

**Unified Planning  
Work Program  
Federal Fiscal Year 2012**

The comment period for this document will close on Wednesday, August 9, at 5:00 P.M.  
Send comments to the Chairman of the Boston Region Transportation Planning and Programming Committee via any of the means listed on page i of this document.

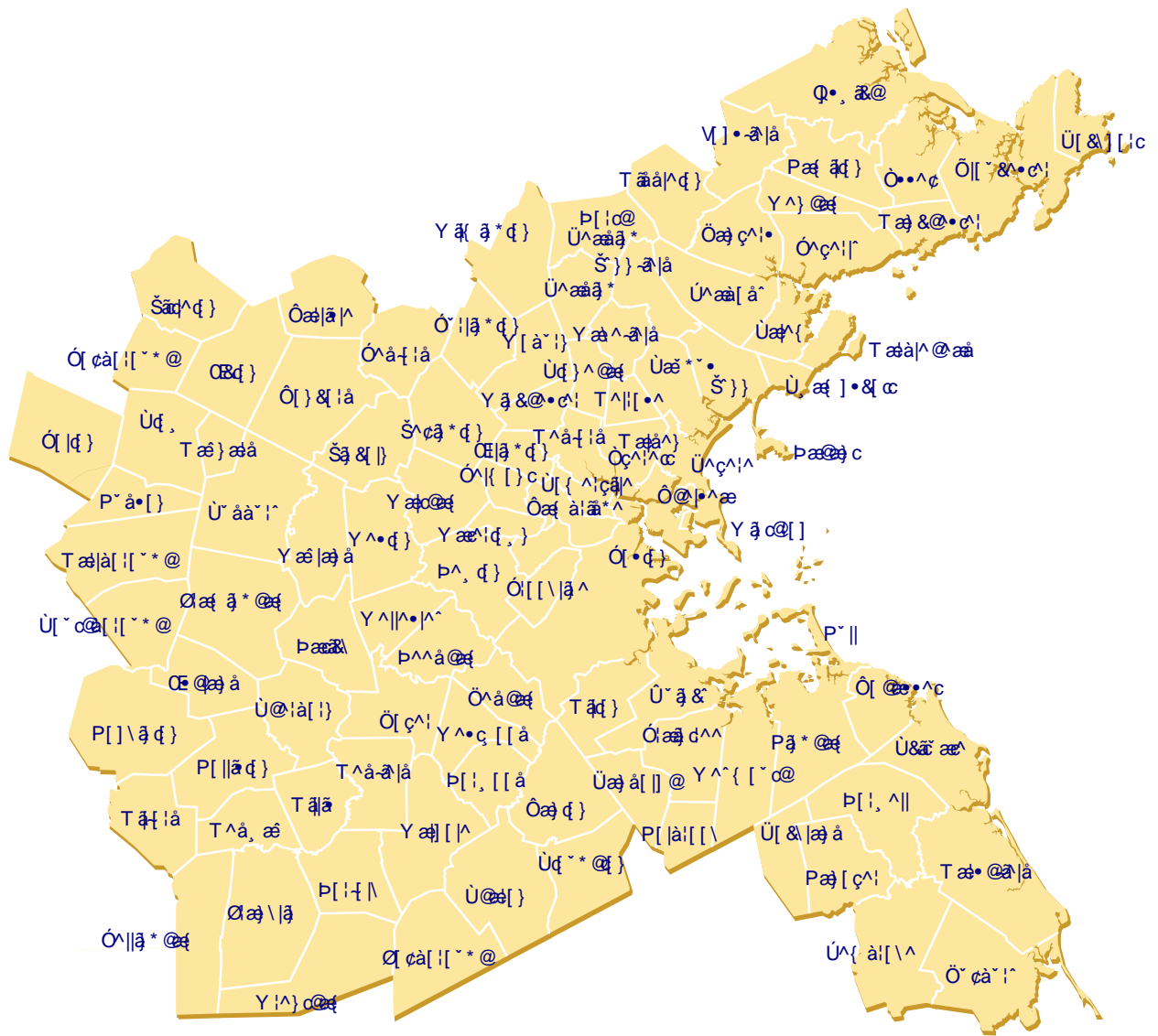
**Transportation Planning and Programming  
Committee Draft**

**June 30, 2011**

**Boston Region  
Metropolitan Planning Organization Staff**

Directed by the Boston Region Metropolitan Planning Organization, which is composed of the:

MassDOT Office of Planning and Programming  
Massachusetts Bay Transportation Authority  
Massachusetts Bay Transportation Authority Advisory Board  
MassDOT Highway Division  
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  
Federal Highway Administration (nonvoting)  
Federal Transit Administration (nonvoting)  
Regional Transportation Advisory Council (nonvoting)



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Or download it by going to [www.bostonmpo.org](http://www.bostonmpo.org) and clicking on the UPWP button.

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## EXECUTIVE SUMMARY

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This Unified Planning Work Program (UPWP) contains information about surface-transportation planning projects that will be conducted in the Boston metropolitan region during the period of October 1, 2011, through September 30, 2012 (federal fiscal year 2012). The UPWP is an essential transportation-planning tool for the region and often a first step in determining whether or not a project will be constructed. It is integrally related to other planning initiatives conducted by the Boston Region Metropolitan Planning Organization (MPO), as well as by the Massachusetts Department of Transportation and the Massachusetts Port Authority.

The projects in this UPWP will be funded from federal, state, and local sources. It has been prepared in accordance with final regulations governing the implementation of the federal Safe, Accountable, Flexible, Efficient Transportation Act: A Legacy for Users (SAFETEA-LU) and with Federal Highway Administration and Federal Transit Administration grant application requirements and planning emphasis areas. This UPWP contains 85 projects, of which 68 will be carried out by the Central Transportation Planning Staff (CTPS) and the Metropolitan Area Planning Council (MAPC) on behalf of the MPO, the Massachusetts Department of Transportation (MassDOT), and the Massachusetts Port Authority (Massport). The remaining 23 projects will be carried out by individual transportation agencies, municipalities, and academic institutions.

The majority of the FFY 2011 UPWP projects have been ongoing since FFY 2011. However, there are several new projects. Those to be undertaken on behalf of the MPO are:

- Analysis of JARC and New Freedom Projects (page 7-5)
- Freight Survey (page 7-10)
- MBTA Systemwide Passenger Survey: Comparison of Results (page 7-32)
- Pavement Management System Development (page 7-37)
- Priority Corridors for LRTP Needs Assessment (page 6-16)
- Regional Transit Service Planning Technical Support (page 7-38)
- Safe Access to Transit for Pedestrians and Bicyclists (page 7-41)
- TIP Project Impacts Before and After Evaluation (page 7-42)

CTPS will also continue to support projects that are being conducted by MassDOT and the MBTA. Examples of these are:

- Green Line Extension Environmental Review Support (page 6-9)
- MBTA Green Line SIP Mitigation Strategies (page 6-10)
- South Coast Commuter Rail Extension (page 6-20)

The UPWP is intended to serve two purposes. The first is to provide information to government officials, local communities, and the general public about all surface-transportation planning projects expected to be undertaken in the Boston region. The second is to provide complete

budget information to federal and state officials about the expenditure of federal funds for those projects being carried out by the Boston Region MPO.

The document is structured as follows. Chapter 1 provides general information about the Boston Region MPO, the transportation-planning process, and the sources of funding for UPWP projects. In addition, it explains the MPO's role in programming these funds and the criteria the MPO used to evaluate the projects it was responsible for programming in this UPWP. Chapter 1 also contains a graphic that shows the UPWP's relationship to other MPO planning documents and current feasibility studies, and other visioning processes.

Chapter 2 provides a status report on the FFY 2011 UPWP projects that were conducted by CTPS and MAPC. It also includes a list of products for those projects and information on how to obtain copies of reports and certification documents.

Chapter 3 is an index of the FFY 2012 projects. They are organized by the name of the agency responsible for conducting them.

Chapters 4 through 7 contain project descriptions and detailed budget information for all work being conducted by CTPS and MAPC on behalf of the MPO, and for transportation projects being conducted by CTPS on behalf of the individual transportation-planning entities mentioned on page ES-1.

Chapter 8 gives budget summaries of the projects included in Chapters 4 through 7 and other information about the status of federal funding in this UPWP. It is intended to provide federal and state officials with information necessary for funding approval and contract administration.

Appendix A presents brief summaries of project information for other, non-MPO transportation-planning projects that will be conducted in the Boston region. These projects have separate review and approval processes and are outside the purview of the MPO. They are included in the UPWP to provide a more comprehensive picture of what is being planned for the region and to ensure that MPO planning efforts within the region are coordinated with other ongoing work.

Appendix B will be completed following the close of the 30-day public review period and before the final document is presented to the MPO for adoption. It will describe the public participation process used for the development of the draft UPWP and the public workshops that were held during its public review period. It will also present a summary of the written comments on the document that were received during its review period and the MPO's responses to them.

Appendix C contains the worksheets developed by staff to evaluate potential UPWP projects and used by the UPWP Subcommittee as a guide in selecting new projects.

Appendix D is a glossary of acronyms, abbreviations, and transportation terms. An effort has been made to define such terms not only in the glossary but also the first time they appear in a chapter.



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''''''''''RTQEGU'P'VJ G'DQUVQP'TGI KQP'O RQ'CTGC''**

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This chapter is intended to give the reader an understanding of how the transportation-planning process is conducted in the Boston Region Metropolitan Planning Organization (MPO) area, including the federal requirements that govern the process, the funding sources used to carry it out, and the implementation of the process from concept to completion.

Section 134 of the Federal-Aid Highway Act and Section 5303 of the Federal Transit Act, as amended, require that urbanized areas, to be eligible for federal funds, conduct a continuing, cooperative, and comprehensive transportation-planning process (3C process) resulting in plans and programs consistent with the planning objectives of the metropolitan area.

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The Boston Region MPO area consists of the 101 cities and towns shown on the map that follows the title page of this document. At the time of the development of this draft UPWP, a proposal that would expand MPO membership was being considered. While it has since been adopted, it will not take effect until November 1, 2011. A description of the restructured MPO will be provided in the next UPWP.

The current MPO members are the commonwealth’s Massachusetts Department of Transportation (MassDOT) Office of Transportation Planning; the MassDOT Highway Division; the cities of Boston, Braintree, Newton, and Somerville; the towns of Bedford, Framingham, and Hopkinton; the Massachusetts Bay Transportation Authority; the Massachusetts Bay Transportation Authority Advisory Board; the Massachusetts Port Authority; and the Metropolitan Area Planning Council. In addition, the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), and the Regional Transportation Advisory Council participate in the MPO as advisory (nonvoting) members.

- The *Ocuuej wugwu'F gr ct w gpv'qhVt c pur qt v v k q p''\*O cuuF QV+* was established on November 1, 2009, under Chapter 25 (“An Act Modernizing the Transportation Systems of the Commonwealth of Massachusetts”) of the Acts of 2009, which was signed by Governor Deval Patrick in June 2009. Accordingly, MassDOT is a merger of the former Executive Office of Transportation and Public Works (EOT) and its divisions with the former Massachusetts Turnpike Authority, the Massachusetts Highway Department, the Registry of Motor Vehicles, and the Massachusetts Aeronautics Commission. The legislation also established MassDOT oversight of the Massachusetts Bay Transportation Authority (MBTA), and of the Commonwealth’s regional transit authorities (RTAs). In addition, it authorized the transfer of ownership of the Tobin Bridge from the Massachusetts Port Authority to MassDOT and the assumption of responsibility by MassDOT for many of the bridges and parkways formerly operated by the Department of Conservation and Recreation (DCR).

- The *Office of Transportation* oversees the roadways, bridges, and tunnels of the former Massachusetts Highway Department and Massachusetts Turnpike Authority and the Tobin Bridge. The Division also includes the former DCR bridges and parkways mentioned above. The Highway Division is responsible for the design, construction and maintenance of the commonwealth’s state highways and bridges. The Division is responsible for overseeing traffic safety and engineering activities, including the Highway Operations Control Center, to ensure safe road and travel conditions.
- The *Office of Transportation* has the statutory responsibility within its district, under the provisions of Chapter 161A of the Massachusetts General Laws (MGL), of preparing the engineering and architectural designs for transit development projects, constructing and operating transit development projects, and operating the public transportation system. The MBTA district comprises 175 communities, including all 101 cities and towns of the Boston Region MPO area. The MBTA board of directors consists of a chairman and five other directors, appointed by the governor. The MBTA will provide general transit planning in support of the projects in this Unified Planning Work Program (UPWP).
- The *Advisory Board* was created by the Legislature in 1964 through the same legislation that created the MBTA; this legislation was updated as part of Chapter 127 of the Acts of 1999. The Advisory Board consists of representatives of the 175 cities and towns that compose the MBTA district. Cities are represented by either the city manager or mayor, and towns by the chairperson of the board of selectmen. Specific responsibilities of the Advisory Board include review of and comment on the Program for Mass Transportation (PMT), proposed fare increases, and the annual MBTA Capital Investment Program; review of the MBTA’s documentation of net operating investment per passenger; and review of the MBTA’s operating budget.
- The *Massport* has the statutory responsibility under Chapter 465 of the Acts of 1956, as amended, of planning, constructing, owning, and operating such transportation and related facilities as may be necessary for the development and improvement of commerce in Boston and the surrounding metropolitan area. Massport owns and operates the seaport, Logan International Airport, and Hanscom Field.
- The *Metropolitan Area Planning Council* is the regional planning agency for the 101 cities and towns in the MAPC/MPO district. It is composed of the chief executive (or her/his designee) of each of the 101 cities and towns in the MAPC district, 21 gubernatorial appointees, and 12 ex officio members. It has statutory responsibility for comprehensive regional planning in the district under Chapter 40B of the MGL. It is the Boston Metropolitan Clearinghouse under Section 204 of the Demonstration Cities and Metropolitan Development Act of 1966 and Title VI of the Intergovernmental Cooperation Act of 1968. Also, its district has been designated an economic development district under Title IV of the Public Works and Economic Development Act of 1965, as amended. MAPC’s responsibilities for comprehensive planning include responsibilities in the areas of technical assistance to communities, transportation planning, and the development of zoning, land use, demographic, and environmental studies.

- The *Ekf "qH Dquqp. "y t gg"grgevgf "ekkgu"\*ewt t gpnf "Dtc kvt gg. "Pgy vqp. "cpf "Uqo gt xkmg+"cpf " y t gg"grgevgf "qy pu"\*ewt t gpnf "Dgf lqtf. "Ht co kpi j co. "cpf "J qrnkvqp* represent the region's 101 municipalities in the Boston Region MPO. The City of Boston is a permanent MPO member; the six elected municipalities serve staggered three-year terms as established in the MPO's Memorandum of Understanding, endorsed in December 2001.

Three other members participate in the Boston Region MPO in an advisory (nonvoting) capacity, reviewing the Long-Range Transportation Plan (LRTP), the Transportation Improvement Program (TIP), and the UPWP to ensure compliance with federal planning and programming requirements:

- The *Hgf gt cnf J ki j y c{ "Cf o kpkmt cvkqp and Hgf gt cnf Vt cpukf "Cf o kpkmt cvkqp* oversee the highway and transit programs of the U.S. Department of Transportation under pertinent legislation and the provisions of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU).
- The *Tgi kqpcnf Vt cpur qt wvkqp "Cf xkuqt { "Eqwpekn* the MPO's citizen advisory group, provides the opportunity for organizations and municipal representatives to become actively involved in the decision-making processes of the agencies that plan and program transportation services in the region. The Advisory Council reviews, comments on, and makes recommendations regarding certification documents. It also serves as a forum for identifying issues and alternatives, advocates solutions to the region's transportation needs, and generates interest and knowledge among the general public.

Three other entities assist MPO members in carrying out the responsibilities of the MPO's 3C planning process through policy implementation, technical support, and public participation:

- The *Vt cpur qt wvkqp "Rrcppkpi "cpf "Rtqi t co o kpi "Eqo o kvgg.* acting on behalf of the MPO members, meets regularly to provide ongoing coordination of planning activities taking place within the region. It consists of a representative from each MPO member, with the MassDOT Office of Transportation Planning representative serving as chairperson. The committee is responsible for managing the certification process, making recommendations to the MPO, and supervising MPO operations by providing direction to the Central Transportation Planning Staff (CTPS). This includes overseeing the work described in this UPWP. The Advisory Council is a voting member of this committee.
- The *Egpvt cnf Vt cpur qt wvkqp "Rrcppkpi "Uc h{ "EVRU* was created by the MPO to carry out general and 3C transportation-planning activities on behalf of the MPO and to provide agencies with analyses required for the work described in this document.
- The *O CRE "lwdt gi kqpcnf i tqwr u" "UTI u* bring together representatives (usually appointed or elected officials or their staff) of the communities within a subregion of the MAPC district to address shared concerns regarding transportation and land use. MAPC has promoted and supported the formation of SRGs in order to foster better communication and cooperation among communities. They have played an important role in the MPO's participatory process, including the development of TIP and UPWP project priorities.

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The Boston Region MPO is responsible for carrying out the 3C planning process in the Boston region and has established the following objectives for the process:

- To identify transportation problems and develop possible solutions to them
- To strike a balance between short-range and long-range considerations, so that beneficial incremental actions undertaken now reflect an adequate understanding of probable future consequences and possible future options
- To take into account both regional and local considerations, and both transportation and nontransportation objectives and impacts, in the analysis of project issues
- To assist implementing agencies in putting policy and project decisions into effect in a timely fashion, with adequate consideration of environmental, social, fiscal, and economic impacts and with adequate opportunity for participation by other agencies, local governments, and the public
- To assist implementing agencies in assigning priorities to transportation activities in a manner consistent with the region's needs and resources
- To maintain MPO compliance with the requirements of SAFETEA-LU, the Americans with Disabilities Act (ADA), the Clean Air Act (CAA), the Civil Rights Act of 1964, Executive Order 12898 (regarding environmental justice), Executive Order 13166 (regarding outreach to populations with limited English proficiency), and Executive Order 13330 (regarding the coordination of human-services transportation)

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Each year the MPO considers projects for inclusion in the annual update of the UPWP through its UPWP Subcommittee, which was established by the Transportation Planning and Programming Committee. For the development of the FFY 2012 UPWP, the MPO drew from the following sources to generate a universe of study ideas for evaluation:

1. Existing planning documents: the Congestion Management Process (CMP) reports, the Program for Mass Transportation (PMT), JOURNEY TO 2030, the MPO's Long-Range Transportation Plan (LRTP), the youMove Massachusetts Interim Report, MetroFuture, and recent feasibility studies
2. Guidance received from the Federal Highway Administration and the Federal Transit Administration to address issues related to identifying costs associated with maintaining municipally controlled arterial and urban-collector roadways in the MPO region, establishing a comprehensive livability program, and conducting an inventory of transportation infrastructure susceptible to the impacts of climate change
3. FFY 2011 UPWP comment letters

- 4. Consultations with MassDOT’s Office of Transportation Planning and its Highway and Transit divisions, MAPC, and the MBTA
- 5. MPO-staff-identified needs

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The MPO strengthened the link between UPWP studies and the LRTP by drawing on the Topics and Visions articulated in the LRTP and presented below to categorize potential studies and evaluate their consistency with the objectives of the MPO’s new LRTP:

#### LRTP Topics and Visions:

##### 3Á System Preservation, Modernization, and Efficiency

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##### 4Á Mobility

*C'eqqt'f'k'p'cv'gf'o'kz'qhl'vt'cpur'qt'v'vkqp'o'qf'gu'cpf'ugt'xk'eg'u'kn'i'kxg'wug'u'qhl'y'g't'gi'k'p'lu'" vt'cpur'qt'v'vkqp'uf'wgo'k'p'et'g'c'ugf'qr'rt'w'p'k'kgu'lt'q'eq'p'x'g'p'k'g'p'v't'g'rk'd'ng.'ur'ggf'{'." ch'qt'f'cd'ng.'cpf'ce'egu'uk'd'ng'vt'cx'gr'OGz'kukpi't'q'cf'y'c'{'.'vt'cpuk'v'.'d'ke{'erg.'r'gf'g'ut'k'ep.'cpf" h'g'k'j'v'h'k'p'm'u'y'kn'd'g'o'c'k'p'w'k'p'gf'cpf'y'gk'ugt'xk'eg'cd'k'k'f'ko'rt'q'x'gf'OP'gy't'q'w'gu'k'p'gu.'cpf" eq'p'p'g'ev'k'p'u'y'kn'l'ugt'x'g'c'f'f'k'k'q'p'c'n'p'ggf'uO'Vj'g'ur'ge'vt'wo'qhl'qr'v'k'p'u'y'kn'l'ugt'x'g'vt'cx'gr'gt'u'lt'qo" f'k'ht'gt'gpv'ct'gcu'qhl'y'g't'gi'k'p'y'kj'x'ct'f'kpi'p'ggf'uO'*

##### 5Á Environment

*Vt'cpur'qt'v'vkqp/'r'rc'p'p'kpi'ce'v'k'x'k'kgu'cpf'rt'q'lg'eu'y'kn'l'ut'k'x'g'v'g'gf'weg'c'k't's'w'c'rk'f'" f'gi't'cf'cv'k'p'cpf'q'y'gt'gp'x'k'q'p'o'gp'v'c'n'f'gi't'cf'cv'k'p'u'ec'w'ugf'd{'vt'cpur'qt'v'vkqp'OX'g'j'k'eng" go'kuk'p'u'ect'd'q'p'o'q'p'q'z'lf'g'JEQ\_.'p'k't'q'i'gp'q'z'lf'gu'JPQz\_.'x'q'r'v'k'g'q't'i'c'p'ke'eq'o'r'q'w'p'f'u" JXQE\_u\_.'r'c't'v'k'w'c'v'gu.'cpf'ect'd'q'p'f'k'q'z'lf'g'JEQ\_+'y'kn'd'g't'gf'weg'f'd{'o'q'f'gt'p'k'k'pi'vt'cpuk'v' vt'wem'cpf'c'w'q'o'q'd'k'g'h'g'gu.'cpf'y'j't'q'w'i'j'k'p'et'g'c'uk'pi'vt'cpuk'v'o'q'f'g'ij'c't'g'O'" "*

*K'p'y'g'rt'q'egu'qhl'eq'p'uk'f'gt'kpi'vt'cpur'qt'v'vkqp'r't'q'lg'eu.'y'g'ORQ'y'kn'v'c'ng'k'p'v'q'ce'eq'w'p'v'y'g" o'c'pci'go'gpv'cpf'o'k'p'ko'k'cv'k'p'qhl'lu'q'k'l'c'p'f'y'cv'gt'eq'p'w'o'k'p'cv'k'p.'w'ej'cu'j'ki'j'y'c'{'cpf't'c'k'i' t'ki'j'v'q'h'y'c'{'t'w'p'q'h'cpf'y'g'w'c'p'f'ko'r'c'eu'OE'q'p'ut'w'ev'k'p'qhl'vt'cpur'qt'v'vkqp'rc'ek'rk'kgu'y'kn'd'g" r'rc'p'p'g'f'cpf'ect't'k'g'f'q'w'k'p'c'o'c'p'p'g't'y'cv'cx'q'lf'u'qt'o'k'p'ko'k'g'u'p'gi'cv'x'g'ko'r'c'eu'v'q" p'c'w't'c'n'l'gu'q'w't'egu'OVt'cpur'qt'v'vkqp'r'rc'p'p'kpi'y'kn'c'nu'q'r't'q'o'q'v'g'r't'q'lg'ev'f'g'uk'i'p'y'cv' r't'g'ug't'x'g'u'ew'w't'c'n'l'gu'q'w't'egu'w'ej'cu'eq'o'o'w'p'k'f'ej'c't'c'ev'gt'cpf'eq'j'g'uk'x'g'p'gu.'s'w'c'rk'f'qhl' r'k'g.'cpf'j'k'w'q't'ke'cpf'ue'g'p'ke't'gu'q'w't'egu'rt'q'v'ge'u'i't'gg'p'h'g'f'u.'qr'gp'ur'c'eg.'y'k'f'r'k'g.'cpf" ge'qu'f'w'go'u'c'p'f'c'f'x'c'p'egu'w'w'c'k'p'c'd'k'k'f'cpf'j'g'c'n'j'/r't'q'o'q'v'k'pi'vt'cpur'qt'v'vkqp'qr'v'k'p'uO' Vt'cpur'qt'v'vkqp'ci'g'p'ek'gu'y'kn'l'y'q't'n'y'kj'gp'x'k'q'p'o'gp'v'c'n'c'p'f'ew'w't'c'n'l'gu'q'w't'eg'ci'g'p'ek'gu'v'q" c'ej'k'x'g'y'j'g'ug'g'p'f'uO'*

6Á Safety and Security

Uclgv' 'cpf' 'ugewt kx' 'kpkkc vkgu'y kn'ldg'ko r rgo gpvf 'vq'rt qvgev'vj g't gi kqp'lt qo 'pcwt cni'cpf " j wo cp'vj t gcuo'Vt cpur qt v'v'kqp'kpl'lt ciat wewt g'cpf 'ku'qr gt c'v'kqp'y kn'ldg'wri t cf gf 'qp'cp" qpi qkpi 'dcuku'lt 'vj g'uchgv' 'cpf' 'ugewt kx' 'qhl'cni'wugt u'OV'gej pqrqi kgu'y kn'ldg'go r rql gf 'vq' o cpci g'kpek'f gpvu 'eqpf wew'go gt i gpe'f 't gur qpug. 'cpf' 'iwr rqt v'ic'lg'gxc ewc'v'kppu'wukpi " xct kquu'vt cpur qt v'v'kqp'o qf gu'J ki j y c'f' 'cpf' 'vt cpuk'kpl'lt ciat wewt g'y kn'ldg'hgr v'k'c' 'iuc'vg' qhl' qqf 't gr'ck'OV'j gt g'y kn'ldg'hy gt 'et'cuj gu. 'f'wg'v'q'ko r t qxgf 'kpvgt uge'v'kqp'f' guki pu'cpf " wri t cf gu'f

7Á Regional Equity

Tgi kpcn'gs wkv' 'cpf' 'vj g'pggf u'qhl'qy /kpego g'cpf' 'o kpat kx' 't gulf gpvu'y kn'ldg'cuiguugf " vj t qwi j 't gi wr't 'ce'v'k'k'kgu' 'cpf' 'v'gej p'k'c'n'c'p'c'n'f' u'gu'ON'qy /kpego g'cpf' 'o kpat kx' 't gulf gpvu' y kn'lij ct g'gs wcm'f 'y kj 'qyj gt u'k'p' 'ce'egui'v'q' 'vj g'vt cpur qt v'v'kqp'pgvy qt m'ic'p'f' 'ku'o qdk'kx'f " dgp'g'k'au'OG'p'x'k' t qpo g'pvc'ni'd'w'f' g'pu'lt qo 'vt cpur qt v'v'kqp'lc'ek'k'k'kgu' 'cpf' 'ugt'x'ke'gu'y kn'ldg'f' g'p'v'k'k'g'f' 'cpf' 'o k'p'ko k'j'gf' 'lt'q' 'cni'r'qr'w'c'v'k'p'u'f

6 Land Use and Economic Development

O wako qf cni'vt cpur qt v'v'kqp'y kn'li'gt'xg'd'w'uk'p'guu. 't gulf g'p'v'k'c'n' 'cpf' 'o k'z'gf' /wug' 'e'g'p'v'g't u'f' Vt cpuk: 'dke'f'erg. 'cpf' 'r'gf' g'iat k'c'p'lc'ek'k'k'kgu'y kn'ldg'v'k'p'ng'f' 'k'p'c' 'p'g'vy' qt m'iv'q'c' 'i' t qy k'p'i " k'p'x'g'p'v'q't'f' 'q'hl'f' g'p'ug't 't gulf g'p'v'k'c'n'f' g'x'g'r'q'r'o g'p'v' 'go r rql' o g'p'v' 'cpf' 'eqo o g't'ek'n' 'e'g'p'v'g't u. 'cpf' " o cl'q't'f' g'uk'p'c'v'k'p'u'OV't cpur qt v'v'kqp'k'p'x'g'u'o g'p'v'u'y kn'li'q'ewu'qp' 'e'g'p'v'g't u'q'hl'g'eq'p'q'o k'e'c'ev'k'k'x'f' " cpf' 'ct'g'cu'y kj 'cf'g's'w'c'v'g'y' c'v'g't. 'ugy'gt. 'cpf' 'q'v'j'gt' 'r'w'd'ri'ke' 'k'p'lt' c'iat' w'ew't' g'OV't cpur qt v'v'kqp' " t ki j w'q'hl'y c'f' 'y kn'ldg'w'ug'f' 'v'q' 'o c'z'ko k'j'g'r'w'd'ri'ke' 'd'g'p'g'k'au'f " "

Vt cpur qt v'v'kqp'r'rc'p'p'k'p'i 'y kn'ldg'k'p'v'g'i t c'v'g'f' 'y kj 't'c'p'f' /wug' 'cpf' 'g'eq'p'q'o k'e'f' g'x'g'r'q'r'o g'p'v' r'rc'p'p'k'p'i 'v'q' 'vj' g'i t g'c'v'g'u'g'z'v'g'p'v'r' q'u'uk'd'rg' 'k'p' 'q't'f' g't 'v'q' 'c'ej' k'g'x'g' 'o q't' g' 'o q'd'k'k'x'f' . 't'q'u'w'g't " u'w'w'c'k'p'c'd'rg' 'eqo o w'p'k'k'kgu' 'cpf' 'vt cpur qt v'v'kqp. 'cpf' 'g'z'r' 'cpf' 'g'eq'p'q'o k'e' 'q'r' r'q't' w'p'k'k'kgu' 'cpf' " r't'q'ur'g't'k'x'f' OV't cpur qt v'v'kqp'ko r t q'x'g'o g'p'v'u'y kn'ldg' 'o c'f' g'v'q' 'lc'ek'k'c'v'g' 'vj' g' 'o q'x'g'o g'p'v'q'hl' 'lt' g'ki j v'vj t qwi j q'w'v'j g't gi k'p'o

Next, the MPO further evaluated each study idea in a series of in-house staff discussions and UPWP Subcommittee meetings that explored a variety of issues, such as whether there is current or planned construction in the study area, and whether the recommendations of related previous studies (if applicable) have been implemented, and if they have addressed the need identified in the previous studies. Following this evaluation, staff defined the general scope and cost of a potential new study and whether a proposed study is consistent with the goals that the MPO is using in the development of the LRTP for 2035, Paths to a Sustainable Region:

1. Link Land Use and Transportation
2. Work with Limited Financial Resources
3. Use a Management and Operations Approach
4. Preserve and Maintain the System
5. Increase Transit and Active Transportation Mode Share
6. Encourage Sustainable Communities
7. Consider Regional Equity
8. Address documented needs (see the planning activities described on pages 1-9 and 1-10)

Following completion of this process, MPO staff presented the results in an evaluation matrix to the UPWP Subcommittee along with staff recommendations (see Appendix C).

