VI-NYCT-Bus-Policies.pdf>

⁴ This becomes an issue a few times in the draft report. For example, Table 7.5 shows an equity analysis with the result of a disproportionate burden. The report then notes that given the model’s wide margin of error, the finding may not be reliable. The 20% threshold was ultimately not helpful in determining how confident we should be in the results.