The UPWP Subcommittee met four times to consider the development process, project evaluations, and staff recommendations regarding the draft FFY 2012 UPWP, and selected a program of projects that was based on the availability of funding and several other factors, described below, including planning priorities, state and federal guidelines, and other considerations. The Transportation Planning and Programming Committee approved the recommendations of the UPWP Subcommittee on June 30, 2011.

**Eqpukwpe{ 'y kj 'Hgf gt cñRncppłpi 'Tgi wncvkpu''**

*Vj g'Uclg. 'Ceeqwpvc dng. 'Hrgz.kdng. 'Ghhekgpv'Vt cpur qt wvkqp 'Gs wkl' 'Cev<C'Ngi ce{ 'lqt 'Wugt u' \*UCHGVGC/NW+''*

This legislation requires all MPOs to carry out the 3C process (see page 1-1). Activities the MPOs must perform to meet this requirement are:

- Production of the LRTP, the TIP, and the UPWP
- Establishment and oversight of the public participation process
- Maintenance of transportation models and data resources to support air quality conformity determinations as well as long-range and short-range planning efforts

**Eqpukwpe{ 'y kj 'Qvj gt 'Hgf gt cñNgi kucvkxg'Tgs wkt go gpw'**

*Vkrg'XKqhl'j g'3; 86'Ekkl'Tki j w'Cev. 'Gz.gewkxg'Qtf gt '34: ; : . 'Gz.gewkxg'Qtf gt '35388. 'cpf " Gz.gewkxg'Qtf gt '35552''*

Title VI of the 1964 Civil Rights Act forbids discrimination on the basis of race, color, national origin, age, sex, disability, or religion in agencies receiving federal financial assistance. This act and subsequent legislation and implementing regulations provide that persons may not be excluded, denied benefits, or discriminated against on these bases. This applies to all U.S. Department of Transportation programs, policies, and activities. It is the foundation of current environmental-justice policies and regulations.

Executive Order 12898, dated February 11, 1994, expands upon Title VI, requiring 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.

On April 15, 1997, the U.S. Department of Transportation issued its Final Order to Address Environmental Justice in Minority Populations and Low-Income Populations. Among other provisions, this order requires programming and planning activities to:

- Explicitly consider the effects of transportation decisions on minority and low-income populations

- Provide meaningful opportunities for public involvement by members of minority and low-income populations
- Gather (where relevant, appropriate, and practical) demographic information such as the race, color, national origin, and income level of the populations affected by transportation decisions
- Minimize or mitigate any adverse impact on minority or low-income populations

Executive Order 13166, dated August 11, 2000, is intended to ensure compliance with Title VI of the Civil Rights Act of 1964 by specifically calling for improved access to federally conducted and federally assisted programs and activities for persons who, as a result of national origin, have limited English proficiency (LEP). To comply with the order, MPOs are required to develop and implement a system by which LEP persons can meaningfully participate in the transportation-planning process.

Executive Order 13330, dated February 26, 2004, calls for the establishment of the Interagency Transportation Coordinating Council on Access and Mobility under the aegis of the Secretary of Transportation. This order charges the Council with developing policies and methods for improving access for persons with disabilities, low-income persons, and older adults.

*Vj g'3; ; 2'Ergcp'Clk 'Cev'*  
"

Conformity determinations must be performed for capital improvement projects that receive federal funding and for those that are considered regionally significant, regardless of the funding source. These determinations must show that the MPO's LRTP and TIP will not cause or contribute to any new air quality violations, will not increase the frequency or severity of any existing air quality violations in any area, and will not delay the timely attainment of the air quality standards in any area.

Transportation control measures (TCMs) identified in the State Implementation Plan (SIP) for the attainment of air quality standards are federally enforceable and must be given first priority when using federal funds. Such projects include parking-freeze programs in Boston and Cambridge, statewide rideshare regulations, rapid transit and commuter rail extension programs, park-and-ride facilities, residential parking-sticker programs, and the operation of high-occupancy-vehicle lanes. "

*Vj g'Co gt kēcpu'y kj 'F kuc dkkkku'Cev'*  
"

Title III of the Americans with Disabilities Act requires all transportation projects, plans, and programs to be accessible to people with disabilities. At the MPO level, this means that public meetings must be held in accessible buildings and MPO materials must be made available in accessible formats.



**Equulwpe{ 'y kj 'Hgf gt cñRrpplpi 'Hcevqtu'çpf 'Qvj gt 'Hgf gt cñl wlf cpeg''**

This year the FHWA and FTA asked that the MPO to address the following in its UPWP:

- An identification of the costs associated with maintaining municipally controlled arterial and urban-collector roadways in the MPO region that could be used to inform decision-making in the development the LRTP
- The establishment of a comprehensive livability program that provides multimodal mobility and accessibility options, includes linking land use and transportation planning, and supports actions that make better use of the existing system, such as carpools, vanpools, transportation demand management, walking, biking and access management
- Continued attention to the climate change issues through conducting an inventory of transportation infrastructure susceptible to potential impacts of climate change

The MPO programmed three initiatives in the FFY 2012 UPWP in response to this federal guidance; they are included in Chapter 5 and Chapter 7. Continued emphasis on climate change issues is reflected on page 5-4 under Safety and Security Planning. An MPO project for Pavement Management System Development is described on page 7-37; and the MPO’s continuing Livable Communities Workshop Program is presented on 7-16.

In addition to FHWA and FTA guidance to MPOs that they should continue to enhance their technical capacity and to develop and implement strategies to address environmental-justice and LEP issues, the following SAFETEA-LU planning factors were identified:

- Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency environmental
- Increase the safety of the transportation system for motorized and nonmotorized users
- Increase the security of the transportation system for motorized and nonmotorized users
- Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns
- Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight
- Promote efficient system operation and management for both the transit and highway networks
- Emphasize the preservation of the existing transportation system
- Address safety and security issues in the transportation-planning process
- Enhance the technical capacity of the planning process

Projects specifically relating to these planning factors are identified in Chapters 4 through 7. A summary of the amount of money being spent for these projects can be found in Chapter 8."

**Eqqtf lpcvkqp'y kj 'Qvj gt'Rncppkpi 'Cevkklgu'**  
 "

*Nqpi /Tcpi g'Vt cpur qt vvkqp'Rrcp'NTVR+'"*

The MPO considered the degree to which a proposed UPWP project would forward the policies that guided the development of its LRTP. The MPO also reviewed UPWP projects within the context of the recommended projects included in the LRTP.

*Eqpi gwkkp'O cpci go gpv'Rt qegui'EOR+'"*

The purpose of the CMP is to monitor transit, roadway, and park-and-ride facilities in the MPO region and identify “problem” locations. Projects that help address problems identified in the most recent CMP monitoring were considered for inclusion in this UPWP.

*Vj g'ODVC'Rtqi tco 'lqt 'O cui'Vt cpur qt vvkqp'ROV+'"*

In May 2003, the MBTA adopted its current PMT, which is the MBTA’s long-range capital plan. The PMT was developed with extensive public involvement and approved by the MBTA Advisory Board. The PMT includes projects currently under study in this UPWP, and it also identifies potential studies for inclusion in a future UPWP. The 2009 Program for Mass Transportation is scheduled to be adopted later this year.

*{qwO qxg'O cuucej wugwu*  
 "

*{qwO qxg'O cuucej wugwu* a statewide initiative designed as a bottom-up approach to transportation planning, developed 10 core themes derived from a broad-based public participation process that articulated the expressed concerns, needs, and aspirations of Massachusetts residents related to their transportation network. These themes form the basis for the youMove Massachusetts Interim Report, and were considered in the development of this UPWP. MassDOT will also soon begin a new multimodal strategic plan that will build on the work for youMove Massachusetts

The diagram on the following page depicts how the UPWP relates to the above planning activities. In addition, this coordination is identified in the project listings shown in Chapters 4 through 8.

*J gcnj {'Vt cpur qt vvkqp'Ego rcev'"*

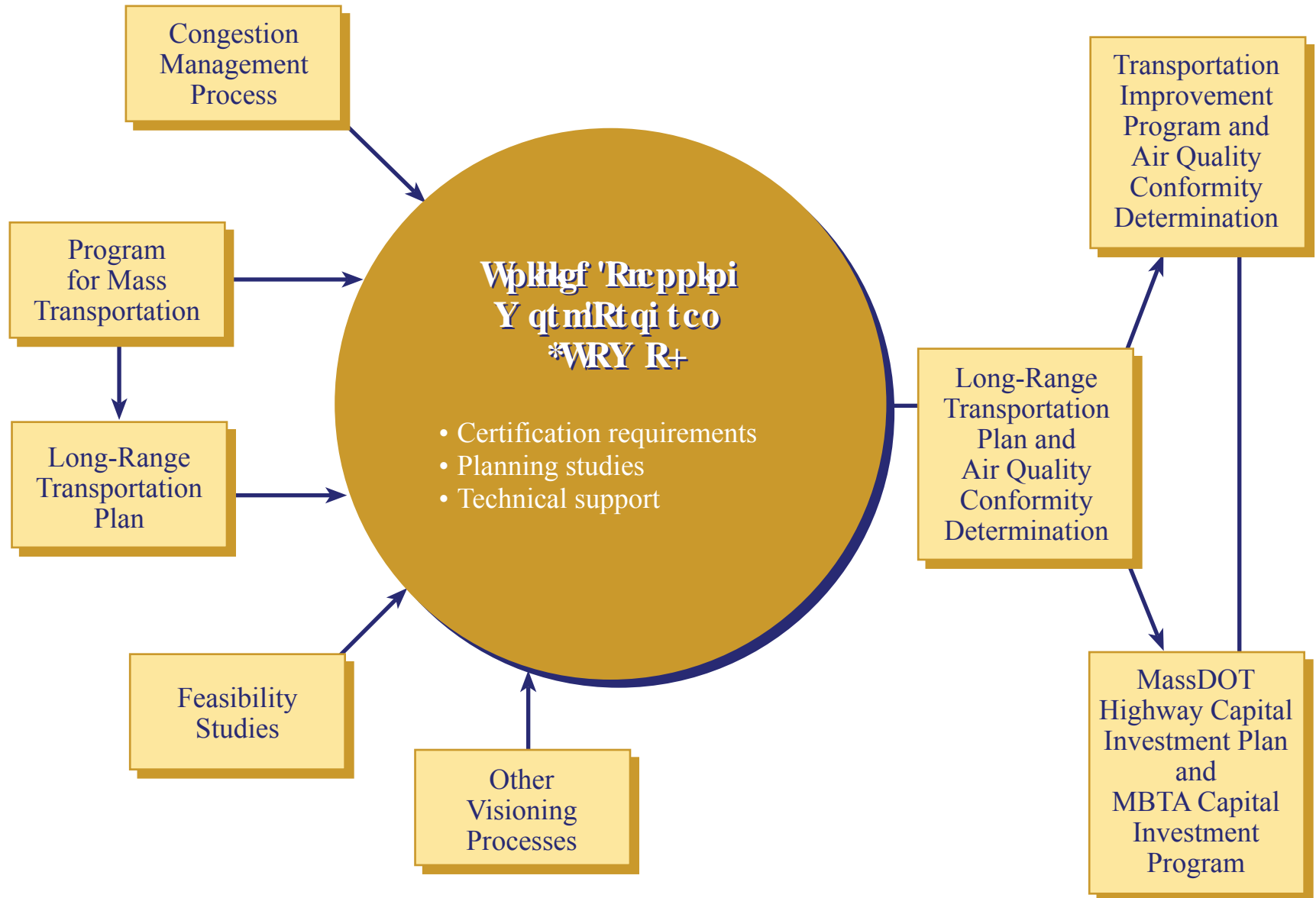
The Healthy Transportation Compact (HTC) is a key requirement of the Massachusetts landmark transportation reform legislation which took effect on November 1, 2009. It is an interagency initiative that will help ensure that the transportation decisions the Commonwealth makes balance the needs of all transportation users, expand mobility, improve public health, support a cleaner environment, and create stronger communities.

The agencies work together to achieve positive health outcomes through the coordination of land use, transportation, and public health policy.” HTC membership is made up of the Secretary of Transportation or designee (co-chair), the Secretary of Health and Human Services or designee

# Tgr vlpur jr 'qh'WRY R'vq'Qvj gt 'Vt c pur qt v vlp' Rrc pklpi 'F qewo gpvu

PRWU

QWRWU



(co-chair), the Secretary of Energy and Environmental Affairs or designee, the Administrator of Transportation for Highways or designee, the Administrator of Transportation for Mass Transit or designee, and the Commissioner of Public Health or designee.

The HTC will also promote improved coordination among the public sector, private sector, and advocacy groups, as well as among transportation, land use, and public health stakeholders. As part of the framework for the HTC, MassDOT has established a Healthy Transportation Advisory Group composed of advocates and leaders in the field of land use, transportation and public health policy.

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**Eqpukwpe{ 'y kxj 'O RQ'Rqrlkgu'"**

"

In choosing projects for inclusion in the UPWP, the UPWP Subcommittee considers the degree to which a project forwards the following MPO policies, which were adopted in January 2006 and continued in the LRTP amendment that was approved in the fall of 2009:

*Uf wgo 'Rt gugt xc vkqp. 'O qf gt pkj cvkqp. 'cpf 'Ghhekgpe{ '"*

To emphasize the preservation, modernization, and efficiency of the existing transportation system, the MPO will:

- A. Put priority on projects that maintain, repair, and modernize existing infrastructure.
- B. Set funding goals for maintaining the system
- C. Make investments that maximize the efficiency, effectiveness, reliability, and flexibility of the existing transportation system
- D. Encourage and support, through planning and programming, projects and programs that improve the operation of the existing transportation system through the use of intelligent transportation systems (ITS), new technologies, and transportation systems management (TSM)

"

*O qdkkx{ '"*

To improve mobility for people and freight, the MPO will:

- A. Put a priority on projects and programs that increase the availability of transportation options for people and freight by improving connections, access to and within the system, services, and infrastructure to meet needs.
- B. Support projects and programs that improve public transportation service by making it faster, more reliable, and more affordable.
- C. Consider how an improvement to a single mode can make the entire system work better.
- D. Fund projects that expand the existing transportation system's ability to move people and goods in areas identified in the Boston Region Congestion Management Process (CMP), the MBTA Program for Mass Transportation, the MPO's Regional Equity Program, MPO and MassDOT freight studies, and through public comment. This includes encouraging options that manage demand. Adding highway capacity by building general-purpose lanes should be

considered only when no better solution can be found and should be accompanied by proponent commitments, developed in the environmental review process, to implement TDM measures.

- E. Assist agencies and communities in planning and implementing projects that provide bicycle and pedestrian routes, networks, and facilities.
- F. Support programs that meet public transportation needs in suburban communities, including improving access to existing public transportation and partnering with others to initiate new intrasuburban services linking important destinations.
- G. Provide better access for all to transportation throughout the region, including for our youth, elderly, people with disabilities, and members of zero-vehicle households. This includes identifying and addressing structural and operational barriers to mobility.
- H. Develop a multimodal, comprehensive plan for freight movement that includes an evaluation of freight infrastructure needs and access to intermodal facilities (air, road, rail, and water).

*Gpxkt qpo gpv''*

To minimize transportation-related pollution or degradation of the environment; promote energy conservation; support preservation of natural resources and community character; and advance sustainability, regional environmental benefits, and health-promoting transportation options, the MPO will:

- A. Give priority to projects that maintain and improve public transportation facilities and services to increase public transportation mode share and reduce reliance on automobiles
- B. Give priority to projects that reduce congestion or manage transportation demand to improve air quality
- C. Support, through planning and programming, projects that make transportation in the region more sustainable
- D. Promote the use of low-polluting or alternative fuels, efficient engine technology, and other new, viable technology and resource protections
- E. Consider environmental issues during project selection; in particular, air quality and reduction of pollutants (carbon monoxide [CO], nitrogen oxides [NOx], volatile organic compounds [VOCs], particulates, and carbon dioxide [CO<sub>2</sub>]), water resources (soil and water contamination, stormwater management, and wetlands impacts), greenfields and open space, and wildlife and ecosystems; and value those that reduce negative impacts
- F. Recognize value in transportation projects that preserve natural and cultural resources, including visual, historic, aesthetic, noise, community cohesiveness, and quality of life values
- G. Recognize, in evaluations, projects that respect community character in their purpose and design
- H. Consult with environmental and cultural resource agencies and entities on environmental effects, particularly through the existing National Environmental Policy Act (NEPA) and Massachusetts Environmental Policy Act (MEPA) processes

- I. Encourage, through planning and programming, transportation choices that promote a healthy lifestyle, such as walking and bicycling

*Ukhw'cpf 'Ugew'kw' "*

To improve safety and security for all transportation system users and prepare the transportation system for its role in emergency response preparedness, the MPO will:

- A. Support designs and fund projects and programs that address safety problems and enhance safe travel for all system users. This includes designs and projects that encourage motorists, public transportation riders, bicyclists, and pedestrians to share the transportation network safely.
- B. Support, through planning and programming, the installation, operation, upgrading, and timely maintenance of system infrastructure, including ITS, to provide for safety and security.
- C. Participate in regional planning for safety and security initiatives, such as evacuation and contingency measures, and homeland security.

*Tgi kqpcn'Gsw'kw' "*

To promote the equitable sharing of the transportation system's benefits and burdens, and incorporate environmental-justice principles into transportation planning and programming activities, the MPO will:

- A. Continue the outreach to communities with a high proportion of low-income and minority residents to identify transportation needs
- B. Assess regional equity by analyzing mobility, accessibility, and congestion for communities with a high proportion of low-income and minority residents
- C. Fund projects that address identified regional-equity issues and needs

*Ncpf 'Wug'cpf 'Geqqo ke'F gxgrro gpv'*

To promote the integration of land use, economic development, and transportation planning to achieve efficiencies; benefits for mobility and the environment, including sustainable communities and transportation; and stronger economic opportunities, the MPO will:

- A. Link transportation planning with land use and economic development plans, particularly in areas identified for economic development by state, regional, and local planning
- B. Make transportation investments where existing or planned development will encourage public transportation use, walking, and bicycling
- C. Give priority to projects in areas identified in local and regional plans as being suitable for concentrated development and/or redevelopment, including brownfield redevelopment; support initiatives that increase sustainability
- D. Consider both existing development and densities in transportation decision-making and give priority to projects that support them
- E. Consider the appropriate use and maintenance of transportation rights-of-way to maximize public benefits

- F. Put priority on transportation investments related to existing centers of economic activity; or to areas with adequate water and sewer infrastructure; or to municipal centers or areas targeted for economic development

**Qvj gt 'Eqpuł gt cłkpu''**

Lastly, selection of projects for the UPWP also takes into consideration the availability of CTPS time, the impact of new projects on the MPO’s existing work program, and the availability of funds for a project’s design and construction.

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**HMPFPI 'VJ G'RTQLGEVU'**

The funding for the projects included in this UPWP (presented in Chapters 4 through 7) comes from a variety of federal and state sources, as described below. The source of funds has important implications with regard to which agency or organization is responsible for programming them, as well as the MPO’s vote to approve both the UPWP and the subsequent work scopes for the projects included in it. The purview of the MPO is included in each of the funding descriptions.

*HJ Y C'5E'Rrcppłpi '\*RN+O cıuF QV'Nqecn'O cvej* These are FHWA planning funds distributed to MassDOT’s Office of Transportation Planning (OTP), according to an allocation formula established by federal legislation, to carry out the 3C planning process. OTP distributes these funds to Massachusetts MPOs according to a formula based on population. The FFY 2012 3C PL funding allocation for the Boston Region MPO is \$3,286,300, which includes \$657,260 in state matching funds. The MPO votes on both the use of funds and the use of MPO staff for projects in this funding category.

*HJ Y C'Ucvgı kf g'Rrcppłpi 'cpf 'Tgugctej '\*URT+O cıuF QV'Nqecn'O cvej* As in the case of 3C PL funds, FHWA provides SPR funds to OTP according to a distribution formula. OTP uses these funds to carry out planning and research projects throughout the state. This UPWP contains only SPR projects that will be conducted in the Boston Region MPO area. However, OTP provides a complete listing of how these funds are distributed statewide in a document called the SPR Transportation Planning Work Program. SPR funds in the amount of \$500,000 (including \$100,000 in state matching funds) are programmed in this UPWP for projects to be conducted by MPO staff. The MPO’s role is to approve the use of MPO staff for projects in this category and to make recommendations on work scopes for implementing them. The MPO’s role in these projects is crucial to the 3C process because it provides an opportunity to coordinate projects with other, related transportation work efforts that may be planned for the same area.

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*HVCIO cıuF QV.'ODVC.'cpf 'O CRE'Nqecn'O cvej* FTA provides 3C planning funds for transit projects to MPOs under Section 5303 of the Federal Transit Act. These funds require a local match, are distributed according to an allocation formula, and are administered by MAPC. The allocation in this UPWP, including the total local match for FFY 2012, is \$1,874,500 for projects to be conducted by MPO staff, MassDOT, and MAPC on behalf of the MPO. As is the case for FHWA 3C PL funds, the MPO votes on both the use of these funds and the use of MPO staff on projects in this category

*ODVC* The MBTA provides \$360,500 in funding for this UPWP for transit projects to be conducted by MPO staff. As is the case of the SPR funds described above, the MPO's role is to approve the use of MPO staff time for these projects and to make recommendations on the work scopes for implementing them.

*OCUUF QV* Funds in the amount of \$200,000 for MassDOT projects are included this UPWP. The Immediate Needs Bill and other bond bills will continue to provide the funding for the work to be conducted during FFY 2012.

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*Qvj gt* This UPWP also includes \$59,200 in funding provided by the Town of Wellesley for work being conducted by MPO staff on its behalf. The MPO's role is to vote on the use of MPO staff time for these projects and to make recommendations on the work scopes for implementing them.

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The following procedures for monitoring the projects in this UPWP were approved by the MPO's Transportation Planning and Programming Committee:

- *C'rt qlgev'y qtmueqr g'* must be approved by the Transportation Planning and Programming Committee prior to the start of any CTPS project activity.
- *O qpvj r# rtqi tgu't grqtu'bn* all active projects must be submitted to the respective funding agency by CTPS and/or MAPC. The reports must include the following information for each project:
  - The objectives that had been set for each reporting period
  - The accomplishments of the period
  - Any previous objectives that were not met, including the reasons why and the impact on the project and related projects
  - Any change to the scope, the amount of additional funding necessitated by the change, and the proposed funding source
  - The percentage of the project's work scope completed and the percentage of the project's budget expended
- *C'WRY R'Uc wu'Tgrqtvis* is presented quarterly by CTPS to the Transportation Planning and Programming Committee's UPWP Subcommittee. It compares the UPWP project budgets with the actual project spending. The subcommittee then recommends necessary adjustments to the UPWP project budgets to the Transportation Planning and Programming Committee.
- *Vt cpur qt w#qp'R#pp#pi 'cpf 'Rtqi tco o #pi 'Ego o kwgg'crrtqxcn* for release of a project's work products is based on whether the objectives stated in the work scope were met, whether the stated deliverables were produced, and whether the project schedule and budget were adhered to.



**CO GPFO GPVUCPF'CFORP KVT CVKXG'O QF KHE CVIQP UVQ'VJ G'WRY R**

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Amendments or administrative modifications may be made to the UPWP, when necessary, throughout the year. If an amendment is under consideration, Advisory Council member entities and other interested parties, including any affected communities, are notified. Legal notice is placed in the region's major daily newspaper and posted on the MPO's website at least 30 days in advance of MPO action. Members of the public may attend and present comments at the Transportation Planning and Programming Committee and MPO meetings at which amendments are discussed. Administrative modifications may be made by the Transportation Planning and Programming Committee, and, although no public review period is required, one may be provided at the Committee's discretion.



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#### 4 STATUS OF THE FEDERAL FISCAL YEAR 2011 UPWP PROJECTS CONDUCTED BY BOSTON REGION MPO STAFF

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During federal fiscal year (FFY) 2011, projects were expected to be conducted by the Central Transportation Planning Staff (CTPS) of the Boston Region Metropolitan Planning Organization (MPO) and by the Metropolitan Area Planning Council (MAPC) on behalf of the MPO. For the purpose of reporting here on the status of these projects, they have been divided into four categories:

- *Completed* – These projects are either already completed or expected to be completed by October 1, 2011, when this document goes into effect.
- *Continuing* – This is one of two categories of projects that continue from FFY 2011 into FFY 2012. It is distinctly different from the similar category “ongoing” (described below) in that it covers planning studies that have specific start and end dates rather than ongoing programs. The percentage completed as of October 1, 2011, for these projects is included in the project descriptions presented in Chapters 6 and 7.
- *Ongoing* – These projects support and continue the transportation planning process from year to year and thus have no start or end date.
- *Discontinued* – Contrary to expectations when the FFY 2011 UPWP was being developed, work on these projects did not begin during FFY 2011.

The tables on the following pages list FFY 2011 projects by category and their budgets for that year. Following the tables is a complete listing of MPO work products resulting from FFY 2011 UPWP projects. Information is provided on how to obtain copies of reports approved by the MPO’s Transportation Planning and Programming Committee.

**COMPLETED FFY 2011 UPWP PROJECTS WITH 2011 BUDGETS AND FUNDING SOURCES**

Project Name	3C PL	MPO \$5303	MPO \$5303 Carryover	SPR	MASS DOT	MASSDOT \$5303	MASSDOT/ MBTA \$5303 Carryover	MBTA	Other	Total FFY 2011 UPWP
2010–11 I-93 North and Southeast Xway HOV Lane Monitoring				\$60,000						\$60,000
CharlieCard Trip-Paths Pilot Study		\$33,400								33,400
Downtown Framingham Traffic Impact Analysis				4,700						4,700
Early-Morning Transit Service		20,000								20,000
I-93 Access and HOV Lane Improvements (Savin Hill/South Bay Area)			\$32,400							32,400
Low-Cost Improvements to Bottleneck Locations, Phase II	\$20,000									20,000
Maintenance Costs of Municipally Controlled Roadways	62,500									62,500
MBTA 2010 National Transit Database: Directly Operated								\$2,700		2,700
MBTA 2010 National Transit Database: Purchased Bus								1,900		1,900
MBTA Core Services Evaluation			40,900							40,900
MPO Freight Study	8,700									8,700
Tri-Town Interchange Environmental Analysis Support				14,200						14,200
<b>UPWP Subtotal</b>	<b>\$91,200</b>	<b>\$53,400</b>	<b>\$73,300</b>	<b>\$78,900</b>				<b>\$4,600</b>		<b>\$301,400</b>

**CONTINUING FFY 2011 UPWP PROJECTS WITH 2011 BUDGETS AND FUNDING SOURCES**

Project Name	3C PL	MPO \$5303	MPO \$5303 Carryover	SPR	MASS DOT	MASSDOT \$5303	MASSDOT/ MBTA \$5303 Carryover	MBTA	Other	Total FFY 2011 UPWP
Bicycle Network Evaluation	\$35,000	\$35,000								\$70,000
Emergency Evacuation and Hazard Mitigation Mapping, Phase II	15,000	15,000								30,000
Green Line Extension FEIR					\$66,900					66,900
Impacts of Walking Radius on Transit Frequency and Reliability		50,000								50,000
Integrating Land Use in Regional Transportation Models	56,000	24,000								80,000
Intercity Bus Study*									\$167,100	167,100
MBTA 2011 National Transit Database: Directly Operated								\$79,700		79,700
MBTA 2011 National Transit Database: Purchased Bus								16,600		16,600
MBTA Bus Route 1 Transit Signal-Priority Study			\$46,200							46,200
MBTA Bus Service Data Collection VII								230,100		230,100
MPO Freight Study, Phase II	30,000									30,000
Regional HOV-Lane System Planning Study	18,000	12,000								30,000
Roundabout Installation Screening Tool	40,000									40,000
South Coast Commuter Rail Extension					63,200					63,200
Wellesley Transit Study									25,200	25,200
<b>UPWP Subtotal</b>	<b>\$194,000</b>	<b>\$136,000</b>	<b>\$46,200</b>		<b>\$130,100</b>			<b>\$326,400</b>	<b>\$192,300</b>	<b>\$1,025,000</b>

\* February 2011 Amendment

**INACTIVE FFY 2011 UPWP PROJECTS WITH 2011 BUDGETS AND FUNDING SOURCES**

Project Name	3C PL	MPO §5303	MPO §5303 Carryover	SPR	MASS DOT	MASSDOT §5303	MASSDOT/ MBTA §5303 Carryover	MBTA	Other	Total FFY 2011 UPWP
I-93/I-95 Interchange Analysis: Reading, Stoneham, and Woburn					\$48,400					\$48,400
Route 3 South Corridor Study Support					21,000					21,000
UPWP Subtotal					\$69,400					\$69,400

**ONGOING FFY 2011 UPWP PROJECTS WITH 2011 BUDGETS AND FUNDING SOURCES**

Project Name	3C PL	MPO §5303	MPO §5303 Carryover	SPR	MASS DOT	MASSDOT §5303	MASSDOT/ MBTA §5303 Carryover	MBTA	Other	Total FFY 2011 UPWP
3C Planning and MPO Support	\$495,600	\$212,400								\$708,000
Air Quality Conformity Determinations	9,800	4,200								14,000
Air Quality Support Activity	24,500	10,500								35,000
Alternative-Mode Planning and Coordination	108,800	65,800								174,600
Bicycle/Pedestrian Support Activities	49,000	21,000								70,000
Boston Region MPO Title VI Reporting	9,800	4,200								14,000
Community Transportation Technical Assistance Program	30,000	30,000								60,000
Computer Resource Management	224,100	96,100								320,200
Congestion Management Process	123,900	53,100								177,000
Corridor/Subarea Planning Studies: Land Use Reviews	70,000	34,700								104,700
Data Resources Management	274,800	117,700								392,500
Direct Support	86,000	69,900	\$30,000	\$9,500						195,400
Disability Access Support	58,100	24,900								83,000
Land Use Development Project Reviews	35,600	15,300								50,900
Livable Communities Workshop Program	27,500	27,500								55,000
Long-Range Transportation Plan	236,600	101,400								338,000
Massport Technical Assistance State Fiscal Years 2010–11									28,600	28,600
MBTA Rider Oversight Committee Support								\$4,900		4,900

**ONGOING FFY 2011 UPWP PROJECTS WITH 2011 BUDGETS AND FUNDING SOURCES (CONT.)**

<b>Project Name</b>	<b>3C PL</b>	<b>MPO §5303</b>	<b>MPO §5303 Carryover</b>	<b>SPR</b>	<b>MASS DOT</b>	<b>MASSDOT §5303</b>	<b>MASSDOT/ MBTA §5303 Carryover</b>	<b>MBTA</b>	<b>Other</b>	<b>Total FFY 2011 UPWP</b>
MPO/MAPC Liaison and Support Activities	105,000	45,000								150,000
Regional Equity/Environmental Justice Support and Studies	74,900	32,100								107,000
Regional Model Enhancement	500,500	214,500								715,000
Regional Transportation Authority Service Planning Assistance		4,900								4,900
Regional Vision Implementation: MetroFuture	84,000	41,000								125,000
Safety and Operations Analyses at Selected Intersections	58,300	11,900								70,200
Statewide Planning Assistance				687,600		307,900	427,500			1,423,000
Subregional Support Activities	112,000	48,000								160,000
Transportation Improvement Program (CTPS)	122,500	52,500								175,000
Transportation Improvement Program (MAPC)	31,500	13,500								45,000
Travel Operations Analysis		7,600								7,600
Unified Planning Work Program (CTPS)	41,300	17,700								59,000
Unified Planning Work Program (MAPC)	7,000	3,000								10,000
<b>UPWP Subtotal</b>	<b>\$3,001,100</b>	<b>\$1,380,400</b>	<b>\$30,000</b>	<b>\$697,100</b>		<b>\$307,900</b>	<b>\$427,500</b>	<b>\$4,900</b>	<b>\$28,600</b>	<b>5,877,500</b>
<b>UPWP Total</b>	<b>3,286,300</b>	<b>1,569,800</b>	<b>149,500</b>	<b>776,000</b>	<b>199,500</b>	<b>307,900</b>	<b>427,500</b>	<b>335,900</b>	<b>220,900</b>	<b>7,273,300</b>



## **WORK PRODUCTS OF THE FFY 2011 UPWP**

Listed below are the reports, memoranda, and other MPO work products that were associated with the projects in the FFY 2011 UPWP. Memoranda and other work products are produced for the client agency or municipality. Reports and certification documents, however, are available at the State Transportation Library. They may also be requested by contacting CTPS at (617) 973-7100 (voice), (617) 973-7089 (TTY), or [bostonmpo@ctps.org](mailto:bostonmpo@ctps.org) (e-mail). Many of these work products are available for downloading from the MPO's website, [www.bostonmpo.org](http://www.bostonmpo.org).

### **MPO Certification Documents**

Air Quality Conformity Determination of the Amendment to the 2007 Regional Transportation Plan

Air Quality Conformity Determination of the Federal Fiscal Years 2011–14 Transportation Improvement Program (pending approval)

Federal Fiscal Years 2011 Unified Planning Work Program Administrative Modification

Federal Fiscal Years 2010–13 Transportation Improvement Program Amendments and Administrative Modifications

Federal Fiscal Year 2012 Unified Planning Work Program (pending approval)

Federal Fiscal Years 2011–14 Transportation Improvement Program and Determination of Air Quality Conformity (pending approval)

JOURNEY TO 2030 Transportation Plan of the Boston Region Metropolitan Planning Organization Amendment

Public Participation Plan Update

### **CTPS Reports**

Coordinated Human Services Transportation Plan Update

Inner-Suburban Mobility Study

Low-Cost Improvements to Bottleneck Locations (pending approval)

Route 126 Corridor: Transportation Improvement Study: Bellingham to Framingham (pending approval)

### **CTPS Technical Memoranda**

An Assessment of Regional Equity Outreach 2008–2009

Analysis of Responses to the MBTA Systemwide Onboard Passenger Survey by Respondents in Environmental-Justice Areas

Arterial Traffic-Signal Improvements and Coordination (pending approval)

MBTA Fiscal Year 2010 National Transit Database: Directly Operated – Ridership and Passenger-Mile Estimates for Fiscal Year 2010

MBTA Fiscal Year 2010 National Transit Database: Purchased Bus – Ridership and Passenger-Mile Estimates for Fiscal Year 2010

### **Other CTPS Work Products and Activities**

- 2009–2010 I-93 North and Southeast Expressway high-occupancy-vehicle-lane utilization documentation.
- Accessible formatting of the JOURNEY TO 2030 amendment, the Transportation Improvement Program and amendments, the Unified Planning Work Program, and meeting minutes and handouts of the Transportation Planning and Programming Committee, the Regional Transportation Advisory Council, and the Access Advisory Committee to the MBTA (AACT).
- All-Hazards Planning – Participation at regional meetings at which planning for emergency preparedness and response was conducted. Preparation of a white paper describing the individual organizations involved in this work, and their interrelationship, roles, and products.
- Assembly Square Station Feasibility Study – Memos, spreadsheets, and maps to support the FTA Small Starts Application. Project deliverables consisted of ridership forecasts, a memo on land use assumptions and air quality impacts, and an analysis of transit capacity. A description of the modeling methodology was also produced.
- Bicycle planning and support services and online bicycle/pedestrian count database.
- Clean Air and Mobility Program – Development of program, and solicitation of applications, evaluations, and project tracking.
- Community Transportation Technical Assistance Program – Site visits to municipalities, consultations, and recommendations for improvements
- Computer Resources Management – Maintenance and enhancements of CTPS’s desktop and server computer systems, computer network, and peripheral devices such as printers, plotters, and mass-storage devices.
- Congestion Management Process – Travel-time runs, data collection, intersection analyses, and documentation of park-and-ride lots.
- Congestion Mitigation and Air Quality Program analyses.
- Data Resources Management – Maintenance and enhancement of CTPS’s database of standard reference GIS layers and GIS layers required to carry out particular projects. Database updates with new versions of standard reference GIS layers as released by MassGIS, the MassDOT Office of Transportation Planning, and other agencies.

- Emergency Evacuation and Hazard Mitigation Mapping – Maps depicting the Boston region transportation network with projects programmed in, or proposed for, the FFY 2011 element of the TIP and programmed in the amended Long-Range Transportation Plan, maps showing the proximity of transportation projects to natural hazard zones, and a matrix providing information indicating if proposed TIP projects are in such zones or if they provide emergency management benefits.
- GIS maps, computer map files, databases, and data analyses.
- Green Line Extension Environmental Review Support – Completion of the project, delivering memos, spreadsheets, and maps to the project team to support the DEIR. The deliverables consisted of ridership forecasts; a memo on land use assumptions, air quality impacts, user benefits, and station activity; an alternatives analysis; and a transit capacity analysis. A description of the modeling methodology was also produced.
- Ground transportation analysis in support of Massport.
- Job Access and Reverse Commute Program and New Freedom Program solicitation, evaluations and recommendations.
- MBTA bus trip summary reports of boardings, alightings, and on-time performance of selected bus routes. MBTA bus load-profile reports of boardings and alightings by stop. Service reallocation recommendations relating to 'respond-to-demand' program and improved cost-effectiveness
- MBTA Core Services Evaluation analytical support and report preparation.
- MBTA Fiscal Year 2011 National Transit Database: Directly Operated – Sampling of passenger boardings and alightings on randomly selected bus trips; survey of a sampling of rail rapid transit passengers' trips.
- MBTA Fiscal Year 2011 National Transit Database: Purchased Bus – Sampling of passenger boardings and alightings on randomly selected bus trips.
- MBTA Intercity Bus Study
- MBTA Rider Oversight Committee – Technical assistance to the MBTA Rider Oversight Committee and attendance at committee and subcommittee meetings.
- MBTA Service Benchmarking – Documentation of FFY 2009 MBTA level-of-service performance for selected services and amenities.
- MBTA rapid transit station map and display case inventory.
- MBTA Systemwide Onboard Passenger Survey – Set of technical reports documenting the results of the analysis for MBTA rapid transit, commuter rail bus and boat services.
- MPO Bicycle and Pedestrian Interactive Database.
- MPO Committees Support (including the Transportation Planning and Programming Committee and its subcommittees, the Regional Transportation Advisory Council, and the Access Advisory Committee to the MBTA). Support includes meeting planning;

coordination with the MPO; preparation of meeting minutes, materials, and various memoranda; staff support; and database maintenance.

- MPO Public Participation Program – Outreach materials supporting the development of certification documents and other MPO programs and activities. Provision of materials in accessible formats. Development of a social-media presence on Twitter and YouTube. Publication and posting of MPO notices and other materials. Soliciting and responding to public comments on documents under review, and responding to other comments, questions, and requests for information from members of the public.
- MPO Title VI – Updated sections of the 2008 triennial report.
- MPO Website Development and Enhancements – Development of an application that allows the general public to query the TIP database on the site, and allows TIP project proponents to submit proponent-provided data on the website. Development of online surveys for submitting grant applications for the Clean Air and Mobility Program and for submitting public comments on draft chapters of the Long-Range Transportation Plan on the website.
- National Transportation Week display materials.
- North Shore Transportation Improvements – Completion of project, delivering memos, spreadsheets, and maps to the project team to support the DEIR. The deliverables consisted of ridership forecasts; a memo on land use assumptions, and air quality impacts; and a transit capacity analysis. A description of the modeling methodology was also produced.
- Red Line–Blue Line Connector Study Support – Completion of the project, delivering memos, spreadsheets, and maps to the project team to support the DEIR. The deliverables consisted of ridership forecasts, and a memo on land use assumptions, air quality impacts, and a transit capacity analysis. A description of the modeling methodology was also produced.
- Responses to requests for transit data.
- Regional Equity Program – Transportation needs assessment survey and outreach to regional equity contacts.
- Silver Line Project Support – Completion of the project, delivering memos, spreadsheets, and maps to the project team to support the DEIR. The deliverables consisted of ridership forecasts; a memo on land use assumptions, air quality impacts, user benefits, and station activity; an alternatives analysis; and a transit capacity analysis. A description of the modeling methodology was also produced.
- South Coast Commuter Rail Extension – This project is ongoing; however, the DEIR was completed. The deliverables consisted of ridership forecasts, a memo on land use assumptions, air quality impacts, user benefits, and station activity; an alternatives analysis; and a transit capacity analysis. A description of the modeling methodology was also produced.

- TIP project information forms, evaluation criteria and matrices, instructional handbook, briefing books for Municipal Input Days, TIP interactive database, and other Web-based data.
- Travel-demand forecasting.
- *TRANSREPORT*, the MPO's monthly newsletter.
- UPWP outreach materials, evaluation criteria, and FFY 2010 UPWP quarterly reports.
- Walkable Community Workshops – Presentation of workshops in MPO communities, preparation of materials, and memoranda summarizing recommendations.
- Work scopes for Transportation Planning and Programming Committee evaluation and approval.

### **MAPC Work Products and Activities**

- Creation of a GIS coverage and related database of MAPC-reviewed projects and their mitigation commitments
- Database development of community, subregion, and corridor population and employment, and visual displays and analysis of this information
- GIS technical assistance and support for transportation planning in the region
- 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
- Interagency coordination, work scopes, participation in advisory and corridor committees, public participation, 2010 MPO elections, and attendance at relevant meetings
- MetroFuture implementation strategies
- MPO Pedestrian Plan
- MPO Regional Bike Parking Program
- Participation in a variety of specific project reviews and related activities
- Project evaluations and development of new project evaluation tools
- Provision of information to the MAPC Executive Committee, MAPC officers, and MAPC subregional groups on MPO transportation activities and issues
- Preparation of monthly meeting agendas, coordination with transportation agencies, traffic study reviews, reports to the Transportation Planning and Programming Committee, support for subregion and corridor advisory committee meetings, and prioritization assistance

- Support and technical assistance in developing and implementing the MPO's Suburban Mobility and Transportation Demand Management programs
- Support for the regional Congestion Mitigation/Air Quality Committee, Transportation Demand Management Committee, and Transportation Enhancement Selection Committee
- Support for TIP criteria refinement and implementation and for the Transportation Planning and Programming Committee's TIP Criteria Task Force
- Support for the UPWP Subcommittee
- Toolkit for Sustainable Mobility, focusing on local parking issues in 2010
- Technical assistance for air quality, transportation enhancement, and mobility assistance programs

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### 3 INDEX OF PROJECTS BY AGENCY

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This index of the projects by the agency responsible for leading the work effort is intended both to facilitate finding specific projects in this document and to provide a summary of what parts of this UPWP each agency is conducting.

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## 4 ADMINISTRATION AND RESOURCE MANAGEMENT PROJECTS

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Chapters 4 through 7 present project descriptions and budget information for transportation planning work that will be carried out between October 1, 2011, and September 30, 2012. The activities described in these chapters will be conducted by the Central Transportation Planning Staff (CTPS) of the Boston Region Metropolitan Planning Organization, by other agencies acting on behalf of the MPO, or by the Metropolitan Area Planning Council (MAPC).

As described in Chapter 1, the projects in the UPWP are funded by a variety of federal and state sources. Each project description identifies the project's funding source or sources. With respect to funding, there are two types of projects:

- Projects funded with federal 3C planning funds, to be carried out by CTPS or other agencies acting on behalf of the MPO. The MPO programs these funds and approves the use of staff time.
- Projects funded from other sources (federal, state, and local) to be carried out by CTPS for an individual transportation agency. The MPO approves the use of staff time for these projects and provides guidance to the implementing entities on their coordination with other planning efforts.

In reviewing the project listings, it is important to remember that the 3C transportation-planning process is a coordinated effort that is often carried out simultaneously by several agencies. For example, when the MBTA hires a consultant to prepare an environmental impact report for a transit project, CTPS may provide the travel-demand and air quality modeling for the consultant and MAPC may perform land use analysis. Thus, if the same project is mentioned in more than one place in this UPWP, it is because of this kind of interagency coordination. To help clarify the distinctions between the various work efforts, cross-referencing is provided, where appropriate, to show the interrelationship among projects.

The administration and resource management projects, presented in this chapter, are:

<b>Project ID #</b>	<b>Project Name</b>	<b>Page</b>
60415–60492	Computer Resource Management	4-2
60110–60600	Data Resources Management	4-4
90000	Direct Support	4-6



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 60415–60492

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

In order to carry out its functions, CTPS maintains state-of-the-practice computer resources through the following tasks:

***60415 Computer Room Management and Single-User Computer Support:***

- Planning, monitoring, and maintaining computer room space and facilities
- Purchasing and maintaining CTPS’s computer systems, system and application software, and any other equipment that supports single-user computers
- Creating new computer procedures to support CTPS analytical, administrative, and documentation tasks. Maintaining and enhancing computer procedures, where program maintenance and enhancement are no longer available from the original vendor

***60435 Computer Servers and Network Support:***

- Purchasing and maintaining server hardware, system software, and application software, as well as any other equipment that supports the use of servers
- Purchasing and maintaining all CTPS network and communications software, as well as any other equipment that supports the use of network and communications equipment

***60435 Systems Administration and Other Computer Resources Support:***

- Managing and maintaining hardware and software resources for all CTPS computer systems. Increased emphasis will be given to the security and integrity of all hardware, software, and data resources
- Assisting staff in using computer resources, organizing and distributing vendor-supplied documentation, and, where appropriate, providing written and online user guides for particular resources
- Purchasing computer-related items, supplies, and equipment, including maintenance contracts for computer resources, where appropriate

***60492 Computer Resource Planning:*** Updating the CTPS Five-Year Plan for Computer Resource Development, in conjunction with the development of the next CTPS budget.

**FFY 2012 Activities and Expected Work Products:** Work on these tasks will continue as described above.

**COMPUTER RESOURCE MANAGEMENT (CONT.)**



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 60415–60492

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

**FHWA/FTA Grant Application Task and Element:** 44.22.03

**FFY 2012 Budget**

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
325,000			\$325,000	221,300	103,700					



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 60110–60600

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

CTPS provides travel data and analyses at the regional, corridor, and site-specific levels. The variety of tasks encompassed by this work may be grouped within the following categories:

**60110 Resources Management:** CTPS will maintain and improve a database that includes census data; updated travel, infrastructure, and service data; and the products of CTPS analysis. CTPS will continue to refine the database for its geographic information system (GIS) and will obtain land use, statewide digital orthophotography, and other data as they become available. Available historical, transportation, land use, and socioeconomic data will also be compiled.

**60120 Travel Data:** Data on travel patterns within the region will be processed and analyzed. Data handled as part of this project include, but are not limited to, ridership survey data, traffic counts, ridership counts, and crash data.

**60130 Socioeconomic Data:** CTPS will continue to process census data and to analyze patterns indicated by historical changes. Web-enabled software and other technical tools to enhance data extraction, analysis, and presentation will also be developed.

**60140 Miscellaneous Data:** Data coming from CTPS surveys and other sources on subjects such as land use, local zoning regulations and other geographic factors, vehicle registration, and transit service will be processed and analyzed.

**60201 Response to Data Requests:** Data will be processed or analyzed upon request to meet the needs of local, state, and federal government agencies and private institutions and firms.

**60600 Geographic Information System/Database Management System (GIS/DBMS):** CTPS will continue to develop databases for use with its GIS/DBMS. CTPS will also coordinate database development and data distribution with state transportation agencies in order to prevent duplication of effort, ensure data quality, and reduce costs. The GIS/DBMS software capabilities will be made available to additional staff through training programs and the development of Web-enabled software applications. Assistance will also be given in identifying aspects of MPO work that can benefit from specific GIS/DBMS capabilities.

**FFY 2012 Activities and Expected Work Products:** GIS maps, computer map files, consolidated databases, data analyses, Web services, and responses to data requests.

**DATA RESOURCES MANAGEMENT (CONT.)**



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 60110–60600

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

**FHWA/FTA Grant Application Task and Element:** 44.22.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
425,000			\$425,000	289,400	135,600					

**DIRECT SUPPORT**



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region MPO/MassDOT/MBTA

**ID #:** 90000

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

CTPS provides integral direct support to all CTPS projects and functions in the following areas:

**Computer Equipment:** CTPS computer needs are programmed in the CTPS Five-Year Plan for Computer Resource Development, as amended.

**Consultants:** Consultants are periodically hired to perform specialized, time-specific tasks as project work demands.

**Printing:** Project-specific printing costs, such as those for surveys, maps, reports, presentation boards, and other informational materials, are included in this budget.

**Travel:** Periodically, the U.S. Department of Transportation and other organizations sponsor courses and seminars that enhance the ability of staff to do project work; the costs of registration, travel, and living accommodations associated with attending such programs are direct support expenditures. Mileage expenses associated with project work are also charged as direct-support expenditures. Additional project work, such as HOV monitoring, is funded through this budget to cover rental vehicles and fuel costs.

**Other:** There are various expenditures that can arise over the term of this UPWP, such as postage and data processing services. These expenditures can become necessary when producing a project report or conducting a project-specific survey. The costs associated with postage for return mail, and services for preparing and processing data for specific projects, are direct-support expenditures. Additionally, this line item includes the Boston Region MPO’s membership in the Association of Metropolitan Planning Organizations (AMPO).

**FFY 2012 Activities and Expected Work Products:** Computer and general office equipment, professional consulting services, in-state project-related travel, out-of-state travel associated with staff attendance at professional and training conferences, and membership dues to AMPO.

**FHWA/FTA Grant Application Task and Element:** 44.27.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)				FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT	FFY12 Total Budget	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
82,200			\$82,200	37,000	23,000	14,000		6,000	2,200	



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## 5 CERTIFICATION REQUIREMENTS

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The projects in this chapter are categorized as certification requirements because they include work that the MPO must do to maintain its certification by the Federal Highway Administration and the Federal Transit Administration. The projects also include activities that are necessary for compliance with federal and state laws, such as the federal Clean Air Act and Americans with Disabilities Act. The projects in this category are:

<b>Project ID #</b>	<b>Project Name</b>	<b>Page</b>
90011-90090	3C Planning and MPO Support	5-2
10112	Air Quality Conformity Determinations	5-6
90061	Air Quality Support Activity	5-7
11355	Boston Region MPO Title VI Reporting	5-9
90024&28	Disability Access Support	5-10
10101	Long-Range Transportation Plan	5-12
MAPC1	MPO/MAPC Liaison and Support Activities	5-13
11244	Regional Model Enhancement	5-15
MAPC2	Subregional Support Activities	5-17
11132	Transportation Equity/Environmental Justice Support	5-18
10103	Transportation Improvement Program (CTPS)	5-20
10104	Unified Planning Work Program (CTPS)	5-23
MAPC3	Unified Planning Work Program (MAPC)	5-24



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 90011-90090

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

The following projects are called 3C activities because they support the federally mandated continuing, coordinated, and cooperative transportation-planning process.

**SUPPORT TO THE MPO**

**90011 Support to the MPO and Its Subcommittees:** (\$335,000) Support includes conducting metropolitan planning and implementing planning activities for the MPO. This involves researching, analyzing, and reporting information on 3C planning topics, including those identified in federal reauthorization legislation, and issues related to federal policies, regulations, and guidance, such as responding to possible federal recommendations or requirements for certification documents or MPO recertification. It also includes implementing MPO policies on planning and programming; preparing information for MPO decision making; and supporting the work of the MPO and its subcommittees. This includes providing process support, such as developing agendas for meetings, preparing informational materials, compiling meeting packages, recording minutes of meetings, conducting public outreach, managing the MPO website, preparing and distributing the MPO’s monthly newsletter and timely Twitter and YouTube postings, and maintaining the mailing lists and e-mail lists. Technical and process support is provided to the MPO’s Clean Air and Mobility Program.

In addition, this work includes consultation with other entities and agencies involved with or interested in 3C planning activities; liaison activities between Massachusetts MPOs (with ongoing coordination with those in the Boston Region Urbanized Area); and communication with MAPC subregional groups.

Other activities include the day-to-day oversight of and reporting on progress of projects listed in the UPWP, and the establishment of work priorities in light of MPO needs.

**90014 Planning Topics:** (\$12,000) CTPS provides support related to planning topics such as the 3C planning factors and other topics highlighted in federal planning guidance, including safety, security, freight, operations and management, sustainability and livability, economic development, and environmental issues. CTPS staff maintain expertise in these topics so that the MPO will have the capability of keeping current on these topics and the flexibility to respond to unforeseen needs in these areas.



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 90011-90090

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

Information on these topics is gathered, analyzed, and presented to the MPO in memoranda and white papers for consideration in the development of the Transportation Improvement Program (TIP) and Long-Range Transportation Plan (LRTP). This project includes work needed to respond to possible new federal guidance and requirements following certification review.

**PUBLIC OUTREACH ACTIVITIES**

**90019 Subregional Outreach:** (\$10,000) CTPS staff attend meetings of the MAPC subregional groups to keep them abreast of MPO activities and to coordinate subregional issues and concerns in the development of MPO documents.

**90021 Regional Transportation Advisory Council Support:** (\$40,000) The Regional Transportation Advisory Council is the MPO’s citizen advisory committee. CTPS provides support to this body and its committees. This includes planning programs and preparing agendas, minutes, and meeting summaries; attending meetings; organizing field trips; coordinating activities; scheduling speakers; maintaining mailing lists; and producing and distributing meeting notices and packets. CTPS provides information, updates, and briefings on MPO activities; requests and coordinates comments on MPO documents; and works with the Council and its committees as they conduct their programs, planning, and reviews.

**90025 TRANSREPORT:** (\$40,000), The newsletter of the MPO, *TRANSREPORT*, is an important part of the MPO’s public involvement program. CTPS is responsible for soliciting, researching, and writing articles and for managing all aspects of production: writing and editing, layout, graphics, proofreading, and printing. CTPS coordinates the participation of MPO agencies and other interested organizations in the development of articles and is responsible for the newsletter’s distribution in standard print, accessible formats, and electronic-transfer formats for e-mail subscribers. CTPS offers a Spanish version of the newsletter, when requested, and posts each issue on the MPO’s website.

**90026 Public Participation Process:** (\$47,000) CTPS implements the MPO Public Participation Program and coordinates and conducts MPO public outreach activities. These activities are opportunities to (1) provide information to regional and local officials, agencies, and members of the public, and (2) collect input from those parties for use by the MPO in its planning and in

**STAFF:** Central Transportation Planning Staff**CLIENT:** Boston Region Metropolitan Planning Organization**ID #:** 90011-90090**BUDGET:** Not applicable to ongoing projects**STATUS:** Ongoing

the development of the certification documents. Communication will be ongoing and conducted through a variety of means. The program also involves consultations as specified in federal guidance; improving informational materials; reviewing and modifying procedures, as appropriate, to increase the program's effectiveness; providing upon request American Sign Language (ASL) and other language interpretation services at meetings; preparing and distributing printed materials in Spanish and other languages; posting notices on the MPO's listserv and on Twitter; producing and uploading informational videos on YouTube; and providing public participation support to MPO member entities. It also includes maintaining and updating the contact database and listserves.

**90027 Boston Region MPO Website, [www.bostonmpo.org](http://www.bostonmpo.org):** (\$64,000) For the public, for federal, state, and local officials, and for businesses, the MPO's website provides further access to the MPO and to transportation-planning information. The website is critical for the MPO's public involvement program. A goal of this program is to maximize the website's usefulness. It not only provides information to the public—it also serves as an avenue for eliciting ideas and is an increasingly important method for soliciting input. CTPS staff post documents and data that are suitable for the site, monitors its use, keeps track of feedback, conducts surveys, and performs necessary updating and maintenance of the site. CTPS will continue to improve the design and navigability of the site and to expand its use for communication with the public.

**90041 Safety and Security Planning:** This work advances the MPO's policies in this area and addresses planning factors related to security. It also responds to guidance that the MPO has received from the Federal Highway Administration and Federal Transit Administration calling for MPOs to "increase their capacity to address climate change in transportation." This program builds and updates the MPO's database on the hazards to which the region is susceptible and the emergency evacuation and hazards planning in preparation. It provides for extensive mapping of this information, including maps showing the hazards in relation to the region's transportation network. This information is used by the MPO in its safety and security planning and in its project selection process. It is available to others, including state agencies and municipalities, for their emergency and evacuation planning.

**3C PLANNING AND MPO SUPPORT (CONT.)**



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 90011-90090

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

Staff conduct research, prepare reports, white papers and technical memoranda, and represent the MPO at security and emergency preparedness planning meetings.

**OTHER 3C PLANNING SUPPORT ACTIVITIES**

**90012 Professional Development:** (\$3,000) The MPO staff maintains its technical expertise in part by participation in courses, programs, and workshops offered by the Federal Highway Administration, Federal Transit Administration, Transportation Research Board, Association of Metropolitan Planning Organizations, Institute of Transportation Engineers, and other public and private organizations. Previous professional development endeavors have included topics such as traffic engineering issues and applications, regional modeling, bicycle/pedestrian issues, transit planning, public involvement, environmental justice, air quality, computer operations and maintenance, database applications, and other areas related to the provision of technical-support services.

**90090 General Graphics:** (\$125,000) Graphics support will be provided to CTPS staff and MPO agencies in the design and production of maps, charts, illustrations, report covers, brochures, slides, and photographs, the application of other visualization techniques, and the creation of other products that improve communication.

**FFY 2012 Activities and Expected Work Products:** In order to support the MPO and its subcommittees and the Regional Transportation Advisory Council, and communications with the public, staff will continue to conduct activities and provide materials as described above.

*The above activities support all other projects in this UPWP in compliance with the 3C planning process. They foster the implementation of MPO policies, federal planning factors and guidance, and Executive Order 13166 (governing outreach to persons with limited English proficiency).*

**FHWA/FTA Grant Application Task and Element:** 44.21.02

**FFY 2012 Budget**

FUNDING RECIPIENT(S)				FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT	FFY12 Total Budget	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
676,000			\$676,000	460,200	215,800					

## AIR QUALITY CONFORMITY DETERMINATIONS



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 10112

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

Analysis and documentation to demonstrate the conformity of plans, programs, and projects with the 1990 Clean Air Act (CAA) are provided annually. The Boston region has been classified as a nonattainment area for the eight-hour ozone standard. The city of Boston, the surrounding cities and towns, and the city of Waltham are classified as maintenance areas for carbon monoxide (CO). To continue receiving federal transportation funding, the region must show that, overall, its federally funded transportation programs improve air quality in a manner consistent with the Massachusetts State Implementation Plan (SIP).

**FFY 2012 Activities and Expected Work Products:** Conformity determinations, including a detailed analysis of air quality impacts (volatile organic compounds [VOCs], nitrogen oxides [NOx], carbon monoxide [CO], and carbon dioxide [CO<sub>2</sub>]) of the projects in the 2012–15 TIP, any changes to the Long-Range Transportation Plan, and any work required for the implementation of GreenDOT will be performed and presented as follows:

- *System-Level:* A systemwide conformity determination will be prepared for regionally significant projects in the LRTP and the TIP. The conformity determination will show a 2009 base year, as well as “build” networks for 2017, 2020, 2025, and 2035 for VOCs, NO<sub>x</sub>, and CO<sub>2</sub>; for CO it will show build networks for 2017, 2025, and 2035, in the maintenance areas only.
- *Project-Level:* A detailed analysis of the potential VOC, CO, CO<sub>2</sub>, and NO<sub>x</sub> impacts of each project to receive Congestion Mitigation/Air Quality Program funding in the TIP will be conducted in accordance with U.S. Department of Transportation and U.S. Environmental Protection Agency (EPA) guidelines. The specifics of the analysis will be determined through consultation between the state’s transportation and environmental agencies.

**FHWA/FTA Grant Application Task and Element:** 44.21.03

### FFY 2012 Budget

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
23,000			\$23,000	15,700	7,300					



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 90061

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

This project complements the Air Quality Conformity Determinations of the LRTP and the TIP described previously. It also provides for research and analysis regarding climate change and its impacts within the MPO region. It allows for additional support in implementing air-quality-related transportation programs and projects and includes consultation, research, and coordination between CTPS and federal, state, local, and private agencies.

**FFY 2012 Activities and Expected Work Products:**

***Support to MassDOT (including the Highway Division, the Office of Transportation Planning, and the MBTA) and Massport:*** Activities will include analysis of transportation control measures (TCMs), park-and-ride facilities, and proposed high-occupancy-vehicle (HOV) projects throughout the Boston Region MPO area, and evaluation of emerging and innovative highway and transit clean-air activities.

***Support for Climate Change Initiatives:*** Activities will include integrating climate-change concerns and emission-reduction opportunities into the MPO's planning process in relation to the regional model, the TIP, project-specific work products, the LRTP, the Congestion Management Process, and the UPWP. Staff will also work with MassDOT to implement their GreenDOT policy. Staff will develop a white paper outlining current and proposed activities at the state and federal levels to reduce greenhouse-gas emissions that will affect MPO activities. The white paper will be used for educating the MPO and the public on climate-change issues. Staff will also confer with agencies and organizations that are concerned about climate-change issues and obtain knowledge and ideas for policies, programs, and improvements in the MPO region.

***Mobile-Source Element of the State Implementation Plan (SIP):*** The Massachusetts Department of Environmental Protection (DEP) is required to submit a SIP to the U.S. Environmental Protection Agency (EPA) documenting strategies and actions designed to bring Massachusetts into compliance with air quality standards, as needed. CTPS support will include:

- Support for amendments or revisions to the Memorandum of Understanding between the MPO and the DEP.
- Continued staff support to the agencies involved in monitoring, updating, and revising the mobile-source section of the SIP.

**AIR QUALITY SUPPORT ACTIVITY (CONT.)**



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 90061

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

- Analysis of existing regional air quality conditions, assistance to MassDOT in data collection, and validation of DEP’s air quality inventories and emission budgets. In addition, CTPS will evaluate policies on long-term growth, transportation, and land use, and other public policies that may affect air quality.
- Continued coordination with DEP in developing statewide regulations and programs for ridesharing, and other regulations and programs that pertain to transportation and air quality.
- Support to regional, local, and private agencies.
- Continued participation in the Transportation Task Force of the SIP Steering Committee.
- Provision of data and recommendations to MPO agencies regarding funding and implementation of transportation programs and projects that have air quality benefits.

**FHWA/FTA Grant Application Task and Element:** 44.21.03

**FFY 2012 Budget**

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
36,000			\$36,000	24,500	11,500					



**BOSTON REGION MPO TITLE VI REPORTING**



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 11355

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

Title VI of the federal Civil Rights Act requires that persons must not be excluded, denied benefits, or discriminated against on the basis of race, color, national origin, age, sex, disability, or religion. Federal regulations governing its implementation require the MPO to report on how it is followed—and how minority populations are involved—in MPO planning and decision making, including development of the UPWP, TIP, and LRTP.

**FFY 2012 Activities and Expected Work Products:**

- The MPO will comply with Title VI regulations through the preparation and submittal of reports as required.
- Annual Title VI update.

*This project is supported by public outreach activities and transportation equity/environmental-justice work presented in this chapter.*

**FHWA/FTA Grant Application Task and Element:** 44.24.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)				FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT	FFY12 Total Budget	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
10,000			\$10,000	6,800	3,200					

**STAFF:** Central Transportation Planning Staff**CLIENT:** Boston Region Metropolitan Planning Organization**ID #:** 90024&28**BUDGET:** Not applicable to ongoing projects**STATUS:** Ongoing

**90024 Access Advisory Committee Support:** CTPS supports the MBTA in meeting ADA requirements by providing ongoing support to the Access Advisory Committee to the MBTA (AACT), a user group representing people with disabilities. AACT advises the MBTA on all accessibility matters relating to the use of the MBTA's systemwide fixed-route services and THE RIDE paratransit service by people with disabilities and ensures that users' ideas concerning accessible transportation are heard.

**90028 Provision of Materials in Accessible Formats:** One requirement of the 1990 Americans with Disabilities Act (ADA) is that government agency material that is distributed to the public be made available in accessible formats, in a timely manner, upon request. CTPS fulfills this requirement with regard to materials that it produces, providing documents in whatever formats are requested—large print, Braille, audiocassette, or compact disc (CD). CTPS also reformats documents produced by MPO members on request and advises members on the subject of providing materials in accessible formats.

**FFY 2012 Activities and Expected Work Products:**

- Staff support for regularly scheduled AACT and related meetings at which attendees advise and comment on projects being planned or implemented systemwide for commuter rail, rapid transit, surface transit, and paratransit.
- Distribution of monthly reports on systemwide accessibility, the MBTA RIDE service statistics, and other materials pertinent to AACT meeting agenda items.
- Preparation and distribution of AACT meeting agendas and minutes, meeting announcements, correspondence, meeting calendars to post in THE RIDE vans, and an updated AACT brochure.
- Production and distribution of an orientation packet for new AACT members
- Continued maintenance of AACT databases for mailings, meeting attendance, and membership standing; and maintenance of AACT archives, supplies, and accessible-formatting equipment.
- Production of MPO and Regional Transportation Advisory Council materials in accessible formats, as requested.

**DISABILITY ACCESS SUPPORT (CONT.)**



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 90024&28

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

- The MPO website is accessible to people who are vision impaired through personal computer screen readers. Documents posted on the website may be requested and will be provided in audio tape or CD versions.

*This project supports MPO public outreach and planning activities presented in this chapter.*

**FHWA/FTA Grant Application Task and Element:** 44.21.04

**FFY 2012 Budget**

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
87,000			\$87,000	59,200	27,800					

## LONG-RANGE TRANSPORTATION PLAN



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 10101

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

The MPO will have just adopted its Long-Range Transportation Plan (LRTP), “Paths to a Sustainable Region.” A Needs Assessment was developed as part of this LRTP and is considered a living document. Work in this fiscal year will include updating and further analyzing information in the Needs Assessment. This information can be used by the MPO and staff in studies, reports and deliberations in the future.

### FFY 2012 Activities and Expected Work Products:

- Information in the current Needs Assessment will be further detailed and analyzed to provide the most up-to-date information for the MPO and the public.
- Produce summaries of *Paths to a Sustainable Region* as outreach to the public.
- Address any comments or changes required from comments from the Federal Highway Administration and Federal Transit Administration comments.
- Develop performance measures to be used in monitoring the implementation of the LRTP and TIP.

### FHWA/FTA Grant Application Task and Element: 44.23.01

#### FFY 2012 Budget

FUNDING RECIPIENT(S)				FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT	FFY12 Total Budget	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
215,000			\$215,000	146,400	68,600					



**STAFF:** Metropolitan Area Planning Council

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** MAPC1

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

This project includes: reporting to the MAPC Executive Committee, the Officers Transportation Advisory Committee, Council members and committees, MAPC subregions, and staff on MPO activities; reporting to the MPO and its committees and subcommittees on transportation and land use issues identified in the communities and subregions; working with MAPC and MPO members to identify and review transportation planning issues, including their regional implications.

Liaison and support activities also include ongoing participation with and support to the MPO in establishing work priorities and agendas. Participation with and support to its subcommittees includes chairing the Clean Air and Mobility Program subcommittee.

***Statewide and Corridor Committees:*** MAPC actively participates in statewide committees and task forces to represent the interests of the region, including the CMAQ Consultation Committee, the Statewide Household Travel Survey Advisory Committee, the Regional ITS Architecture Stakeholder Committee, and the Statewide Bicycle/Pedestrian Committee. MAPC will also be actively involved in regional and statewide plans and programs with regard to climate-change and greenhouse-gas issues as they relate to transportation. MAPC is also an active participant on a number of advisory committees to ongoing corridor and subregional studies, including the Green Line extension, I-93 Tri-town Interchange, Red-Blue Connector, Fitchburg Line, Roxbury, Dorchester Mattapan Transit Needs Study, and various Accelerated Bridge Program working groups. Advisory committees may change from year to year as studies are begun or completed, but participation in a variety of advisory committees is an ongoing task. MAPC, through its participation in the Massachusetts Association of Regional Planning Agencies (MARPA), as well as MARPA’s Statewide Transportation Managers Committee, works to strengthen communication and coordination with its counterpart RPAs around the state. MAPC coordinates with other RPAs that compose the Boston Transportation Management Area. As the certification documents are developed in the coming year, including the Transportation Improvement Program (TIP), MAPC will direct particular attention toward including land use planning issues in these documents as well as coordinating with the implementation of the comprehensive regional growth plan, MetroFuture.

**MPO/MAPC LIAISON AND SUPPORT ACTIVITIES (CONT.)**



**STAFF:** Metropolitan Area Planning Council

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** MAPC1

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

**Support of the Public Participation Process for Metropolitan Planning Documents:** MAPC provides education and outreach on a wide variety of transportation-related topics in the region. MAPC is also an active participant in the Regional Transportation Advisory Council (RTAC) meetings.

**MPO Elections:** Working with the MBTA Advisory Board, MAPC coordinates and implements the election process for the local representatives on the MPO.

**Clean Air and Mobility Program:** MAPC will chair the Clean Air and Mobility Program subcommittee and work with the MPO to implement the program. MAPC will also work with the Clean Air and Mobility Subcommittee and CTPS to identify promising locations and ideas for future projects and to provide technical support and assistance to municipalities in developing these projects. MAPC will also stay engaged in the CMAQ Consultation Committee and updates to the statewide CMAQ program.

**Transportation Improvement Plan Evaluation Criteria:** MAPC will coordinate with CTPS on the land use and economic development aspects of the TIP criteria evaluations.

**FFY 2012 Activities and Expected Work Products:** Interagency coordination, work scopes, participation in advisory and corridor committees, public participation, reports to the MAPC Officers Transportation Advisory Committee and to the Executive Committee, MPO elections, Clean Air and Mobility Program recommendations, TIP criteria evaluations, and attendance at relevant meetings.

**FHWA/FTA Grant Application Task and Element:** 44.21.02

**FFY 2012 Budget**

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
	160,000		\$160,000	112,000	48,000					

**STAFF:** Central Transportation Planning Staff**CLIENT:** Boston Region Metropolitan Planning Organization**ID #:** 11244**BUDGET:** Not applicable to ongoing projects**STATUS:** Ongoing

CTPS builds and maintains a state-of-the-practice regional travel-demand model set for predicting the impact of regionally significant transportation improvements and land use policies on travel demand and air quality in eastern Massachusetts. This model set is used by the Boston Region MPO and other transportation agencies to perform travel forecasting and air quality conformity determinations. It is a highly sophisticated, data-intensive planning support tool that relies on computer representations of regional transportation systems.

Objectives of the current work program are to:

- Monitor and understand changes in federal requirements as they affect MPO modeling procedures
- Research ways in which the state of the practice is changing and develop modifications in the modeling approach to meet those requirements
- Acquire and process data so that the work program can be executed
- Estimate, calibrate, and validate the current model set as an ongoing activity
- Document the model set so that it can be understood and replicated at the technical level
- Document the modeling process so that its capabilities and limitations can be understood by the lay person

***Massachusetts Statewide Household Travel Survey:*** CTPS shares oversight responsibilities for the statewide household survey, which is currently underway with the assistance of NuStats LLC, the consultant on this project. The purpose of the survey is to provide an accurate representation of household-based travel and demographic characteristics to be used to update existing travel-demand estimation models, develop future models, and serve as an important source of information for transportation planning and policy decisions. In addition to providing data for rebuilding the model's existing travel modes, the household survey will allow for the development of an activity-based model set, an emerging form of travel model that more accurately represents travelers' decision processes.

**REGIONAL MODEL ENHANCEMENT (CONT.)**



**STAFF:** Central Transportation Planning Staff

**CLIENT:** MassDOT Office of Transportation Planning

**ID #:** 11244

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

**FFY 2012 Activities and Expected Work Products:**

- Incorporate the CTPS model set into the new software selected to replace EMME/2 software.
- Incorporate new or advanced techniques into the regional travel-forecasting model set.
- Develop a well calibrated 2010 base-year regional model set and a future year model set. This effort supports projects in this UPWP that rely on the regional model for travel forecasting and analysis, particularly the air quality conformity determinations for the LRTP and the TIP.
- Continue oversight responsibilities of the household survey with MassDOT.
- Start managing the household travel-survey data.
- Analyze the data from the Statewide Household Travel Survey.
- Utilize the household survey data to build trip-based models.

*This effort supports projects in this UPWP that rely on the regional model for travel forecasting and analysis, particularly the air quality conformity determinations for the LRTP and the TIP presented in this chapter. Also see Chapter 7 for MAPC activities related to the development of land use allocation model, as described above.*

**FHWA/FTA Grant Application Task and Element:** 44.22.03

**FFY 2012 Budget**

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
770,000			\$770,000	524,400	245,600					



## SUBREGIONAL SUPPORT ACTIVITIES



**STAFF:** Metropolitan Area Planning Council

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** MAPC2

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

The MAPC region consists of 101 cities and towns. This region has been subdivided into eight geographic areas that are represented by subregional councils comprising municipal officials, business leaders, community-based organizations, and other local participants. MAPC staff planners are assigned as coordinators to each of the subregional groups, to assist members in developing an understanding of subregional and regional transportation and land use issues.\* Subregions are encouraged to recommend subregional projects and priorities for the TIP, the RTP, and the UPWP. Subregional coordinators and MAPC transportation staff report back to the MPO through formal and informal communications. MAPC subregional groups will continue to participate in local corridor advisory committees whenever these committees are appropriate vehicles for working on projects in their area. MAPC staff ensure that timely discussions of transportation-related issues occur by placing the topics on the monthly agendas, by leading and participating in the discussions, and by distributing appropriate documents and notices relating to regionwide and statewide transportation meetings.

\* In the case of the MetroWest Growth Management Committee, the subregion is independently staffed and provides subregional services under an agreement with MAPC and the communities. MAPC pays 25% of the director’s salary.

**FFY 2012 Activities and Expected Work Products:** Preparation of monthly meeting agendas for transportation topics at subregional meetings, coordination with transportation agencies, reviews of transportation studies in subregions, reports to the MPO, support for subregional and corridor advisory committee meetings, and assistance in setting project priorities. This project supports community involvement in the development of transportation planning documents.

**FHWA/FTA Grant Application Task and Element:** 44.21.02

### FFY 2012 Budget

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
	160,000		\$160,000	112,000	48,000					



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 11132

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

The primary purpose of this project is to foster awareness and consideration of Transportation-equity/environmental-justice transportation needs in MPO planning and programming, specifically in relation to the LRTP, the UPWP, the TIP, the CMP, air quality conformity determinations, environmental impact studies, and project-specific work products. This will be done primarily through continued outreach to minority and low-income populations, senior citizens, and limited English proficiency populations. Community organizations will be interviewed to identify transportation needs, solicit ideas for improvements, and expand the universe of possible entities to be contacted. The transportation equity survey on the MPO web site will also gather this information. In addition, information gathered through other recent initiatives will be analyzed and presented.

Work will also include continued assessment of the transportation needs of low-income and elderly populations and management of the region's Coordinated Human-Services Public Transportation Plan and conducting the related outreach, particularly that supporting three Federal Transit Administration programs which target low-income populations, elderly individuals, and people with disabilities in the region: Job Access and Reverse Commute (JARC), New Freedom, and Transportation for Elderly Individuals and Individuals with Disabilities. In addition, CTPS staff may focus on the following topics, gathering specific information and preparing appropriate documentation and reports:

***Mapping of Important Locations in Environmental-Justice Areas and Identifying Transportation Options in Those Areas:*** Staff will identify and map major locations (for example, hospitals, government agencies, schools, social service agencies, and grocery stores) within selected environmental-justice areas of the MPO region, input destinations serving people with low incomes and/or disabilities, and produce an overlay of existing public and active (walking and biking) transportation options in those areas. The study will explore the potential for coordinating existing transportation.

***Opportunities for Combining Job Access/Reverse Commute, and Low-Income and Minority Elderly Transportation Services:*** The study will explore the potential for coordinating existing transportation services in three municipalities selected to meet both the needs of low-income



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 11132

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

and employment-related trips. This will include: identifying existing job access/reverse commute and elderly transportation services; determining the distribution of low-income and minority elderly households; identifying travel-need characteristics and destinations by trip type for both groups; and assessing the appropriateness of sharing vehicles/providers. In addition to performing the tasks identified above, CTPS will assist the MPO in applying previously adopted environmental justice for the LRTP and TIP.

**FFY 2012 Activities and Expected Work Products:**

- Continue MPO outreach to minority and low-income communities
- Analyze 2010 U.S. Census data to determine changes in the environmental-justice populations during the last 10 years and produce information for the MPO
- Monitor developments at the U.S. Department of Transportation and participate in workshops, conferences, and seminars, as appropriate
- Provide summaries of interviews and other updates to the MPO
- Update the MPO’s Coordinated Human-Services Transportation Plan
- Continue the solicitation of projects for funding under the JARC and New Freedom programs
- Conduct environmental-justice analyses as needed
- Mapping and technical memoranda noted above

*This work is related to the work on the LRTP and project programming for the TIP presented in this chapter.*

**FHWA/FTA Grant Application Task and Element:** 44.21.04

**FFY 2012 Budget**

FUNDING RECIPIENT(S)				FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT	FFY12 Total Budget	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
107,000			\$107,000	72,900	34,100					



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 10103

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

The Boston Region MPO’s Transportation Improvement Program (TIP) is a document that presents a multiyear, financially constrained program of proposed investments in the metropolitan area’s transportation system. Although federal regulations require the TIP to be updated every four years, Massachusetts and its MPOs have committed to producing annual updates.

**Development:** TIP development is ongoing throughout the year, with the updating of the MPO’s interactive TIP database occurring weekly. The projects in the database are sorted on several criteria to provide a smaller subset for consideration for TIP programming. This subset includes projects programmed in the previous TIP, enhancement projects, Clean Air and Mobility Program projects, transportation-demand-management projects, projects that address a specific safety concern or need. Additionally, staff maintains a first tier of projects for potential programming. This list is fiscally constrained at approximately two years’ worth of TIP target investment.

Early in the fiscal year, CTPS notifies municipalities and other proponents of the start of the TIP development process. To make sure municipalities and other project proponents are kept up to date on TIP development, CTPS conducts “How-To” seminars each year at the beginning of TIP development.

CTPS reviews and evaluates all projects in the universe for which there is adequate information based on the TIP criteria (see Appendix B of the TIP). In addition, CTPS conducts ongoing outreach to provide opportunities for input into the draft TIP development process. After a preliminary evaluation, staff prepares a staff recommendation for investment as well as a first tier list of projects. The MPO reviews these and releases a draft TIP for a public comment period, typically in July. After consideration of public comments, the TIP is finalized in August.

**Project Evaluation:** The project evaluation process for the TIP continues to evolve, and MPO participation in the MassDOT Highway Division’s project development process continues to develop, as called for in the Highway Division’s Project Development and Design Guide. CTPS will continue to conduct project evaluations for the MPO and to support the MPO TIP Criteria Subcommittee in reviewing and assessing the TIP project evaluation process.



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 10103

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

Changes to the project evaluation criteria were implemented during the development of the FFYs 2012–15 TIP to better reflect the visions and policies adopted by the MPO on April 22, 2010. Further adjustments will occur as needed.

**Information Flow:** CTPS will continue to collect, and disseminate to the MPO, project status information, financial and cost data, public comments, and information on process-related issues. CTPS provides “relevant, timely, and comprehensive” information, including project planning, design, and advertisement status updates, to the MPO. Additionally, staff continues to provide a consistent information flow to the MPO municipalities through mail, e-mail, the MPO website, and telephone communication via the municipally appointed TIP contacts.

**Public Review:** Staff are responsible for dissemination of the TIP materials for public review; the release of the circulation draft, as well as all amendments, are announced in *TRANSreport* and in press releases and legal notices to print media and through notification to the MPO’s listserv subscribers. The draft document is made available on the MPO website and on CD on request. Notice of the availability of the document is mailed directly to municipal officials, legislators, libraries, the Regional Transportation Advisory Council and MAPC representatives in the 101 MPO municipalities and is emailed through *MPOinfo*. Notices of public meetings and outreach concerning the TIP are sent (via e-mail and U.S. mail) to regional contacts and interested parties. Public meetings are held at locations around the region during the public review period. Articles are also prepared for *TRANSreport*.

**Development and Certification:** CTPS performs all tasks necessary for TIP development and certification, including:

- Preparing and producing all TIP-related informational materials and analysis, and draft and final documents
- Coordinating public participation in TIP development and review of all drafts and preparing responses to comments
- Scheduling and staffing meetings of the MPO and its TIP Criteria Subcommittee; the Regional Transportation Advisory Council; and MPO workshops, open houses, and “How-To” Seminars
- Conducting outreach to the MAPC subregions



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 10103

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

**Amendments/Administrative Modifications:** CTPS drafts amendments and/or administrative modifications and manages all procedural steps necessary to properly adopt and certify them. (See Public Review, above)

**GIS Support:** GIS support will include the creation of TIP map coverages and mapping, data collection for project evaluation, and production of maps.

**FFY 2012 Activities and Expected Work Products:** The FFYs 2013–16 TIP, and amendments and administrative modifications to the FFYs 2012–15 TIP, will be prepared as described above. The interactive TIP database for tracking projects will be maintained and expanded to include more complete project funding information.

*This project is supported by 3C planning support activities, the accessible formats project, and environmental-justice and public outreach activities described in this chapter.*

*MAPC work efforts related to the TIP are also presented in this chapter.*

**FHWA/FTA Grant Application Task and Element:** 44.25.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
151,000			\$151,000	102,800	48,200					



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 10104

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

The Boston Region MPO produces an annual Unified Planning Work Program (UPWP). This document outlines transportation planning activity, for all surface transportation modes, anticipated to be undertaken in the region during the UPWP period. It also includes detailed budget information on the expenditure of federal planning funds.

CTPS prepares materials for and coordinates all phases of this work, including soliciting and selecting study ideas, preparing budgets, writing project descriptions, conducting background research, and preparing draft and final documents. CTPS staff are responsible for public participation and dissemination of the draft UPWP for public review, as well as any administrative modifications and amendments, as described in the MPO’s Public Participation Program.

**FFY 2012 Activities and Expected Work Products:** Amendments and administrative modifications to the FFY 2012 UPWP; development of, and public outreach for, the FFY 2013 UPWP, as described above; attendance at relevant meetings; quarterly implementation reports; and other information materials as needed.

*This project is supported by 3C planning support activities, the accessible formats project, and environmental-justice and public outreach activities described in this chapter.*

*MAPC work efforts related to the UPWP are also presented in this chapter.*

**FHWA/FTA Grant Application Task and Element:** 44.21.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
70,000			\$70,000	47,700	22,300					



**STAFF:** Metropolitan Area Planning Council

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** MAPC3

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

MAPC prepares UPWP project listings and budget information for activities it expects to conduct using federal highway and transit funds and provides monthly reports to the MPO’s Transportation Planning and Programming Committee and MassDOT on these activities. MAPC also provides general project information on transportation-related activities funded from other sources.

MAPC, through its work on the MPO’s Transportation Planning and Programming Committee, is also involved in the development of the annual UPWP work program. As work scopes for specific projects are developed, MAPC assists, when appropriate, in developing these scopes, especially whenever the project involves a link between transportation and land use issues.

**FFY 2012 Activities and Expected Work Products:** MAPC staff will prepare UPWP project listings and monthly reports on UPWP activities. MAPC will provide assistance on the annual development of the UPWP and support for the development of specific work scopes. Staff will also provide assistance to communities in identifying and developing studies to be included in the UPWP, through community liaison and subregional support activities.

*CTPS work efforts related to the UPWP are also presented in this chapter.*

**FHWA/FTA Grant Application Task and Element:** 44.21.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
	10,000		\$10,000	7,000	3,000					



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## 6 PLANNING STUDIES

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The projects in this chapter are planning studies that will be conducted during federal fiscal year 2012. They are technical in nature and may include support for larger projects that are described in Appendix A: Other Boston Region Transportation Planning Projects. In instances where this occurs, the project description refers the reader to Appendix A.

<b>Project ID #</b>	<b>Project Name</b>	<b>Page</b>
23227	2011–12 I-93 North and Southeast Xway HOV Lane Monitoring	6-2
11247	Bicycle Network Evaluation	6-3
13209	Bicycle/Pedestrian Support Activities	6-4
11138	Congestion Management Process	6-5
MAPC5	Corridor/Subarea Planning Studies: Land Use Reviews	6-7
22333	Green Line Extension FEIR	6-9
11377	Green Line SIP Mitigation Strategies	6-10
11703	I-495 Land Use Study	6-11
MAPC6	Land Use Development Project Reviews	6-12
22123	Massport Technical Assistance State FY 2011–12	6-14
23313	MBTA Bus Route 1 Transit Signal-Priority Study	6-15
12201	Priority Corridors for LRTP Needs Assessment	6-16
13250	Regional HOV-Lane System Planning Study	6-17
MAPC7	Regional Vision Implementation: MetroFuture	6-18
13246	Safety and Operations Analyses at Selected Intersections	6-19
43212	South Coast Commuter Rail Extension	6-20
53310	Wellesley Transit Study	6-21



**STAFF:** Central Transportation Planning Staff

**CLIENT:** MassDOT Office of Transportation Planning

**ID #:** 23227

**BUDGET:** \$65,000

**STATUS:** 0%

The Massachusetts Department of Environmental Protection regulation 310 CMR 7.37 calls for quarterly monitoring of the southbound high-occupancy-vehicle (HOV) lane of I-93 North and the reversible HOV lane of the Southeast Expressway. The monitoring is performed in order to assess compliance with a set travel-time-savings threshold. The work consists of collecting travel-time and vehicle-occupancy data and analyzing them to calculate anticipated time savings and occupancy changes over time.

**FFY 2012 Activities and Expected Work Products:**

- Collect travel-time data on a quarterly basis for the HOV and associated general-purpose lanes and analyze them to calculate travel-time savings
- In the spring and fall, collect vehicle-occupancy data and analyze them to report changes, if any
- Write four technical memoranda annually (one for each season) to document data collection, analysis, and results

**FHWA/FTA Grant Application Task and Element:** 44.24.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)				FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT	FFY12 Total Budget	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
65,000			\$65,000			65,000				

## BICYCLE NETWORK EVALUATION



**STAFF:** Central Transportation Planning Staff and Metropolitan Area Planning Council

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 11247& MAPC4

**BUDGET:** \$70,000

**STATUS:** 25%

The MPO has supported the establishment of trails in our region. The purpose of this project is to conduct a regionwide evaluation of the existing trail and on-road network to identify needed and new connections. These connections could be to other trails, to transportation services, or to significant commercial, employment, and residential sites. The goal of this project is to create a more continuous trail network in the region by identifying barriers and gaps in the existing network. New connections could be off-road or could use the street network. This project would further the mobility goals discussed in the Long-Range Transportation Plan; encourage the shared use of infrastructure recommended in the youMove Massachusetts interim report, and build on work carried out in the 2004 Mobility Monitoring System report. CTPS, in coordination with MassDOT’s statewide bicycle plan, and in collaboration with MAPC, would be responsible for carrying out the project.

### FFY 2012 Activities and Expected Work Products:

- Maps showing the existing and proposed trail system; major transportation services and significant commercial, employment, and residential sites; gaps in the network; and potential new connections.
- An evaluation of potential connections between trails and activity centers. Evaluation criteria will include possible off-road connections; relative distances between trails and potential connections; a general idea of the relative use of existing and proposed facilities; and the conceptual costs of potential connections.

Based on the above, and other possible criteria, a list of the relative priority of recommended connections will be produced.

### FHWA/FTA Grant Application Task and Element: 44.22.02

#### FFY 2012 Budget

FUNDING RECIPIENT(S)				FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT	FFY12 Total Budget	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
31,000	20,000		\$51,000	31,100	19,900					

**BICYCLE/PEDESTRIAN SUPPORT ACTIVITIES**



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 13209

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

In addition to the items below, during the UPWP year, other bicycle and pedestrian planning studies are often identified collaboratively among MPO members, communities, and bicycle/pedestrian advisory groups.

**FFY 2012 Activities and Expected Work Products:** Technical assistance, data collection, review of materials, and attendance at state, regional, and local forums and committee meetings. The staff also plans to undertake the following tasks:

Ongoing Bicycle and Pedestrian Work Program: (\$45,000) Tasks not related directly to separate studies or activities include the following:

- Coordination with state agencies, MAPC, other MPOs, the Safe Routes to Schools Program at MassRIDES, WalkBoston, MassBike, and other groups with regard to bicycle and pedestrian planning for the region
- Design, collection, and organization of bicycle/pedestrian volumes and crash data, including trail data collection and an update of the May 2005 counts
- Ongoing provision of state-of-the-art planning and technical support to communities on bicycle/pedestrian issues, as requested
- Update of the Pan-Massachusetts Challenge bicycle map used for the Jimmy Fund ride
- Examination of potential routes, both on- and off-road, to increase the use and connectivity of the existing transportation system, including trails, on-roadway facilities, and public transit

**FHWA/FTA Grant Application Task and Element:** 44.22.02

**FFY 2012 Budget**

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
50,000			\$50,000	34,100	15,900					

**STAFF:** Central Transportation Planning Staff**CLIENT:** Boston Region Metropolitan Planning Organization**ID #:** 11138**BUDGET:** Not applicable to ongoing projects**STATUS:** Ongoing

The Congestion Management Process (CMP) in the Boston Region MPO area will be refocused according to federal guidelines to identify congested locations, determine the causes of congestion, develop sets of alternative strategies to mitigate congestion, evaluate the potential of the different strategies, and recommend the strategies that best address the causes and impacts of congestion. Monitoring and analysis will continue for highways, arterial roads, transit services, park-and-ride lots, and bicycle/pedestrian facilities. The CMP will coordinate closely with the development of the Long-Range Transportation Plan (LRTP), assist with prioritizing the Transportation Improvement Program (TIP), and contribute study ideas for the Unified Planning Work Program (UPWP). A new work program outlining the tasks for the next CMP cycle will include intermodal connectors: identification of existing conditions and a recommendation on appropriate improvements in accordance with federal guidance. During work scope development, consideration will also be given to conducting an inventory of transportation management association services.

The CMP is a federally-mandated requirement, seeking to monitor congestion, mobility and safety needs and recommend appropriate strategies. The CMP is developed in an integrated manner with the development of the certification documents: the LRTP, the TIP, and the UPWP to ensure strategy evaluation and implementation.

**FFY 2012 Activities and Expected Work Products:**

A new work program will be written that will include monitoring, needs assessment, and strategy recommendations for multimodal facilities and services, including:

- Arterials
- Freeways
- Evaluating new technologies for efficient and less expensive form of travel-time monitoring
- Intersections
- Bicycle and pedestrian transportation, including parking at MBTA stations
- Coordination with the MPO's certification activities

*This project informs decisions related to the LRTP and the TIP, and identifies areas requiring additional study through the UPWP.*

**CONGESTION MANAGEMENT PROCESS (CONT.)**



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 11138

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

**FHWA/FTA Grant Application Task and Element:** 44.22.02

**FFY 2012 Budget**

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
215,000			\$215,000	146,400	68,600					



**STAFF:** Metropolitan Area Planning Council

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** MAPC 5

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

This UPWP task includes funding to support MAPC's work on several corridor studies in the region.

***The Route 128 corridor plan:*** This is a follow-up to focus on implementing the recommendations of the completed corridor plan. The plan examined the impact of anticipated development in five municipalities (Weston, Waltham, Lincoln, Lexington and Burlington) along Rte 128 northwest of Boston. The final Plan includes a set of short- and long-range transportation, design, and land use strategies. Elected municipal officials, MassDOT, and members of the development community are involved in this effort. Major emphasis will be placed on working with to move forward a feasibility study of a multi-modal transit center on the Fitchburg Line at Rte 128, and working with the 128 Business Council to increase transit ridership and better coordinate existing service in the corridor.

***The Route 9 phase 2 study implementation:*** This is a follow-up to focus on implementing the recommendations of the completed study, which focused on the impacts of development anticipated along Rte 9 through Wellesley, Natick, Framingham, and Southborough. Major emphasis will be placed on zoning changes, site design requirements, and pedestrian infrastructure improvements.

***Reading, Wakefield, and Melrose Main Street Transportation Plan:*** This study will identify bicycle, pedestrian, and potential transit improvements along Main Street from Depot Station in Reading to Oak Grove in Melrose. The core of this work will be hosting three community forums to conduct community needs assessments and asset mapping.

***Framingham Technology Park Sustainable Transportation Plan:*** This study will identify transportation demand management solutions; internal roadway, bicycle, and pedestrian improvements; and other ideas for this major job center in MetroWest, in order to enable continued economic growth while better managing traffic congestion.

***Warren Street Transportation Study:*** MAPC will work with Community Development Corporations to identify improvements to Warren Street in Boston that will help re-development of underutilized parcels in this corridor.



**STAFF:** Metropolitan Area Planning Council

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** MAPC 5

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

**Mystic River Corridor Walking Routes:** This project continues the goal of creating a network of safe and well-signed walking routes to the lower Mystic River and its tributaries (Chelsea Creek, Mill Creek and the Malden River). The work program will identify key implementation links and assist communities in creating a network of safe walking routes that connect neighborhoods with the Mystic River and which utilize transit connections to allow people greater access to the river.

Other corridor studies may also be identified later for FFY 2012. Some of these projects will be funded jointly by the UPWP, the District Local Technical Assistance program, and Sustainable Communities Initiative.

**FFY 2012 Activities and Expected Work Products:** MAPC will work with the corridor communities and other stakeholders to document problems and develop recommendations for transportation and land use changes. These recommendations will be finalized in reports and presented to the MPO.

**FHWA/FTA Grant Application Task and Element:** 44.23.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
	115,000		\$115,000	76,000	39,000					



**GREEN LINE EXTENSION FEIR**



**STAFF:** Central Transportation Planning Staff

**CLIENT:** MassDOT Office of Transportation Planning

**ID #:** 22333

**BUDGET:** \$267,600

**STATUS:** 90%

This project is a legal commitment under the amended State Implementation Plan, and includes an extension of Green Line service from a relocated Lechmere Station through Cambridge to Somerville and Medford with a spur to Union Square in Somerville. CTPS will continue to provide needed analytical support for the state and federal environmental review documents and conduct other design-related activities that include travel-demand forecasting.

**FFY 2012 Activities and Expected Work Products:** CTPS will continue to support this project, as requested by MassDOT.

*This work is related to a recommended, regionally significant project identified in the LRTP, and is included in the PMT. Also see Appendix A.*

**FHWA/FTA Grant Application Task and Element:** 44.23.02

**FFY 2012 Budget**

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
55,000			\$55,000				55,000			

## GREEN LINE SIP MITIGATION STRATEGIES



**STAFF:** Central Transportation Planning Staff

**CLIENT:** MassDOT Office of Transportation Planning

**ID #:** 11377

**BUDGET:** \$80,000

**STATUS:** TBD

The Green Line Extension is one of the four outstanding transportation control measure (TCM) commitments currently listed in the State Implementation Plan (SIP), and has a legal deadline of December 31, 2014. MassDOT and the MBTA are currently estimating that the Green Line Extension project will be ready for in-service start-up some time after the aforementioned legal deadline.

A provision exists in 310 CMR 7.36 which allows for approval of project delays if interim measures are implemented that result in emission reductions in non-methane hydrocarbons (NMHC), carbon monoxide (CO), and nitrogen oxides (NOx) equal to or greater than the emission reductions that would have been achieved had the required project not been delayed. In order to act on this provision, MassDOT must petition the Massachusetts Department of Environmental Protection (DEP) to authorize delay of the project and to accept one or more interim offset projects that can be demonstrated to achieve the aforementioned desired level of emission reductions for NMHC, CO, and NOx. MassDOT is beginning the process of developing a list of projects, programs, and other measures for interim offsets. CTPS, using its regional travel-demand model, will test these measures to ascertain their impacts and determine if they meet or exceed the emissions reductions forecast for the Green Line Extension project.

**FFY 2012 Activities and Expected Work Products:** CTPS will continue to support this project, as requested by MassDOT.

**FHWA/FTA Grant Application Task and Element:** 44.23.02

### FFY 2012 Budget

FUNDING RECIPIENT(S)				FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT	FFY12 Total Budget	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
20,000			\$20,000				20,000			



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Metropolitan Area Planning Council

**ID #:** 11703

**BUDGET:** \$45,000

**STATUS:** 45%

This study will examine how different land use strategies affect the transportation system in 37 communities in the I-495 corridor area. CTPS will work with the Executive Office of Housing and Economic Development (EOHED), the Metropolitan Area Planning Council (MAPC), the Central Massachusetts Regional Planning Commission (CMRPC), and the MetroWest Growth Management Committee (MWGMC) to develop travel demand forecasts in the I-495 area. Forecasts will compare and contrast transportation impacts (such as transportation system utilization and mobile source emissions) resulting from two different land use scenarios, which will be developed by MAPC and CMRPC. CMRPC and CTPS will use their respective travel demand model sets independently, but CTPS will coordinate and present the merged results of both model sets to the client.

**FFY 2012 Activities and Expected Work Products:**

- Summaries of travel model results
- Technical memorandum documenting the study’s methods and results

**FHWA/FTA Grant Application Task and Element:** 44.23.02

**FFY 2012 Budget**

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
21,000			\$21,000							21,000

**STAFF: Metropolitan Area Planning Council****CLIENT: Boston Region Metropolitan Planning Organization****ID #: MAPC 6****BUDGET: Not applicable to ongoing projects****STATUS: Ongoing**

Regionally significant land use development projects will be reviewed with respect to state and regional land use goals and development policies and the projects' impacts on the transportation system. In particular, projects will be reviewed for consistency with MetroFuture, the regional plan for the Boston region, and for consistency with the Commonwealth's sustainable-development principles and MAPC's smart-growth principles. The project reviews will also be used to determine whether a proposed development will have a positive or negative impact on balanced regional development. MAPC tracks all projects reviewed in its region under the Massachusetts Environmental Protection Act (MEPA) and provides a regional planning analysis to the Secretary of Energy and Environmental Affairs for all developments considered having significant impact. Special attention is given to local zoning ordinances and regulations that serve to reduce auto travel by encouraging carpooling, transit, and other travel-demand management techniques. MAPC will also recommend appropriate mitigation measures. MAPC will continue to participate in a variety of specific project review activities in FFY 2012, including detailed analyses of large-scale projects with significant regional and subregional impacts. In a limited number of cases, MAPC will participate in local review processes for regionally significant projects as a way of becoming involved earlier in the project in order to have a greater impact. MAPC also reviews notices of "offered railroad property" from EOT, consults with municipalities as necessary, and provides appropriate input. Often, these involve rail trails, but they may also involve other types of proposed development.

**FFY 2012 Activities and Expected Work Products:** MAPC will continue to participate in project reviews and related activities, work with MEPA staff to increase their value, coordinate MEPA comments with transportation agencies, where possible, and more closely coordinate its MEPA project review process with MetroFuture's goals and recommendations. MAPC will also track project information for the reviews it conducts in order to provide data on development trends in the region. In addition, MAPC will continue to review and respond to notices of offered railroad property.

**LAND USE DEVELOPMENT PROJECT REVIEWS (CONT.)**



**STAFF:** Metropolitan Area Planning Council

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** MAPC 6

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

**FHWA/FTA Grant Application Task and Element:** 44.23.02

**FFY 2012 Budget**

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
	80,000		\$80,000	52,800	27,200					



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Massport

**ID #:** 22123

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

CTPS will continue to provide technical assistance to Massport’s Department of Economic Planning and Development. The services are expected to support Logan Airport ground access planning and might include data collection and analysis, analysis related to the East Boston–Chelsea Truck Bypass Road, air quality analysis and support for additional, to-be-determined transportation-planning activities. This work may be redirected or modified in response to emerging issues.

**FFY 2012 Activities and Expected Work Products:**

- Data collection and analysis
- Modeling and transportation systems analysis
- Air quality technical assistance
- On-call services

*This work is related to a recommended, regionally significant project identified in the LRTP. Also see Appendix A for related work.*

**FHWA/FTA Grant Application Task and Element:** Not

**FFY 2012 Budget**

FUNDING RECIPIENT(S)				FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT	FFY12 Total Budget	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
37,500			\$37,500							37,500

**MBTA BUS ROUTE 1 TRANSIT SIGNAL-PRIORITY STUDY**



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 23313

**BUDGET:** \$125,000

**STATUS:** 99%

MBTA bus Route 1 from Harvard Square in Cambridge to Dudley Square in Roxbury is one of the busier routes in the system. The corridor along which this bus route travels, Massachusetts Avenue (Route 2A) is a multilane roadway with an on-street parking lane in both directions. Transit signal priority (TSP) could improve bus operations for the route by reducing travel times and improving schedule adherence. CTPS will evaluate existing traffic and bus operations along the bus route or parts of the route and identify TSP and other traffic-signal recommendations to improve both bus and traffic operations. A traffic-simulation model will be utilized to evaluate both the existing conditions and proposed improvements. CTPS will be responsible for carrying out the project and will work in collaboration with MassDOT, the MBTA, and the cities of Boston and Cambridge.

**FFY 2012 Activities and Expected Work Products:** Tasks will include meeting with City of Boston and City of Cambridge officials; collecting existing traffic, transit, pedestrian/bicycle, and other data; developing a model to evaluate TSP improvements; and documenting the findings in a technical memorandum.

**FHWA/FTA Grant Application Task and Element:** 44.24.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
1,000			\$1,000		1,000					

**PRIORITY CORRIDORS FOR LRTP NEEDS ASSESSMENT**



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 12201

**BUDGET:** \$120,600

**STATUS:** 0%

Corridor analysis is a logical way to approach transportation studies in the region. Possible corridors of critical and strategic concern might best be viewed in a programmatic way. An arterial management roadway improvement effort would recommend conceptual improvements for corridors that the Congestion Management Process (CMP) and the Long-Range Transportation Plan (LRTP) identified as part of the needs assessment process. A particular corridor or several sections from multiple corridors could be selected.

Candidate locations would include:

- Route 99 Corridor Study in Everett
- Route 60 in Arlington, Belmont, and Waltham (Northwest Corridor)
- Revere Beach Parkway (Route 16) Safety and Operations Improvements from Everett to Chelsea
- Route 1 North Improvements: Saugus-Lynnfield
- Route 27 between Depot Street and Canton Street in Sharon (Southwest Corridor)
- Route 38 in Woburn and Wilmington (North Corridor)
- Route 3A in Burlington and Woburn (North Corridor)
- Route 62 and Route 114 in Middleton (Northeast Corridor)
- Route 3A from Quincy to Hingham (Southeast Corridor)
- Route 28 in Randolph (Southeast Corridor)
- Route 225 in Bedford (Northwest Corridor)

*Note: Corridors are listed roughly in priority order according to traffic flow.*

**FFY 2012 Activities and Expected Work Products:** Activities associated with this project will be conducted as described above, and a report with detailed maps and graphics will be prepared in FFY 2012.

**FHWA/FTA Grant Application Task and Element:** 44.23.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)				FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT	FFY12 Total Budget	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
120,600			\$120,600	120,600						



**REGIONAL HOV-LANE SYSTEM PLANNING STUDY**



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 13250

**BUDGET:** \$60,000

**STATUS:** 50%

Provision of HOV facilities can be helpful in making more efficient use of our existing express highways by providing a superior level of service for multiple-occupancy vehicles and encouraging the use of public transportation. Potential types of HOV facilities may include queue bypasses, contraflow lanes on existing pavement, and separate, new HOV lanes. The initial phase of an HOV study will be conceptual, where broad rule-of-thumb criteria will be used to gain some initial understanding of where HOV facilities might best be provided in the MPO region, including alternative HOV lane treatments. Emphases of the study will include the regionwide collection of vehicle-occupancy data and development/calibration of the regional travel-demand model set to allow its improved use in evaluating specific HOV proposals. A preliminary list of highway segments conducive to HOV treatments will be an end product of this study.

**FFY 2012 UPWP Activities and Expected Work Products:** Activities associated with this two-year project will be conducted as described above, and a report documenting the study results will be prepared in FFY 2012.

**FHWA/FTA Grant Application Task and Element:** 44.23.02

**FFY 2012 Budget**

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
30,000			\$30,000	20,400	9,600					



**STAFF:** Metropolitan Area Planning Council

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** MAPC 7

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

MetroFuture, the comprehensive land use plan for Metro Boston, was adopted as the future land use scenario for the long-range transportation plan, PATHS TO A SUSTAINABLE REGION, in FFY 2011. This UPWP task will continue to support the implementation of MetroFuture’s local transportation and land use elements. This task will also support the coordination of MPO work and the Sustainable Communities Initiative. In FFY 2010, MAPC secured, on behalf of the region, from federal Housing and Urban Development to conduct regional planning that will further federal sustainability goals.

Planning and data will be used to identify and promote areas in the region where development should be prioritized in order to create the density necessary to support public transit. Conversely, this also means indicating areas where conservation of undeveloped land rather than development should be promoted. This planning will help to map out where transit extensions or roadway improvements are necessary and continue to inform the long-term vision for transportation investments in the region.

MetroFuture implementation also prioritizes continuing to build a constituency of supports at the local level to seek changes in land use that will enable livable communities and sustainable transportation.

**FFY 2012 Activities and Work Products:** Short- and longer-term recommendations for priority development and preservation areas, coordination of Sustainable Communities Initiative, and community engagement on the land use and transportation nexus.

**FHWA/FTA Grant Application Task and Element:** 44.23.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
	125,000		\$125,000	84,000	41,000					



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 13246

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

The purpose of this study is to examine for mobility and safety major intersections in the region’s arterial highways, where, according to the MPO’s crash data system, many crashes occur. These locations are also congested during peak traffic periods. The resulting bottlenecks can be at a large single intersection but usually spill over a few adjacent intersections along an arterial. They may also carry multiple transportation modes, including buses, bicyclists, and pedestrians.

This study builds directly on the monitoring results of the Congestion Management Process (CMP) for delays and safety along arterial highways and the resulting recommendations will be of the “management and operations” type. Municipalities in the region are very receptive of this type of studies as they give them an opportunity to begin looking at needs of these locations, starting at the conceptual level before they commit funds for design. Eventually, if the project qualifies for FA funds, the study’s documentation is also useful to MassDOT.

**FFY 2012 Activities and Expected Work Products:** The study will consist of three tasks:

- Review MassDOT’s Registry of Motor Vehicles crash data and the Boston Region MPO’s CMP data to identify 20 bottleneck locations in the region
- Select up to three locations for further study of potential improvement measures. Municipal cooperation and commitment to designing the improvements will be elements that will be also included in this task
- Perform data collection, analyses, and documentation at selected locations

**FHWA/FTA Grant Application Task and Element:** 44.23.02

**FFY 2012 Budget**

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
70,000			\$70,000	47,700	22,300					

**SOUTH COAST COMMUTER RAIL EXTENSION**



**STAFF:** Central Transportation Planning Staff

**CLIENT:** MassDOT Office of Transportation Planning

**ID #:** 43212

**BUDGET:** \$147,000

**STATUS:** 90%

MassDOT and the MBTA are developing the environmental review documents required by the state and federal governments for the South Coast Rail project, which would restore passenger rail service between the cities of Fall River and New Bedford and downtown Boston. The project would include the construction of passenger stations and terminal layover facilities.

**FFY 2012 Activities and Expected Work Products:** Tasks associated with this project will be conducted as requested by MassDOT/MBTA.

*This work is related to a recommended, regionally significant project identified in the LRTP. Also see Appendix A for related work.*

**FHWA/FTA Grant Application Task and Element: 44.23.01**

**FFY 2012 Budget**

FUNDING RECIPIENT(S)				FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT	FFY12 Total Budget	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
55,000			\$55,000				55,000			

**WELLESLEY TRANSIT STUDY**



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Town of Wellesley

**ID #:** 53310

**BUDGET:** \$33,400

**STATUS:** 99%

The Town of Wellesley has become increasingly concerned about traffic congestion, particularly along Routes 9, 16, and 135 during the commuter peak periods and during the morning and afternoon student arrival and departure times. This study will evaluate the potential for transit service within the town and to nearby major destinations, including MBTA transit stations. Possible new services will be described at a conceptual level, identifying major activity hubs to be served and potential general routes and vehicles to be used.

**FFY 2012 Activities and Expected Work Products:** Analysis of all data collected will be completed, potential transit services will be determined, the service-contracting process will be outlined, and a final technical memorandum documenting all of the findings of the study will be produced.

**FHWA/FTA Grant Application Task and Element:** 44.24.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)				FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT	FFY12 Total Budget	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
700			\$700							700

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## 7 TECHNICAL SUPPORT/OPERATIONS ANALYSIS PROJECTS

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The projects in this chapter will be conducted during federal fiscal year 2012. They are technical in nature and may include support for larger projects, which are described in Appendix A: Other Boston Region Transportation Planning Projects. In instances where this occurs, the project description refers the reader to Appendix A.

<b>Project ID #</b>	<b>Project Name</b>	<b>Page</b>
MAPC8	Alternative-Mode Planning and Coordination	7-3
13152	Analysis of JARC and New Freedom Projects	7-5
13150	Community Transportation Technical Assistance Program	7-7
11141	Emergency Evacuation & Hazard Mapping, Phase II	7-8
11143	Freight Survey	7-10
11374	Impacts of Walking Radius/Transit Frequency & Reliability	7-11
11702	Integrating Land Use in Regional Transportation Models	7-12
11375	Intercity Bus Study	7-14
13801	Livable Communities Workshop Program	7-16
11124	MassDOT Statewide Planning & Research Program Support	7-18
13151	MassDOT Title VI Program	7-19
11380	MassDOT Transit Planning Assistance	7-20
14319	MBTA 2011 National Transit Database: Directly Operated	7-21
14318	MBTA 2011 National Transit Database: Purchased Bus	7-22
14326	MBTA 2012 National Transit Database: Directly Operated	7-23
14325	MBTA 2012 National Transit Database: Purchased Bus	7-24
TBD	MBTA 2013 National Transit Database: Directly Operated	7-25
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11369	MBTA Bus Service Data Collection VII	7-27
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14328	MBTA Neighborhood Maps	7-29
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<b>Project ID #</b>	<b>Project Name</b>	<b>Page</b>
11379	MBTA Systemwide Passenger Survey: Comparison of Results	7-32
TBD	MBTA Title VI Program Monitoring	7-34
11142	MPO Freight Study, Phase II	7-35
13254	Pavement Management System Development	7-37
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13252	Roundabout Installation Screening Tool	7-39
13153	Safe Access to Transit for Pedestrians and Bicyclists	7-41
12202	TIP Project Impacts Before-After Evaluation	7-42
90080	Travel Data Forecasts	7-43
90040	Travel Operations Analysis	7-44



**STAFF:** Metropolitan Area Planning Council

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** MAPC8

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

MAPC provides alternative-mode transportation planning support to the Boston Region MPO and municipalities in the region. This work benefits bicycle and pedestrian transportation, encourages transit in areas currently underserved by the region's existing regional transit authorities (RTAs), and identifies and supports transportation demand management (TDM) strategies. Efforts in the coming year will continue to focus on implementing regional bicycle and pedestrian programs.

***Boston Region MPO Bike Parking Program:*** MAPC will continue to administer this program and help communities install bike parking.

***Bike Share Program Implementation:*** Working with the FTA, MassDOT, MBTA and the Cities of Boston, Cambridge, Somerville and the Town of Brookline MAPC has selected a vendor to install and operate bicycle-sharing kiosks at locations in the four municipalities. The bike-share vendor for this project, Alta Bike Share, was selected in FFY 2011. Implementation efforts need to be undertaken by MAPC to guide the process through FFY 2012. Working with officials from the four municipalities, as well as institutions in Greater Boston, MAPC will help implement a program that can eventually be expanded to include neighboring communities.

***Technical Assistance with Local Bicycle and Pedestrian Planning Initiatives:*** MAPC will provide technical support, as requested, to communities seeking to augment portions of the regional bicycle and pedestrian network, as identified in the 2007 Regional Bicycle Plan and 2010 Regional Pedestrian Plan. MAPC will also continue to work with the communities in the region to implement the MPO portion of the Bay State Greenway, as recommended in the 2007 Massachusetts Statewide Bicycle Transportation Plan.

***Bicycle Network Trail Inventory:*** MAPC, in coordination with CTPS, will identify and inventory potential future trails.

***Transit Planning:*** In FFY 2012 MAPC will continue to work with several of the MAPC subregions to better coordinate municipal shuttle service, private transportation demand management, and regional transit service.



**ALTERNATIVE-MODE PLANNING AND COORDINATION (CONT.)**



**STAFF:** Metropolitan Area Planning Council

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** MAPC8

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

**FFY 2012 Activities and Expected Work Products:** MAPC will continue this ongoing work effort as described above, identifying priority bicycle and pedestrian infrastructure needs, implementing the regional bike-sharing program, and helping the MAPC subregions coordinate transit options.

**FHWA/FTA Grant Application Task and Element:** 44.22.02

**FFY 2012 Budget**

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
	179,600		\$179,600	113,800	65,800					



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 13152

**BUDGET:** \$20,000

**STATUS:** 0%

Many MPO-recommended proposals for the Federal Transit Administration’s Job Access and Reverse Commute (JARC) and New Freedom grant programs were funded during the last three years. These proposals include conducting studies on how to facilitate coordination of existing transportation resources; identifying resource gaps and developing strategies for closing them; enhancing consumers’ abilities to access and use transportation options; and planning for and operating paratransit services.

The MPO will determine which of these projects are/were effective and will use this information to recommend future projects, to encourage the use of best practices, and to update the Coordinated Human-Services Transportation Plan.

**FFY 2012 Activities and Expected Work Products:**

Tasks will include:

1. Obtaining the following project information from MassDOT and/or funded agencies:
  - a. Identified service gaps
  - b. Strategies to close gaps
  - c. Effectiveness of efforts to coordinate services
  - d. Trips served
  - e. Cost per passenger served
2. Developing a subset of projects for which the most data is available
3. Determining which practices have or have not been effective
4. Determining best practices

Products will include:

- A dataset of JARC and New Freedom project statistics
- A memorandum summarizing project achievements to data
- A memorandum listing best practices and how they can be applied in the region

**ANALYSIS OF JARC AND NEW FREEDOM PROJECTS (CONT.)**



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 13152

**BUDGET:** \$20,000

**STATUS:** 0%

**FHWA/FTA Grant Application Task and Element:** 44.24.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
20,000			\$20,000		20,000					

**COMMUNITY TRANSPORTATION TECHNICAL ASSISTANCE PROGRAM**



**STAFF:** Central Transportation Planning Staff and Metropolitan Area Planning Council

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 13150 & MAPC9

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

Local community officials often identify transportation issues that are of concern and about which they would like to have technical advice. In this project, a team of CTPS and MAPC engineers and planners will meet with community officials to learn more about specific problems and provide advice on next steps or to relate such things a parking, traffic calming, walking, bicycling, and bus-stop-related issues that the community might have identified. There will likely be a site visit to better understand the potential problem, review existing data and make suggestions on further data that may be needed. General types of solutions along with appropriate follow-up and contact information might be recommended. Descriptions of the various planning processes at MassDOT, the MBTA, the MPO and MAPC and of how communities can get involved might also be appropriate. These are not a design or even planning studies that would be performed by the CTPS or the MAPC staff. Rather, the project is a mechanism for providing quick-response advice to communities for resolving the issues they have identified.

This work will advance the MPO’s goals for system preservation, modernization, and efficiency; mobility; and land use and economic development. It will also be consistent with the MPO’s Congestion Management Program and other staff-identified needs.

It will also include a safety component in which staff will respond to community requests to conduct analyses at crash locations, and it will recommend possible mitigation strategies.

**FFY 2012 Activities and Expected Work Products:** This service will be publicized through various channels. MAPC and CTPS will coordinate and collaborate on a case-by-case basis. It is expected that two to five person-days will be spent on each community problem identified. Requests for services will be fielded and prioritized by the CTPS Deputy Technical Director. Teams of professionals will be dispatched to client municipalities, and memoranda on the consultations will document the work, recommendations, and outcomes.

**FHWA/FTA Grant Application Task and Element:** 44.24.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
40,000	30,000		\$70,000	42,200	27,800					

**STAFF:** Central Transportation Planning Staff**CLIENT:** Boston Region Metropolitan Planning Organization**ID #:** 11141**BUDGET:** \$30,000**STATUS:** 50%

This study advances the MPO's Safety and Security Policy of protecting the region from natural and human threats, and addresses the SAFETEA-LU planning factor for security. Federal law requires that MPOs consider security as a distinct factor in their planning processes and to work to increase security for all users of the transportation system.

This study will build upon the work started in the FFY 2010 UPWP work program for Emergency Evacuation and Hazard Mitigation Mapping, which produced a series of maps showing the transportation network and the locations of transportation projects proposed for MPO funding in relation to areas prone to natural hazards (flooding, hurricane storm surges, sea level rise, and earthquakes), and to routes and infrastructure that are important for conducting evacuations and for maintaining the security of the transportation system.

Phase II will update data layers in the MPO's GIS system, add information (as it becomes available) from regional evacuation planning, and create new maps of certain potential threats to the transportation system as suggested by members of the MPO's Transportation Planning and Programming Committee.

The products of this work program will feed into the security evaluation for projects proposed for future TIPs and the Long-Range Transportation Plan (LRTP). To lay the groundwork for annual project evaluations, this work program will also produce a digital GIS tool that will be used by staff each year for these evaluations. This tool may also be shared with agencies responsible for all-hazards planning, such as evacuation planning, for their use.

**FFY 2012 UPWP Activities and Expected Work Products:**

- Maps of dams with a high risk of hazard in relation to the transportation network showing areas of the transportation system that could be affected if dams fail and release impounded water.
- Maps of liquified natural gas shipping routes and facilities in the region and thermal hazard zones in relation to the transportation network. A GIS tool that makes data on natural hazards zones and evacuation-planning materials available in digital format.

**EMERGENCY EVACUATION & HAZARD MAPPING, PHASE II (CONT.)**



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 11141

**BUDGET:** \$30,000

**STATUS:** 50%

**FHWA/FTA Grant Application Task and Element:** 44.24.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
15,000			\$15,000	10,200	4,800					

## FREIGHT SURVEY



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 11143

**BUDGET:** \$60,000

**STATUS:** 0%

This study will survey truckers in the Boston region along major truck corridors (such as I-495 and I-95) to determine their origin, destination, and the commodity they are hauling. This information will fill a major void in our knowledge about freight movements in the region. It will also help answer questions about the possibility of moving more freight by other modes, such as maritime (via short sea shipping) and rail.

**FFY 2012 Activities and Expected Work Products:** Activities associated with this project will be conducted as described above, and a report of truck impacts documenting the study results will be prepared in FFY 2012.

**FHWA/FTA Grant Application Task and Element:** 44.24.01

### FFY 2012 Budget

FUNDING RECIPIENT(S)				FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT	FFY12 Total Budget	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
21,000			\$21,000	21,000						



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 11374

**BUDGET:** \$50,000

**STATUS:** 50%

The current MBTA service delivery policy’s coverage guideline states that, in areas that are served by bus and/or rapid transit with a population density of greater than 5,000 persons per square mile, no individual should need to walk farther than 0.25 miles to access transit service. As part of this project, CTPS will analyze the potential and suggest possible system designs for local bus system consolidation if the 0.25-mile radius was relaxed to 0.33 miles, 0.4 miles, and 0.5 miles and the consolidated bus routes adhered to rapid-transit-service standards.

This modeling-based effort will build on the MBTA Core Services Evaluation study and will help the MPO better understand the implications of the tradeoff between eliminating poor-performing local bus routes and increasing service on a smaller number of transit corridors. It will consider the best option for providing mobility and accessibility through the bus network. The ultimate goal is to increase transit mode shares. The study will also consider the equity implications and potential tradeoffs of any of the potential systems.

**FFY 2012 Activities and Expected Work Products:** The results of the model runs will be summarized, and a technical memorandum documenting all of the findings of the study will be prepared.

**FHWA/FTA Grant Application Task and Element:** 44.24.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
20,000			\$20,000		20,000					





**STAFF:** Central Transportation Planning Staff and Metropolitan Area Planning Council

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 11702  
& MAPC10

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

In FFY 2012, MAPC and CTPS will continue to explore emerging technologies and data sets and their potential to support regional land use and transportation modeling. Specifically, MAPC and CTPS will make a determination on how to proceed with a land use allocation model based on the evaluation of available models that took place in FFY 2011. Such models will support better estimates of the “feedback loops” between transportation investments and development patterns. An important activity for this process will be consultation with peers and colleagues in other regions to learn more about best practices and lessons learned based on their experiences with alternative modeling approaches.

#### **MAPC ACTIVITIES**

Concurrent with this work, MAPC will continue their research based on geocoded odometer readings from the MassDOT Registry of Motor Vehicles (RMV). MAPC will explore the factors that influence driving patterns through continued research using vehicle-miles-traveled (VMT) data for 16 million vehicles, compiled by MassGIS from RMV data. Analysis of the VMT data will provide a better understanding of the fine-scale land use patterns that influence driving behavior, and may also provide a tool for estimating potential transportation impacts of proposed projects, as a complement to results from conventional transportation models. The product of this work will be a research brief summarizing findings.

#### **CTPS ACTIVITIES**

Population and employment forecasts, which are provided by MAPC, are key inputs for the travel forecasting models. There is a need to develop the capability of modeling the impact of land use on transportation and vice versa. One of the tasks for FFY 2010 was to complete Phase 1 of a two-phase effort designed to implement a land use allocation model that would simulate



**STAFF:** Central Transportation Planning Staff and Metropolitan Area Planning Council

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 11702 & MAPC10

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

the interaction between land use and transportation. The work will incorporate significant advances in land use allocation modeling techniques that have been made in North America over the last 10 years and take advantage of additional data that expand upon what was previously available. CTPS will continue to collaborate with MAPC on Phase 1 of this effort to determine the following:

- What information is needed by the MPO as an output from such a model?
- What land use allocation models are currently in use by various MPOs in the country?
- How would each of these models successfully meet identified needs?

Based on the determination from Phase 1 of this effort during FFY 2010, Phase 2 would be implemented during FFY 2012. Phase 2 would deal with the selection of a preferred land use modeling approach.

**FFY 2012 Activities and Expected Work Products:** MAPC and CTPS will continue this work effort as described above, and, based on the evaluation of available land use allocation modeling techniques, present evaluation results to the MPO. If appropriate, CTPS will also develop a plan of action for Phase 2.

Once the evaluation of available land use allocation modeling techniques is completed and the selection of a land use model is approved by the MPO, work will commence on the estimation of model parameters, calibration and verification of the selected approach, and, finally, the application of the selected land use allocation approach.

**FHWA/FTA Grant Application Task and Element:** 44.22.03

**FFY 2012 Budget**

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
30,000	50,000		\$80,000	53,800	26,200					

**STAFF: Central Transportation Planning Staff****CLIENT: MassDOT Office of Transportation Planning****ID #: 11375****BUDGET: \$167,100****STATUS: 30%**

The private carrier intercity and commuter bus network in Massachusetts has seen a reduction in locations served within Massachusetts over the past 30 years. Operating subsidy programs and state-financed vehicles were provided in the past but are no longer. Further reductions in service and attrition of carriers may occur in the future. This study will examine changes that have taken place in intercity and commuter bus service in Massachusetts since 1980, identify the reasons for those changes, and consider what opportunities there are to foster the retention of valuable routes, improvement of service, and desirable expansion of the network in the future. The study will also review the potential for regional transit authorities in the state to provide service as a feeder to the intercity bus network, will review the potential for use of the MBTA CharlieCard on intercity and commuter bus services, and will consider the capital needs of an improved and expanded intercity bus network, including vehicles, stops, stations, and parking facilities.

This study will look at how existing intercity and commuter bus services that provide service within Massachusetts have changed since 1980, examine how they relate to rail and local bus services, and identify the reasons for the changes that have occurred. The study will look at not only intrastate but also interstate bus services, including how the latter have historically served markets within Massachusetts, whether they do so now, and the degree to which they constrain the potential for expanded intrastate services through the use of existing infrastructure. Based on these examinations of intercity and commuter bus services, the study will consider what past issues have prevented retention or expansion of valuable services and will identify what would be required in the future, including possibly some funding support, to facilitate better meeting the needs of unserved and underserved markets, to foster desirable system growth, and to promote improved mobility options in the state.

Staff described the existing intercity bus network and services and developed a passenger survey to be administered to existing riders. Staff also described existing RTA services as they relate to intercity services, both currently and historically. Using this information, and other data that was collected and analyzed, staff began to evaluate where the greatest need for modified, expanded, or new service exists.

**INTERCITY BUS STUDY (CONT.)**



**STAFF:** Central Transportation Planning Staff

**CLIENT:** MassDOT Office of Transportation Planning

**ID #:** 11375

**BUDGET:** \$167,100

**STATUS:** 30%

**FFY 2012 Activities and Expected Work Products:** Analysis of service needs will be completed; existing and potential funding sources, possible fare collection system changes, capital needs, regulatory constraints, marketing strategies, and potential service standards for new services will be identified; and a final technical memorandum will be produced.

**FHWA/FTA Grant Application Task and Element:** N/A

**FFY 2012 Budget**

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
65,000			\$65,000				65,000			



**STAFF:** Central Transportation Planning Staff and Metropolitan Area Planning Council

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 13801  
& MAPC11

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

Ray LaHood, Secretary of the U.S. Department of Transportation, has offered the following definition of a livable community: “It’s a community where if people don’t want to have an automobile, they don’t have to have one; a community where you can walk to work, your doctor’s appointment, pharmacy, or grocery store. Or you could take light rail, a bus, or ride a bike.”

This initiative, which furthers the goals of the state’s Healthy Transportation Compact and recent federal guidance, will expand upon the well-established, MPO-supported Walkable Community Workshops (WCW) Program. It will address other aspects of the built environment that affect livability by providing technical assistance for municipalities that want to improve their community’s livability. This means offering information and stimulating discussion and exploration around a broad base of perspectives, such as transportation (including active transportation and transit), parking, air quality, environment, land use and urban planning (including transit-oriented development), urban design, and health.

### **MPO WORKSHOP PROGRAM**

1. The MPO will conduct up to six workshops in FFY 2012. The LCW program will continue to serve the broad range of participants served in the WCWs: chief elected officials and municipal managers; elected officials and staff members serving planning and health boards, conservation commissions, departments of police, schools, public works, engineering departments, and councils on aging; members of chambers of commerce and local business owners; and residents and community groups. Staff will also plan and conduct two regional-level forums. These will bring together officials and staff from many communities, feature a presentation on state-of-the-practice planning tools, and an open forum for participants to discuss challenges they face.
2. LCWs will focus on a locally selected area in the community. Staff will help develop short- and long-term recommendations that will improve the livability of an area, focusing on mobility, including active transportation, land use and other planning issues, as appropriate. Materials describing livability and ways to achieve it will be developed and distributed both at these workshops and at other MPO activities.

**LIVABLE COMMUNITIES WORKSHOP PROGRAM (CONT.)**



**STAFF:** Central Transportation Planning Staff and Metropolitan Area Planning Council

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 13801 & MAPC11

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

**TOOLKIT FOR SUSTAINABLE MOBILITY**

In addition to the workshop participation, MAPC will continue to work with municipalities and other stakeholders to add to the Toolkit for Sustainable Mobility. This toolkit provides guidelines and best practices for communities that wish to adopt practices leading to more-sustainable methods of getting around. To date, toolkits covering local parking issues and developer mitigation tools have been completed and are available on MAP’s website.

The components on parking and development mitigation will be updated and expanded as needed in FFY 2012. MAPC will also complete additional toolkit components on local applications of “complete streets” concepts. “Complete streets” are designed and operated to enable safe access for all users. Pedestrians, bicyclists, motorists, and transit riders of all ages and abilities must be able to safely move along and across a complete street. This toolkit will help communities apply these concepts to all roadway projects. The toolkit will include a comprehensive review of what this concept means, local practices and measures, legal authority, and liability concerns. Both the parking and the complete-streets toolkits will be used in the Livability Workshops, providing a resource for communities to use in implementing ideas from the workshops.

The toolkit has led to requests by communities and subregions for additional information and presentations. Based on past community interest, MAPC has allocated in this budget sufficient resources to provide technical assistance on parking issues to six communities, for up to three days each. This assistance will include participating in meetings, providing information, assisting with parking study design, and revising zoning regulations.

**FFY 2012 Activities and Expected Work Products:** CTPS and MAPC will continue this work as described above, in coordination with the MPO.

**FHWA/FTA Grant Application Task and Element:** 44.24.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)				FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT	FFY12 Total Budget	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
60,000	15,600		\$75,600	49,300	26,300					



**STAFF:** Central Transportation Planning Staff

**CLIENT:** MassDOT Office of Transportation Planning

**ID #:** 11124

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

Work on this project is performed as requested by MassDOT. It includes studies, analyses, and technical assistance to be conducted by CTPS under MassDOT’s federally funded Statewide Planning and Research Program (SPR). Projects that are either already underway or currently expected to begin during FFY 2012 are listed below. Additional projects may be added during FFY 2012.

- 2011–2012 I-93 North and Southeast Xway HOV-Lane Monitoring (see page 6-2)
- Back Bay Ramp Study
- McGrath Highway/Inner Belt De-elevation & Brick Bottom Land Use Study
- Accelerated Bridge Program Support
- Balanced Volumes on State Highways
- Diversity Posters
- Global Warming Solutions Act Support
- Miscellaneous SPR Graphics
- MassDOT Bicycle Asset Database
- MassDOT Road Inventory File
- Ramp Numbering System
- Statewide Modeling Support
- Traffic Volumes: Historic and Projected

**FFY 2012 Activities and Expected Work Products:** Activities and work products will depend on tasks requested by MassDOT’s Office of Transportation Planning. Projects of appropriate scope will be submitted to the MPO before proceeding.

**FHWA/FTA Grant Application Task and Element:** 44.24.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
421,000			\$421,000			421,000				

**MASSDOT TITLE VI PROGRAM**



**STAFF:** Central Transportation Planning Staff

**CLIENT:** MassDOT

**ID #:** 13151

**BUDGET:** \$246,000

**STATUS:** 60%

CTPS will provide technical support to MassDOT in the preparation of its Title VI Program for submittal to the Federal Highway Administration (FHWA). Work also includes assisting with MassDOT’s Federal Transit Administration (FTA) corrective action plan and 2011 Title VI submittal. For the FHWA Title VI Program, CTPS will assist MassDOT Civil Rights in its outreach to Division and Enterprise Services personnel and will provide support a MassDOT working group that will help to shape development and implementation of the Title VI Program throughout the agency. CTPS will also research laws, regulations, FHWA guidance, and Title VI programs from other states; assist in the creation of a preliminary program outline; and produce the preliminary MassDOT FHWA Title VI Program.

**FFY 2012 Activities and Work Products:** CTPS will produce a preliminary report to FHWA that documents the MassDOT Title VI Program.

**FHWA/FTA Grant Application Task and Element:** 44.24.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)				FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT	FFY12 Total Budget	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
85,000			\$85,000				85,000			



**MASSDOT TRANSIT PLANNING ASSISTANCE**



**STAFF:** Central Transportation Planning Staff

**CLIENT:** MassDOT Office of Transportation Planning

**ID #:** 11380

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

Work on this project is performed as requested by MassDOT for various studies and analyses to be conducted by CTPS under MassDOT’s federally funded Section 5303 Program. It includes:

- Short-term and ongoing analysis of projects and proposals, including travel-demand modeling, impacts analyses, air quality analyses, traffic engineering analyses, and other types of quick-response analyses for the MBTA
- Preparation of supporting data, graphics, maps, and other materials for MassDOT studies and presentations
- Support of environmental document preparation for projects under development

Projects that are either already underway or currently expected to begin during FFY 2012 are listed below. Additional projects may be added during FFY 2012.

- MBTA Strategic Visioning for Bus Service
- Automated-Fare-Collection Analysis
- MBTA Fairmount Line SIP Mitigation Strategies
- MBTA Green Line SIP Mitigation Strategies
- MBTA Milford/Hopedale Commuter Rail Feasibility Study
- Roxbury/Dorchester/Mattapan Transit Needs Study
- Worcester/Grand Junction Commuter Rail Study

**FFY 2012 Activities and Expected Work Products:** Activities and work products will depend on tasks requested by the Office of Transportation Planning. Projects of appropriate scope will be submitted to the MPO before proceeding.

**FHWA/FTA Grant Application Task and Element:** 44.24.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
301,300			\$301,300					301,300		

**MBTA 2011 NATIONAL TRANSIT DATABASE: DIRECTLY OPERATED**



**STAFF:** Central Transportation Planning Staff

**CLIENT:** MBTA

**ID #:** 14319

**BUDGET:** \$88,100

**STATUS:** 95%

The objective of this project is to develop estimates of passenger boardings and passenger-miles for directly operated bus, trackless trolley, heavy rail, and light rail services. The data that form the basis of the estimates will be collected through onboard ridechecks, station turnstile observations, and passenger surveys. The MBTA will be submitting its SFY 2011 National Transit Database (NTD) estimates of passenger boardings and passenger-miles for various transit modes to FTA with the aid of CTPS. The final reports, however, will not be completed until FFY 2012.

**FFY 2012 Activities and Expected Work Products:** Staff will prepare a technical memorandum for the MBTA summarizing estimates of passenger boardings and passenger-miles for directly operated bus, trackless trolley, heavy rail, and light rail services for SFY 2011 NTD reporting.

**FHWA/FTA Grant Application Task and Element:** 44.24.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)				FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT	FFY12 Total Budget	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
800			\$800						800	

**MBTA 2011 NATIONAL TRANSIT DATABASE: PURCHASED BUS**



**STAFF:** Central Transportation Planning Staff

**CLIENT:** MBTA

**ID #:** 14318

**BUDGET:** \$23,900

**STATUS:** 95%

The objective of this project is to develop estimates of passenger boardings and passenger-miles for bus routes operated as part of the MBTA’s Suburban Transportation program and other contracted MBTA local bus service. The data that form the basis of the estimates will be collected through onboard ride checks. The MBTA will be submitting its SFY 2011 National Transit Database (NTD) estimates of passenger boardings and passenger-miles to FTA with the aid of CTPS. The final reports, however, will not be completed until FFY 2012.

**FFY 2012 Activities and Expected Work Products:** Staff will prepare a technical memorandum for the MBTA summarizing estimates of passenger-miles and boardings on purchased transportation services for SFY 2011 NTD reporting.

**FHWA/FTA Grant Application Task and Element:** 44.24.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)				FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT	FFY12 Total Budget	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
800			\$800						800	



**STAFF:** Central Transportation Planning Staff

**CLIENT:** MBTA

**ID #:** 14326

**BUDGET:** \$93,000

**STATUS:** 24%

The objective of this project is to develop estimates of passenger boardings and passenger-miles for directly operated bus, trackless trolley, heavy rail, and light rail services. The data that form the basis of the estimates will be collected through onboard ridechecks, station turnstile observations, and passenger surveys. The MBTA will be submitting its SFY 2012 National Transit Database estimates of passenger boardings and passenger-miles for various transit modes to FTA with the aid of CTPS. The final reports, however, will not be completed until FFY 2013.

**FFY 2012 Activities and Work Products:** Ridechecks will be conducted for the bus and trackless trolley portions of the SFY 2012 National Transit Database reporting. For heavy and light rail, origin-and-destination surveys will be conducted, and fare-mix data will be obtained. Staff will prepare a technical memorandum for the MBTA summarizing estimates of passenger boardings and passenger-miles for directly operated bus, trackless trolley, heavy rail, and light rail services for SFY 2012 NTD reporting.

**FHWA/FTA Grant Application Task and Element:** 44.24.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)				FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT	FFY12 Total Budget	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
69,000			\$69,000						69,000	

**MBTA 2012 NATIONAL TRANSIT DATABASE: PURCHASED BUS**



**STAFF:** Central Transportation Planning Staff

**CLIENT:** MBTA

**ID #:** 14325

**BUDGET:** \$23,900

**STATUS:** 2%

The objective of this project is to develop estimates of passenger boardings and passenger-miles for bus routes operated as part of the MBTA’s Suburban Transportation program and other contracted MBTA local bus service. The data that form the basis of the estimates will be collected through onboard ridechecks. The MBTA will be submitting its SFY 2012 National Transit Database (NTD) estimates of passenger boardings and passenger-miles to FTA with the aid of CTPS. The final reports, however, will not be completed until FFY 2013.

**FFY 2012 Activities and Expected Products:** A sampling plan will be developed to conduct full-route ridechecks of each private-carrier bus route. The ride-check data collected will include boardings and alightings by stop, fare box readings, trip-level travel times, departure and arrival times, and intermediate-stop arrival times. Staff will prepare a technical memorandum for the MBTA summarizing estimates of passenger-miles and boardings on purchased transportation services for SFY 2012 NTD reporting.

**FHWA/FTA Grant Application Task and Element:** 44.24.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
15,000			\$15,000						15,000	



**STAFF:** Central Transportation Planning Staff

**CLIENT:** MBTA

**ID #:** TBD

**BUDGET:** NA

**STATUS:** 20%

The objective of this project is to develop estimates of passenger boardings and passenger-miles for directly operated bus, trackless trolley, heavy rail, and light rail services. The data that form the basis of the estimates will be collected through onboard ridechecks, station turnstile observations, and passenger surveys. The MBTA will be submitting its SFY 2013 National Transit Database estimates of passenger boardings and passenger-miles for various transit modes to FTA with the aid of CTPS. The final reports, however, will not be completed until FFY 2014.

**FFY 2012 Activities and Work Products:** Ridechecks will be conducted for the bus and trackless trolley portions of the SFY 2013 National Transit Database reporting. For heavy and light rail, origin-and-destination surveys will be conducted, and fare-mix data will be obtained. Staff will prepare a technical memorandum for the MBTA summarizing estimates of passenger boardings and passenger-miles for directly operated bus, trackless trolley, heavy rail, and light rail services for SFY 2013 NTD reporting.

**FHWA/FTA Grant Application Task and Element:** 44.24.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)				FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT	FFY12 Total Budget	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
13,800			\$13,800						13,800	



**STAFF:** Central Transportation Planning Staff

**CLIENT:** MBTA

**ID #:** TBD

**BUDGET:** NA

**STATUS:** 2%

The objective of this project is to develop estimates of passenger boardings and passenger-miles for bus routes operated as part of the MBTA’s Suburban Transportation program and other contracted MBTA local bus service. The data that form the basis of the estimates will be collected through onboard ridechecks. The MBTA will be submitting its SFY 2012 National Transit Database (NTD) estimates of passenger boardings and passenger-miles to FTA with the aid of CTPS. The final reports, however, will not be completed until FFY 2013.

**FFY 2012 Activities and Expected Products:** A sampling plan will be developed to conduct full-route ridechecks of each private-carrier bus route. The ride check data collected will include boardings and alightings by stop, fare box readings, trip-level travel times, departure and arrival times, and intermediate-stop arrival times. Staff will prepare a technical memorandum for the MBTA summarizing estimates of passenger-miles and boardings on purchased transportation services for SFY 2012 NTD reporting.

**FHWA/FTA Grant Application Task and Element:** 44.24.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
5,000			\$5,000						5,000	

**MBTA BUS SERVICE DATA COLLECTION VII**



**STAFF:** Central Transportation Planning Staff

**CLIENT:** MBTA

**ID #:** 11369

**BUDGET:** \$453,900

**STATUS:** 75%

In order to assess bus service changes that are included in the biennial MBTA service plans, the MBTA requires ongoing data collection on its bus system. The data collected as part of this project also support future MBTA service plans, through which bus routes undergo comparative evaluations for cost-effectiveness, crowding, schedule adherence, and other indicators. Ridership data on surface Green Line routes will also be collected to update existing counts.

**FFY 2012 Activities and Expected Work Products:** CTPS will conduct pointchecks on bus routes and counts at Green Line surface stations, as requested by the MBTA for planning purposes.

**FHWA/FTA Grant Application Task and Element:** 44.24.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)				FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT	FFY12 Total Budget	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
114,000			\$114,000						114,000	



**MBTA BUS SERVICE DATA COLLECTION VIII**



**STAFF:** Central Transportation Planning Staff

**CLIENT:** MBTA

**ID #:** TBD

**BUDGET:** \$453,900

**STATUS:** 0%

In order to assess bus service changes that are included in the biennial MBTA service plans, the MBTA requires ongoing data collection on its bus system. The data collected as part of this project also support future MBTA service plans, through which bus routes undergo comparative evaluations for cost-effectiveness, crowding, schedule adherence, and other indicators. Ridership data on surface Green Line routes will also be collected to update existing counts.

**FFY 2012 Activities and Expected Work Products:** CTPS will conduct pointchecks on bus routes and counts at Green Line surface stations, as requested by the MBTA for planning purposes.

**FHWA/FTA Grant Application Task and Element:** 44.24.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)				FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT	FFY12 Total Budget	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
114,000			\$114,000						114,000	

## MBTA NEIGHBORHOOD MAPS



**STAFF:** Central Transportation Planning Staff

**CLIENT:** MBTA

**ID #:** 14328

**BUDGET:** \$21,000

**STATUS:** 0%

Using the latest mapping software and data, CTPS will create a neighborhood map showing streets, street names, building footprints, points of interest, and MBTA bus routes for each MBTA station. Each map will have a “You Are Here” designation at the station location, as well as a quarter-mile-radius ring depicting the distance of a 5-to-10-minute walk from the station.

**FFY 2012 Activities and Expected Work Products:** Production of draft maps for MBTA review and the transmission of final computer files to the MBTA.

**FHWA/FTA Grant Application Task and Element:** 44.24.01

### FFY 2012 Budget

FUNDING RECIPIENT(S)				FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT	FFY12 Total Budget	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
21,000			\$21,000						21,000	

**MBTA OPERATIONS SUPPORT**



**STAFF:** Central Transportation Planning Staff

**CLIENT:** MBTA

**ID #:** 11376

**BUDGET:** \$125,000

**STATUS:** 20%

CTPS will provide technical assistance to the MBTA in its review of the existing fare structure and tariffs, as well as the network of services currently provided. CTPS has provided this type of analytical support periodically by projecting the ridership, revenue, environmental, and socioeconomic impacts of proposed fare structure, tariff, and/or service changes. As in the past, CTPS will accomplish the analyses by relying on its regional travel-demand model, along with various other data sources and analysis tools.

**FFY 2012 Activities and Expected Work Products:** Activities and work products will depend on tasks requested by the MBTA.

**FHWA/FTA Grant Application Task and Element:** 44.24.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)				FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT	FFY12 Total Budget	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
100,000			\$100,000						100,000	

**MBTA RIDER OVERSIGHT COMMITTEE SUPPORT**



**STAFF:** Central Transportation Planning Staff

**CLIENT:** MBTA

**ID #:** 14303

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

The MBTA general manager established a Rider Oversight Committee (ROC) in 2004 to provide ongoing public input on a number of different issues, including strategies for increasing ridership, development of new fare structures, and prioritization of capital improvements.

**FFY 2012 Activities and Expected Work Products:** CTPS will continue to provide technical assistance to the MBTA Rider Oversight Committee and attend committee and subcommittee meetings.

**FHWA/FTA Grant Application Task and Element:** 44.21.02

**FFY 2012 Budget**

FUNDING RECIPIENT(S)				FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT	FFY12 Total Budget	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
4,900			\$4,900						4,900	

**STAFF:** Central Transportation Planning Staff**CLIENT:** Boston Region Metropolitan Planning Organization**ID #:** 11379**BUDGET:** \$30,000**STATUS:** 0%

The purpose of this study is to document trends over time for information gathered through systemwide passenger surveys. During the 2008 and 2009 survey, CTPS collected data from passengers on all MBTA bus, rail rapid transit, light rail, commuter rail, and water transportation routes. The results were presented in 17 volumes, which are available as PDF files on the MPO website. Due to time and budget constraints, these reports do not include a comparison of the results of the 2008–09 surveys with those of prior surveys on the same services. Surveys on most of the commuter rail system had last been done in 1993. The rail rapid transit and light rail lines had been surveyed in 1994, the bus system in 1995, the Old Colony commuter rail lines in 1998, and water transportation services in 2000.

Comparisons of the results of the 2008–09 surveys with those of prior surveys will show whether there have been significant changes in characteristics of MBTA riders and their use of the system since the 1990s. This information will be useful for transportation-planning purposes. In addition, if there have not been significant changes, this suggests that the 2008–09 results can be relied on for planning purposes for many years. If there have been significant changes, this suggests that surveys should be conducted at more frequent intervals to allow the MBTA to make service changes consistent with the changing needs of riders.

**FFY 2012 Activities and Expected Work Products:** Summary tables for each transit service included in the 2008–09 survey will be compared with corresponding summary tables from the most recent prior surveys for the same routes/lines, and any significant differences will be noted.

Findings will be presented in a series of technical memoranda that will include recommendations on aspects of service for which more frequent data collection or different data collection methods are needed to improve the accuracy of information used for planning purposes.

**MBTA SYSTEMWIDE PASSENGER SURVEY: COMPARISON OF RESULTS (CONT.)**



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 11379

**BUDGET:** \$30,000

**STATUS:** 0%

**FHWA/FTA Grant Application Task and Element:** 44.24.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
30,000			\$30,000		30,000					

## MBTA TITLE VI PROGRAM MONITORING



**STAFF:** Central Transportation Planning Staff

**CLIENT:** MBTA

**ID #:** TBD

**BUDGET:** TBD

**STATUS:** 0%

CTPS will provide the MBTA with technical assistance in collecting data on, and conducting assessments of, comparative service quality in targeted minority and low-income communities versus nonminority and non-low-income communities. Data on service indicators such as crowding, schedule adherence, bus shelter placement, shelter and station condition, scheduled service frequency, service coverage, access to key destinations, vehicle age and condition, and parking facilities will be gathered and used in the assessments. These activities will help to fulfill annual monitoring required as part of the MBTA Title VI program. The results of the analyses will be reported internally at the MBTA and folded into future triennial FTA reporting.

**FFY 2012 Activities and Work Products:** CTPS will provide documentation of selected level-of-service evaluations for FFY 2012 MBTA revenue service and amenities, and will prepare a summary report for the MBTA.

**FHWA/FTA Grant Application Task and Element:** 44.24.01

### FFY 2012 Budget

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
50,000			\$50,000				50,000			



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 11142

**BUDGET:** \$30,000

**STATUS:** 0%

This study of freight activities in the MPO area will advance the recommendations of the Massachusetts Department of Transportation's State Freight and Rail Plan and build upon the MPO Freight Study initiated in FFY 2010. One purpose of the MPO study initiated in FFY 2010 is to collect data that will help the MPO address freight problems in the region that are identified in the Statewide Freight and Rail Study, and also identified during the development of the MPO's Long-Range Transportation Plan (LRTP).

The draft state plan, presented at public meetings in March 2010, indicates that the MPO studies may focus on improving truck and rail access to the port in South Boston, and make recommendations on how a greater share of freight in the region may be moved by rail, air, and water. The products of both parts of the MPO Freight Study may also provide additional information needed for understanding and evaluating existing and projected freight activities in the region, and possible identification of freight projects for consideration by the MPO, MassDOT, and other agencies involved in environmental issues and economic development. This project may also identify applicable programs for consideration in the LRTP and the Transportation Improvement Program (TIP), and improve and expand upon the methods by which projects are evaluated for their effect on freight transportation. Another possible contribution of Phase II will be support for an Industrial Rail Access Program in Massachusetts by identifying industrial sites in the region. This type of review would identify industrial sites that are, or could be, served by rail, and rail infrastructure that should be preserved for this purpose.

**FFY 2012 UPWP Activities and Expected Work Products:** Following the completion of Phase I of the MPO's Freight Study, staff will prepare a work scope for Phase II that will further the recommendations and findings of Phase I and present it to the MPO for approval. A technical memorandum will be completed in FFY 2012. Additionally, the memoranda from Phases I and II may be combined into a report.



**MPO FREIGHT STUDY, PHASE II (CONT.)**



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 11142

**BUDGET:** \$30,000

**STATUS:** 0%

**FHWA/FTA Grant Application Task and Element:** 44.24.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
30,000			\$30,000	30,000						

**PAVEMENT MANAGEMENT SYSTEM DEVELOPMENT**



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 13254

**BUDGET:** \$62,500

**STATUS:** 0%

Discussions are underway both with MARPA’s Pavement Management Subcommittee and MassDOT on possible methods for conducting in FFY 2012 a study that identifies the cost of maintaining MPO municipality-maintained (non-MassDOT maintained) federal-aid arterial roadways and urban collectors in the MPO region for use in developing the Long Range Transportation Plan (LRTP), presently under development. Starting with the FFY 2011 UPWP, federal input to the subcommittee indicates that Massachusetts MPOs must develop a comprehensive Pavement Management System to be fully operational for cost-data input on municipally maintained federal-aid (FA) roadways in the 2040 LRTP. Depending on the resources allocated, it would take five years to collect data for the more than 3,000 centerline miles in our region’s federal-aid system. The pavement management system would estimate the cost required to bring all the FA MPO roadways to a “good-to-excellent” condition. Presently, based on a 34 percent sample of mostly state-numbered roadways, only 6 percent of the MPO FA network centerline miles are in excellent condition (it is likely that this statistic is lower for non-state-numbered roadways, typically maintained by municipalities). The rest, about 30 percent in each category, are in good, fair, or poor condition.

**FFY 2012 Activities and Expected Work Products:**

- Defining Pavement Management System (PMS) study area
- Defining goals and objectives that match the policies, goals, and objectives of the LRTP

**FHWA/FTA Grant Application Task and Element:** 44.24.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)				FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT	FFY12 Total Budget	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
62,500			\$62,500	62,500						



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 14327

**BUDGET:** \$20,000

**STATUS:** 0%

The MPO has a policy of supporting transit services and taking steps to reduce single-occupant travel in the region. The Clean Air and Mobility Program and its predecessor, the Suburban Mobility Program, have provided funding for transit services around the region. In addition, regional transportation authorities (RTAs) in the region have asked for and been provided with technical support for service planning in their service areas. This project will continue the MPO’s current offering of technical support to RTAs to promote best practices and assist in problem solving in their service planning. It will also extend support to TMAs and municipalities seeking to improve existing transit services they operate or fund. This project will support the MPO’s policies with the goal of assisting others in planning transit services that better address the issues of ridership, cost-effectiveness, and other service characteristics.

**FFY 2012 Activities and Expected Work Products:** Staff will provide assistance to the RTAs in implementing study recommendations.

**FHWA/FTA Grant Application Task and Element:** 44.24.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
20,000			\$20,000		20,000					

**STAFF: Central Transportation Planning Staff****CLIENT: Boston Region Metropolitan Planning Organization****ID #: 13252****BUDGET: \$40,000****STATUS: 99%**

Presently, the MassDOT Highway Division does not have a concrete, consistent policy that would govern the design and construction of roundabouts, and a study such as this would make recommendations for the development of an appropriate policy. This is especially important for federally funded roundabout designs, which typically include state numbered routes, major and minor arterials and collectors.

Roundabouts can be a more efficient and safer way to manage traffic at unsignalized intersections and sometimes at signalized intersections. If the conditions are right for a roundabout treatment, designing an intersection in this manner can increase its processing capacity. Demand for roundabouts throughout the state has risen in the last decade.

The purpose of this study is to develop screening planning tools for the Highway Division's use when its staff reviews proposals for the construction of roundabouts. Some of the questions that this study will attempt to answer include:

- Desirable/optimum traffic volume conditions for considering a roundabout design, instead of a signalized intersection design
- Conditions for which a two-lane roundabout should be constructed
- Range of left-turn traffic volumes for which a roundabout treatment would be appropriate
- Appropriateness of roundabouts as speed-control devices
- Accommodation of bicyclists and pedestrians when an intersection is designed as a roundabout

MPO staff will be responsible for this study and will work closely with MassDOT's Highway Division and Office of Transportation Planning. Work will include a review of other states' guidelines on screening tools for considering roundabouts; identification of location and traffic characteristics under which a roundabout would be appropriate; and a recommendation on a procedure/policy for considering a roundabout as a viable intersection treatment at certain locations.

**ROUNABOUT INSTALLATION SCREENING TOOL (CONT.)**



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 13252

**BUDGET:** \$40,000

**STATUS:** 99%

**FFY 2012 Activities and Expected Work Products:** The product of this study will be a roundabout planning guide for screening the locations under consideration for roundabout design for various roadway classifications in the commonwealth.

**FHWA/FTA Grant Application Task and Element:** 44.24.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
700			\$700	700						



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 13153

**BUDGET:** \$36,500

**STATUS:** 0%

This study will identify relatively low-cost, quick-implementation measures that can significantly improve pedestrian and bicyclist access at 10 locations in the MBTA system. The study will focus both on stations with high crash rates, indicating safety problems, and on stations with high densities of nearby population and employment but low rates of pedestrian and bicycle access, indicating access problems. An initial list of high-priority transit stations will be identified through a combination of factors, including existing ridership survey results, bicycle parking utilization data, nearby population and employment densities, and pedestrian and bicycle counts. A GIS analysis will then be performed, identifying crashes that have occurred within a one-mile radius of these stations. The analysis will make it possible to produce a list of the top 25 access-impeded transit stations for bicyclists and pedestrians.

City and town officials, as well as the MBTA, will be surveyed in order to determine the accuracy of the list of high-crash locations, the potential for possible improvements, the existence of other local safety problems for bicyclists and pedestrians, and any other concerns. Selection priority of 6–7 stations will include the municipality’s intention to implement improvements at or in the area immediately surrounding the stations being studied. A qualitative analysis for each of the 10 selected stations will be sent to the relevant cities and towns for their consideration in design and implementation, and will also be shared with the MBTA. The study could also be used by cities, towns, and the MBTA to prioritize safety improvements and justify the use of safety funds, and by the Boston Region MPO to make recommendations for safety improvements.

**FFY 2012 Activities and Expected Work Products:**

Activities associated with this project will be conducted as described above, and a report with detailed maps and graphics will be prepared in FFY 2012.

**FHWA/FTA Grant Application Task and Element:** 44.24.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)				FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT	FFY12 Total Budget	PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
36,500			\$36,500	8,300	28,200					

**TIP PROJECT IMPACTS BEFORE-AFTER EVALUATION**



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 12202

**BUDGET:** \$30,000

**STATUS:** 0%

This will be a pilot study to identify the effectiveness of TIP projects. Measuring project effectiveness is important in order to know whether the employed strategies work well and are therefore suitable for application in similar situations.

To this end, staff will select TIP projects that are programmed for construction during the spring of 2012. It is likely that only traffic and operations projects will be selected, as the construction period of projects in this category is shorter than for other projects, such as the construction of freeway interchanges. The “before” data will be collected in the early spring 2012, before a selected project begins. The “after” data will be collected upon project completion, which may be later than 2012.

The type of “before” and “after” data that staff will collect depends on the nature of the project. For traffic management and operations it is likely that traffic flow, speed, delay, and safety information will be collected. If budget allows, the level-of-service and air quality information will also be calculated for the “before” and “after” conditions. Staff will compare the two sets of data and draw conclusions.

**FFY 2012 Activities and Expected Work Products:**

Activities associated with this project will be conducted as described above, and a report documenting the study results will be prepared in FFY 2012.

**FHWA/FTA Grant Application Task and Element:** 44.24.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
30,000			\$30,000	28,500	1,500					

## TRAVEL DATA FORECASTS



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 90080

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

In the vast majority of requests for additional transportation planning and traffic engineering analysis, the amount of effort is significant and a specific scope of work is developed for those projects. Occasionally requests, including various quick response analyses and data requests for MBTA and MassDOT, and their consultants, will come to CTPS that require only a modest effort for CTPS to complete. Accounting for those requests, which are expected to be less than two-person weeks per request, is done under a generic project description.

### FFY 2012 Activities and Expected Work Products:

Work products will depend on the tasks requested by the MPO agencies, the general public, and consultants.

**FHWA/FTA Grant Application Task and Element:** 44.24.01

### FFY 2012 Budget

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
10,000			\$10,000	6,800	3,200					



## TRAVEL OPERATIONS ANALYSIS



**STAFF:** Central Transportation Planning Staff

**CLIENT:** Boston Region Metropolitan Planning Organization

**ID #:** 90040

**BUDGET:** Not applicable to ongoing projects

**STATUS:** Ongoing

Through the performance of various planning studies for the MBTA, CTPS has accumulated a large amount of ridership, revenue, and service data. This project involves performing various short-term analyses using the available data, upon request.

**FFY 2012 Activities and Expected Work Products:** CTPS will respond to data requests from public agencies, municipalities, and members of the public.

**FHWA/FTA Grant Application Task and Element:** 44.24.01

**FFY 2012 Budget**

FUNDING RECIPIENT(S)			FFY12 Total Budget	FUNDING SOURCE(S)						
CTPS	MAPC	MassDOT		PL	MPO \$5303	SPR	MassDOT	MassDOT \$5303	MBTA	Other
10,000			\$10,000	6,800	3,200					



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## 8 BOSTON REGION MPO BUDGET AND OPERATING SUMMARIES

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This chapter contains overall budget information by recipient agency and by funding source for the projects listed in the previous chapters. The information is presented according to the same UPWP categories used in those chapters:

Administration and Resource Management Projects	\$832,200
Certification Requirements	2,475,000
Planning Studies	1,111,800
Technical Support/Operations Analysis Projects	<u>2,091,500</u>
<i>Total</i>	\$6,510,500

Funding for the MPO projects in this UPWP comes from the following sources, which are described in Chapter 1:

FHWA 3C Planning (PL) and MassDOT Local Match	\$3,286,300
FHWA Statewide Planning and Research (SPR) and MassDOT Local Match	500,000
FTA/MassDOT, MAPC, and MBTA, with Local Match to Section 5303	1,874,500
MassDOT	330,000
MBTA	460,500
Other	<u>59,200</u>
<i>Total</i>	\$6,510,500

On the following pages, the funding information presented in the preceding chapters is summarized in four tables. The final UPWP will include these tables followed by a one-page summary showing the entire budget by recipient agency and funding source, tables showing the grant application categories for Section 5303 funding, and schedule and staff assignments for CTPS projects in this UPWP. The purpose of these summaries is to assist federal and state contract administrators in reviewing the overall budget in detail.

**FFY 2012 UNIFIED PLANNING WORK PROGRAM BUDGET SUMMARIES  
ADMINISTRATION AND RESOURCE MANAGEMENT PROJECTS**

Project	Funding Recipient(s)			FFY 12 Total Budget	Funding Source(s)						
	CTPS	MAPC	Mass DOT		PL	MPO \$5303	SPR	Mass DOT	Mass DOT \$5303	MBTA	Other
Computer Resource Management	325,000			\$325,000	221,300	103,700					
Data Resources Management	425,000			\$425,000	289,400	135,600					
Direct Support	82,200			\$82,200	37,000	23,000	14,000		6,000	2,200	
<b>Total</b>	\$832,200			\$832,200	\$547,700	\$262,300	\$14,000		\$6,000	\$2,200	

**FFY 2012 UNIFIED PLANNING WORK PROGRAM BUDGET SUMMARIES  
CERTIFICATION REQUIREMENTS**

Project	Funding Recipient(s)			FFY 12 Total Budget	Funding Source(s)						
	CTPS	MAPC	Mass DOT		PL	MPO \$5303	SPR	Mass DOT	Mass DOT \$5303	MBTA	Other
3C Planning and MPO Support	676,000			\$676,000	460,200	215,800					
Air Quality Conformity Determinations	23,000			\$23,000	15,700	7,300					
Air Quality Support Activity	36,000			\$36,000	24,500	11,500					
Boston Region MPO Title VI Reporting	10,000			\$10,000	6,800	3,200					
Disability Access Support	87,000			\$87,000	59,200	27,800					
Long-Range Transportation Plan	215,000			\$215,000	146,400	68,600					
MPO/MAPC Liaison and Support Activities		160,000		\$160,000	112,000	48,000					
Regional Model Enhancement	770,000			\$770,000	524,400	245,600					
Subregional Support Activities		160,000		\$160,000	112,000	48,000					
Transportation Equity/Environmental Justice Support	107,000			\$107,000	72,900	34,100					
Transportation Improvement Program (CTPS)	151,000			\$151,000	102,800	48,200					
Unified Planning Work Program (CTPS)	70,000			\$70,000	47,700	22,300					
Unified Planning Work Program (MAPC)		10,000		\$10,000	7,000	3,000					
<b>Total</b>	<b>\$2,145,000</b>	<b>\$330,000</b>		<b>\$2,475,000</b>	<b>\$1,691,600</b>	<b>\$783,400</b>					

**FFY 2012 UNIFIED PLANNING WORK PROGRAM BUDGET SUMMARIES  
PLANNING STUDIES**

Project	Funding Recipient(s)			FFY 12 Total Budget	Funding Source(s)							
	CTPS	MAPC	Mass DOT		PL	MPO \$5303	SPR	Mass DOT	Mass DOT \$5303	MBTA	Other	
2011–12 i-93 North and Southeast Xway HOV Lane Monitoring	65,000			\$65,000			65,000					
Bicycle Network Evaluation	31,000	20,000		\$51,000	31,100	19,900						
Bicycle/Pedestrian Support Activities	50,000			\$50,000	34,100	15,900						
Congestion Management Process	215,000			\$215,000	146,400	68,600						
Corridor/Subarea Planning Studies: Land Use Reviews		115,000		\$115,000	76,000	39,000						
Green Line Extension FEIR	55,000			\$55,000				55,000				
Green Line SIP Mitigation Strategies	20,000			\$20,000				20,000				
I-495 Land Use Study	21,000			\$21,000								21,000
Land Use Development Project Reviews		80,000		\$80,000	52,800	27,200						
Massport Technical Assistance State FY 2011–12	37,500			\$37,500								37,500
MBTA Bus Route 1 Transit Signal-Priority Study	1,000			\$1,000		1,000						
Priority Corridors for LRTP Needs Assessment	120,600			\$120,600	120,600							
Regional HOV-Lane System Planning Study	30,000			\$30,000	20,400	9,600						
Regional Vision Implementation: MetroFuture		125,000		\$125,000	84,000	41,000						
Safety and Operations Analyses at Selected Intersections	70,000			\$70,000	47,700	22,300						
South Coast Commuter Rail Extension	55,000			\$55,000				55,000				
Wellesley Transit Study	700			\$700								700
<b>Total</b>	\$771,800	\$340,000		\$1,111,800	\$613,100	\$244,500	\$65,000	\$130,000				\$59,200

**FFY 2012 UNIFIED PLANNING WORK PROGRAM BUDGET SUMMARIES  
TECHNICAL SUPPORT/OPERATIONS ANALYSIS PROJECTS**

Project	Funding Recipient(s)			FFY 12 Total Budget	Funding Source(s)						
	CTPS	MAPC	Mass DOT		PL	MPO \$5303	SPR	Mass DOT	Mass DOT \$5303	MBTA	Other
Alternative-Mode Planning and Coordination		179,600		\$179,600	113,800	65,800					
Analysis of JARC and New Freedom Projects	20,000			\$20,000		20,000					
Community Transportation Technical Assistance Program	40,000	30,000		\$70,000	42,200	27,800					
Emergency Evacuation & Hazard Mapping - Phase II	15,000			\$15,000	10,200	4,800					
Freight Survey	21,000			\$21,000	21,000						
Impacts of Walking Radius/Transit Frequency & Reliability	20,000			\$20,000		20,000					
Integrating Land Use in Regional Transportation Models	30,000	50,000		\$80,000	53,800	26,200					
Intercity Bus Study	65,000			\$65,000				65,000			
Livable Communities Workshop Program	60,000	15,600		\$75,600	49,300	26,300					
MassDOT Statewide Planning & Research Program Support	421,000			\$421,000				421,000			
MassDOT Title VI Program	85,000			\$85,000				85,000			
MassDOT Transit Planning Assistance	301,300			\$301,300				301,300			
MBTA 2011 National Transit Database: Directly Operated	800			\$800						800	
MBTA 2011 National Transit Database: Purchased Bus	800			\$800						800	
MBTA 2012 National Transit Database: Directly Operated	69,000			\$69,000						69,000	
MBTA 2012 National Transit Database: Purchased Bus	15,000			\$15,000						15,000	
MBTA 2013 National Transit Database: Directly Operated	13,800			\$13,800						13,800	

**FFY 2012 UNIFIED PLANNING WORK PROGRAM BUDGET SUMMARIES  
TECHNICAL SUPPORT/OPERATIONS ANALYSIS PROJECTS (CONT.)**

Project	Funding Recipient(s)			FFY 12 Total Budget	Funding Source(s)						
	CTPS	MAPC	Mass DOT		PL	MPO \$5303	SPR	Mass DOT	Mass DOT \$5303	MBTA	Other
MBTA 2013 National Transit Database: Purchased Bus	5,000			\$5,000						5,000	
MBTA Bus Service Data Collection VII	114,000			\$114,000						114,000	
MBTA Bus Service Data Collection VIII	114,000			\$114,000						114,000	
MBTA Neighborhood Maps	21,000			\$21,000						21,000	
MBTA Operatios Support	100,000			\$100,000						100,000	
MBTA Rider Oversight Committee Support	4,900			\$4,900						4,900	
MBTA Systemwide Passenger Survey: Comparison of Results	30,000			\$30,000		30,000					
MBTA Title VI Program Monitoring	50,000			\$50,000				50,000			
MPO Freight Study - Phase II	30,000			\$30,000	30,000						
Pavement Management System Development	62,500			\$62,500	62,500						
Regional Transit Service Planning Technical Support	20,000			\$20,000		20,000					
Roundabout Installation Screening Tool	700			\$700	700						
Safe Access to Transit for Pedestrians and Bicyclists	36,500			\$36,500	8,300	28,200					
TIP Project Impacts Before-After Evaluation	30,000			\$30,000	28,500	1,500					
Travel Data Forecasts	10,000			\$10,000	6,800	3,200					
Travel Operations Analysis	10,000			\$10,000	6,800	3,200					
<b>Total</b>	<b>\$1,816,300</b>	<b>\$275,200</b>		<b>\$2,091,500</b>	<b>\$433,900</b>	<b>\$277,000</b>	<b>\$421,000</b>	<b>\$200,000</b>	<b>\$301,300</b>	<b>\$458,300</b>	



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## **APPENDIX A**

### **OTHER BOSTON REGION TRANSPORTATION-PLANNING PROJECTS**

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This appendix consists of brief descriptions of planning studies that will be conducted in the Boston Region MPO area by individual agencies, such as MassDOT and the MBTA. MPO funding will not be used for these studies, although in certain instances an agency or one of its consultants may contract with MPO staff (CTPS) to provide support work for the preparation of an environmental-impact report or a large-scale study. For these projects, CTPS support work is described in Chapters 4 through 7, with a cross-reference to the project listing in this appendix. Likewise, projects listed in this appendix indicate whether there is a CTPS component. An example of this is the Green Line Green Line Extension Environmental Review; CTPS support work is described in Chapter 6, and the MassDOT project itself is presented in this appendix. The projects in this appendix are not subject to the MPO's public participation process. Rather, they follow their own public processes with established citizen advisory committees, as required by the Massachusetts Environmental Policy Act (MEPA). They are included here to provide a more complete picture of all the surface-transportation planning projects occurring in the region.

#### **Casey Overpass Bridge Project**

**Agency: MassDOT**

The Monsignor William J. Casey Overpass is the elevated section of Route 203 connecting the Arboretum at the Arborway, over Washington and South Streets and the Southwest Corridor, to Shea Circle at Franklin Park and the Forest Hills Cemetery in the Jamaica Plain neighborhood in the City of Boston. The overpass is located directly adjacent to the Forest Hills MBTA station. It currently carries less traffic than in recent years, with approximately 24,000 vehicles per day.

The overpass is structurally deficient and suffers from numerous superstructure and substructure problems due to a combination of deterioration and flaws in the original design. The structure has deteriorated to the point where it can no longer be maintained, and as part of the Accelerated Bridge Program, funding is now available to take a fresh look at the connections and to reexamine the opportunities for an improved transportation network to provide better access in and around this area. The study will work to identify safe, accessible, multimodal landscape, streetscape, and transportation options to accommodate all modes of transportation.

#### **Charles River Basin Bridge Projects**

**Agency: MassDOT**

As part of the Accelerated Bridge Program, over \$400 million in funding has been allocated to improving the conditions of structurally deficient bridges in the Lower Basin area of the Charles River. Created 90 years ago from tidal marshes and mud flats, the Charles River Basin operates as a complex transportation and linkage system. This area serves as a host to many historic and natural resources, including parks, shared-use pathways, public boat landings, boat houses, recreational facilities, and leading higher-educational institutions. Bridge rehabilitation projects currently under construction or in design include the Craigie Dam Bridge and Craigie

Drawbridge, Longfellow Bridge, Boston University Bridge, Western Avenue Bridge, River Street Bridge, Anderson Memorial Bridge, and Magazine Street Pedestrian Bridge.

The historic Charles River Basin bridges provide critical connections in and out of Boston for a wide range of users, including businesses, universities, hospitals, bicyclists, pedestrians, and drivers. The bridges are important evacuation routes and serve countless recreational users along the Charles River.

### **Downtown Framingham Traffic Impact Analysis**

**Agency: MassDOT**

The Towns of Framingham and Ashland are concurrently developing projects to improve access across the CSX Boston Line/MBTA Worcester Line through their respective communities. Many major roads used for north–south travel in each community cross the railroad at grade and are significantly disrupted by the frequent crossings of CSX freight, MBTA commuter rail, and Amtrak trains along the railroad corridor. These disruptions have a negative effect on each community’s quality of life, public safety, and economic development.

MassDOT’s Highway Division and Office of Transportation Planning are conducting a study of the area as part of an Environmental Notification Form (ENF). The purpose of the study is to evaluate the impacts that several proposed modifications of the rail crossing intersections would have on traffic congestion and travel patterns in the downtown Framingham area.

### **Fairmount Line Sustainable Development Partnership**

**Agency: MassDOT/MBTA**

The MBTA and MassDOT are engaged in a joint effort involving neighborhood community groups, the City of Boston, the U.S. Environmental Protection Agency, and the U.S. Department of Housing and Urban Development to coordinate planning and programming within the Fairmount Corridor.

### **Fenway-Longwood-Kenmore Transportation Action Plan**

**Agency: City of Boston**

This study involves identifying land use, transportation, and urban design goals for the East and West Fenway. The West Fenway Plan includes two major components: a Transportation Plan, and Land Use and Urban Design Guidelines for two special study areas (Brookline Avenue/Lansdowne Street and Boylston Street). The East Fenway Plan addresses five categories: land use, institutions, housing and economics, transportation, and urban design.

### **Government Center Modernization/Accessibility**

**Agency: MBTA**

The MBTA is in the design phase and project development for capital investment at Government Center. Planning works involves assessment of construction-schedule options including modeling of ridership impacts during the projected construction period.

### **Green Line Extension Environmental Review**

**Agency: MassDOT/MBTA**

An extension of Green Line service from a relocated Lechmere Station through Cambridge to Somerville and Medford is a legal commitment under the amended State Implementation Plan. This effort involves the development of state and federal environmental review documents. For more information about this project, go to [www.mass.gov/greenlineextension](http://www.mass.gov/greenlineextension).

*See Chapter 6 for related work being conducted by CTPS.*

### **Green Line Mystic Valley Parkway Community Visioning**

**Agency: MAPC**

The Metropolitan Area Planning Council (MAPC) is working with the cities of Medford and Somerville to gather community input on the possibility of extending the Green Line to Mystic Valley Parkway/Route 16, and to study potential land uses and transit-oriented developments in the area. The planning study is funded by the Massachusetts Department of Transportation (MassDOT), which will be actively involved in the process, along with the MBTA. MAPC will lead the community visioning process and examine how a future Mystic Valley Parkway station could foster transit-oriented development in the area, while minimizing negative impacts to the local community.

### **Green Line Positive Train Control Study**

**Agency: MBTA**

The Green Line Positive Train Control Study will provide the initial groundwork needed to determine which of the various forms of Positive Train Control (PTC), including vehicle-based collision avoidance systems, would be most appropriate for the MBTA's Green Line Light Rail network. The purpose of this project is to identify the proper technology(ies) that will reduce or eliminate the type of collisions that the Green Line has experienced, while working within the MBTA's current operating parameters. It is anticipated that this analysis will provide information which will increase the safety of the MBTA Green Line. This project will be funded with \$1 million in Federal Transit Administration Section 5307 funds and an additional \$250,000 in matching funds from the MBTA.

### **Grounding McGrath – Determining the Future of Route 28**

**Agency: MassDOT**

MassDOT is conducting a transportation study of the Route 28 corridor in the cities of Somerville and Cambridge. The purpose of the study is to evaluate the current usage of the McGrath/O'Brien Highway that goes beyond the analysis from the Central Transportation Planning Staff's "*Toward a Route 28 Corridor Transportation Plan: An Emerging Vision,*" and looks at traffic from a post-Central Artery Project perspective.

This effort offers MassDOT and the general public the opportunity to consider the future use and impacts of potential removal of elevated portions of the roadway within the City of Somerville and to enhance access for all modes of travel. The Grounding McGrath Study will seek to not only balance the needs of all transportation users, but to facilitate connections along the corridor, and encourage development that will have a positive impact on the neighborhoods and the region as a whole.

### **Harrison–Albany Corridor Strategic Plan**

**Agency: City of Boston**

The study area for the "Harrison-Albany Corridor Strategic Plan" is bounded by the Massachusetts Turnpike to the east, Albany Street/Southeast Expressway/Massachusetts Avenue Connector to the south; generally Massachusetts Avenue to the west; and generally Washington Street/Harrison Avenue to the north. The area is currently home to a diversity of land uses including light industrial, wholesale distribution, medical, commercial, and small pockets of residential. Additionally, the presence of underutilized and vacant land parcels poses an

opportunity for significant development. The desired outcome will be a strategic plan to guide future development within the study area so that it meets the needs of the diverse community in a way that does not jeopardize existing neighborhood uses.

### **I-495/Route 9 Interchange Study**

**Agency: MassDOT**

MassDOT is conducting a study to analyze existing and future safety and capacity deficiencies at the interchange of Interstate 495 and Route 9. Because the I-495/Route 90 interchange falls within the physical limits of the primary interchange, its safety and capacity deficiencies will also be analyzed as part of this study. These interchanges and the connecting segment of Interstate 495 act as one network, with congestion at one interchange impacting the other.

### **Intelligent Transportation Systems: Development and Implementation**

**Agency: MassDOT**

MassDOT is engaged in planning, developing, and implementing intelligent transportation systems (ITS) to more effectively operate the transportation system in Massachusetts. MassDOT's Office of Transportation Planning conducts ITS planning described in the State Planning and Research Program – Part I. Current planning activities include implementing a statewide ITS planning program; developing a statewide ITS strategic plan; maintaining and updating the regional ITS architectures for metropolitan Boston and other regions within the state; increasing awareness of ITS within the transportation community and among related stakeholders; planning activities in support of the use of ITS as a tool to improve system performance and function; and providing assistance in planning for the use of ITS for all modes.

MassDOT's Highway Division established the ITS Programs Unit within the Statewide Operations Division to design, develop, implement, and maintain ITS systems on our state highway system. The ITS Programs Unit works with consultants and contractors on these rapidly evolving technologies. Current activities in the Boston region include operation of the Statewide Traffic Operations Center in South Boston, operation of the high-occupancy-vehicle (HOV) lanes on I-93 into Boston from the north and south, expansion of the transportation communications system, operation of the Massachusetts Interagency Video Information System (MIVIS) and advanced traveler-information system, and development of an Advanced Transportation Management System.

### **Massachusetts Turnpike Corridor Plan (Boston Extension)**

**Agency: MassDOT**

MassDOT's Office of Transportation Planning is leading an effort to conduct a thorough review of the Massachusetts Turnpike Boston Extension corridor. The review will include an examination of current and proposed transportation and land use projects, the status of existing bridge infrastructure conditions (state of good repair), and a review of any planning studies covering the corridor. In addition to Turnpike infrastructure, the review will also include a summary of proposed tolling technologies, passenger and freight rail interrelationships with the Turnpike corridor, other significant transportation projects crossing the corridor, and the status of non-Turnpike key bridges directly impacting the corridor.

**Massachusetts Turnpike – Boston Ramps Study****Agency: MassDOT**

The goal of this study is to investigate the potential for new or revised access between Massachusetts Turnpike Extension (I-90) to the regional express highway network in the City of Boston along the segment between Commonwealth Avenue in Allston and Interstate 93 in Chinatown. These new connections would help address the traffic congestion caused by the economic growth in the Back Bay, Longwood Medical Area (LMA), Fenway, and Seaport District neighborhoods in the city of Boston.

**Pre-Disaster Mitigation Planning:****Agency: MAPC**

MAPC will assist 17 cities and towns to reduce their vulnerability to multiple natural hazards through the development and updating of regional and local Pre-Disaster Mitigation (PDM) Plans, which will include communities on North Shore, South Shore, and Inner Core. Work will include updating the FEMA-approved PDM plans for nine North Shore and ten South Shore communities, in order to have the plans renewed by FEMA for another five years, and maintain the eligibility of these communities for FEMA hazard mitigation grants. Pending MEMA grant approval, update the FEMA-approved Hazard Mitigation Plans for eight Inner Core communities, including Boston, Brookline, Cambridge, Chelsea, Everett, Malden, Medford, and Somerville. Work will also include mapping and describing natural hazards that affect each community, developing a comprehensive database and GIS map coverage of critical facilities, repetitive flood loss structures, anticipated future land use, summary of existing protection measures, including structural and non-structural measures, vulnerability analyses for flooding, hurricanes, and earthquakes. And finally, assisting communities in developing local mitigation strategies for identified natural hazards; generate detailed local and regional recommendations that can be undertaken by municipalities to limit loss of life, injury, and property damage during natural disasters; assess progress in implementing mitigation strategies.

**Red Line–Blue Line Connector Study****Agency: MassDOT/MBTA**

The design for this project is a legal commitment under the amended State Implementation Plan. It involves the development of a DEIR/DEIS and engineering documents for a 0.4-mile extension of the Blue Line from Bowdoin Station to Charles/MGH Station on the Red Line. Visit [www.eot.state.ma.us/redblue](http://www.eot.state.ma.us/redblue) for more information on this study.

**Region One University Transportation Center:  
Universities Research Program****Colleges and Universities**

Research programs involving educational institutions such as Harvard University, the Massachusetts Institute of Technology, and the University of Massachusetts are conducted at the Region One University Transportation Center. For further information on specific projects, contact Paula Magliozzi at (617) 253-0753.

**Roxbury/Dorchester/Mattapan Transit Needs Study****Agency: MassDOT/MBTA**

The Massachusetts Department of Transportation (including the MBTA) is studying public transportation needs and potential improvements in Roxbury, Dorchester, Mattapan and portions of the South End. The Roxbury / Dorchester / Mattapan (RDM) Transit Needs Study will

identify strategies - from improving bus service to building new transit lines - that can guide future investment in the corridor. The RDM Study Area consists primarily of those sections of Roxbury, Dorchester and Mattapan (as well as a portion of the South End) that are not within walking distance (one half-mile) of rapid transit stations on the MBTA's Red or Orange Lines.

### **South Coast Rail Project**

**Agency: MassDOT/MAPC/MBTA**

MassDOT and the MBTA are developing state and federally required environmental review documents and a smart-growth corridor plan for the South Coast Rail project, which would restore passenger rail service between the cities of Fall River and New Bedford and downtown Boston. The project includes the construction of passenger stations and terminal layover facilities. The Metropolitan Area Planning Council (MAPC) is assisting MassDOT and the MBTA with land use planning for this project. Visit [www.mass.gov/southcoastrail](http://www.mass.gov/southcoastrail) for more information on this study.

*See Chapter 6 for related work being conducted by CTPS.*

### **Tri-Town Interchange Environmental Analysis**

**Agencies: MassDOT and EOEH**

MassDOT and the Executive Office of Housing and Economic Development (EOEH) are working toward the completion of a draft environmental impact statement for a project that will construct a new highway interchange on I-93 in the towns of Andover, Tewksbury, and Wilmington. The proposed location for the new interchange is between the I-93/Route 125 interchange in Wilmington and the I-93/Dascomb Road interchange in Andover in an area referred to as the Lowell Junction. The purpose of the project is to relieve traffic congestion on I-93 and adjacent local roadways and to improve access to industrial and commercial developments, as well as undeveloped land suitable for industrial and commercial development. Visit [www.massdot.state.ma.us/tritown](http://www.massdot.state.ma.us/tritown) for more information on this study.

### **Urban Streetscape and Adaptive Reuse Plan for the Inner Belt & Brickbottom Districts**

**Agency: City of Somerville**

The City of Somerville is conducting a study of the Inner Belt & Brickbottom Districts located in the southeast section of the City. The purpose of this Urban Streetscape & Adaptive Reuse Plan is to identify a collective vision for the area through the civic engagement process, and to develop an economic development phasing plan that includes catalyst reuse projects and incorporates an analysis of market trends and economic feasibility. In addition, a financing plan will be proposed that calculates the costs, and details the financing options for the recommended improvements and catalyst reuse projects. The end product will be a plan for future development, including but not limited to land use, streetscape, roadway networks, and multi-modal transportation options.

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## **APPENDIX B PUBLIC PARTICIPATION**

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A summary of the comments received during the review period established for this draft document, and the MPO's responses to them will be included in this chapter of the final FFY 2012 UPWP.





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**APPENDIX C**  
**FFY 2012 UPWP PROJECT UNIVERSE EVALUATION**

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As discussed in Chapter 1, the MPO developed an evaluation tool, new this year, to strengthen the link between UPWP studies and the Long-Range Transportation Plan (LRTP). The following table shows the LRTP categories considered during the project-selection process for this UPWP and identifies which of the MPO's current LRTP topics and themes are advanced by each project in the UPWP project universe.



# FFY 2012 UPWP Universe of Proposed New Projects

MOBILITY														
Project Name	Total Cost	FFY 2012 UPWP Budget	Project Description	FFY 2012 UPWP Staff Evaluation	Link Land Use and Transportation.	Working w Limited Financial Resources	Using a Mngmt & Operations Approach	Protecting Air Quality and Environment	Preserving and Maintaining the System	Increasing Transit and/or Active Transportation Mode Share	Encouraging Sustainable Communities	Considering Transportation Equity	Addresses Documented Need (CMP, RTP, PWT, YOUNG, METROFUTURE)	Comments
<b>Priority Corridors for Long Range Transportation Plan Needs Assessment</b>	\$120,000	\$120,000	<p>Corridor analysis might be a more logical way to approach transportation studies in the region. Possible corridors of critical and strategic concern might be best viewed in a programmatic way. An arterial management roadway improvement effort would recommend conceptual improvements for corridors that the CMP and the LRTP identified as part of the needs assessment process. Along corridor or several sections from multiple corridors could be selected.</p> <p>Some locations would include:</p> <ul style="list-style-type: none"> <li>• Route 99 Corridor Study in Everett</li> <li>• Route 60 in Arlington, Belmont, and Waltham (Northwest Corridor)</li> <li>• Revere Beach Parkway (Route 16) Safety and Operations Improvements from Everett to Chelsea</li> <li>• Route 1 North Improvements: Saugus-Lynnfield</li> <li>• Route 27 between Depot Street and Canton Street in Sharon (Southwest Corridor)</li> <li>• Route 38 in Woburn and Wilmington (North Corridor)</li> <li>• Route 3A in Burlington and Woburn (North Corridor)</li> <li>• Route 62 and Route 114 in Middleton (Northeast Corridor)</li> <li>• Route 3A from Quincy to Hingham (Southeast Corridor)</li> <li>• Route 28 in Randolph (Southeast Corridor)</li> <li>• Route 225 in Bedford (Northwest Corridor)</li> </ul> <p>Corridors are listed in rough priority order according to traffic flow.</p>	High Priority	✓	✓	✓	✓	✓	✓	✓	✓		
<b>Wellington Circle Improvements: Medford</b>	\$40,000	\$40,000	<p>Wellington Circle is one of the busiest and most congested intersections in metropolitan Boston. For the period 2005–2007, it had the twentieth worst accident experience of all locations in the Boston MPO area.</p> <p>Located at the confluence of Route 16 (Revere Beach Parkway) and Route 28, Wellington Circle has grown over the years in order to maximize the number of vehicles that can traverse its several roadways. In recent years, a large amount of new development has taken place at Wellington Circle including mixed-use developments, commercial and office buildings, and apartments. In addition, the large Gateway Shopping Center has been built to the east of Wellington Circle, and the River's Edge development is currently under construction to its north. To the south of Wellington Circle, the Assembly Square mall is being redeveloped with shopping and housing. Continued rapid development is envisioned.</p> <p>This study would consider conceptual short and long term improvements that would address congestion and traffic safety problems at Wellington Circle. In addition, pedestrian and bicycle facilities would be envisioned to improve non-automobile connectivity at this location.</p> <p>An initial study of the Wellington Circle area would be conducted by CTPS.</p>	High Priority	✓		✓	✓	✓	✓			✓	Small Transit Share (TBD)
<b>Rte 20 and Boston Poast Road Transportation Improvement Study</b>	\$25,000	\$25,000	<p>Recently the Town of Weston, through the MPO's Community Assistance Program asked for assistance in studying the intersection of Boston Post Road, Church Street, and School Street at the town center. That intersection had 38 crashes within 2006 and 2008. MPO staff determined in their analyses and evaluations that the operations of the Route 20 and School Street intersection located south of the study intersections results in:</p> <ul style="list-style-type: none"> <li>• A traffic queue on School Street that extends into the Boston Post Road, and Church Street intersection</li> <li>• Cut-through traffic through the study intersection during the AM peak hours when Route 20 is congested</li> </ul> <p>Both the Town of Weston and MPO staff agree that a larger study incorporating origins and destinations of traffic and the evaluation of long-term multi-modal transportation solutions is needed to fully address traffic safety and operations on Route 20 and Boston Post Road in Weston. This study would be a follow-up of the smaller study conducted through the Community Assistance Program.</p>	Medium Priority		✓	✓	✓	✓		✓		✓	
					✓	Major Consideration			✓	Minor Consideration				

## FFY 2012 UPWP Universe of Proposed New Projects

ENVIRONMENT														
Project Name	Total Cost	FFY 2012 UPWP Budget	Project Description	FFY 2012 UPWP Staff Evaluation	Link Land Use and Transportation.	Working w Limited Financial Resources	Using a Mngmt & Operations Approach	Protecting Air Quality and Environment	Preserving and Maintaining the System	Increasing Transit and Healthy Transportation Mode Share	Encouraging Sustainable Communities	Considering Transportation Equity	Addresses Documented Need from CMP, RTP, PMT, YOUMOVE, METROFUTURE	Comments
<b>I-93 North Corridor HOV Study</b>	\$80,000	\$80,000	I-93 is the most important north-south corridor through Boston. This proposed study would complement the Southeast Expressway study efforts by developing one or more conceptual preferential lane treatments for I-93 north of Boston. There already is a successfully functioning HOV lane between Medford and the Zakim Bridge, and this study would begin by exploring the possibility of extending this lane. A number of improvements to I-93 are envisioned between Medford and New Hampshire, including rebuilding the I-93/I-95 interchange in Woburn, adding the so-called Tritown interchange between Interchanges 41 and 42, widening the expressway to the New Hampshire state line, and configuring proposed new bus lanes. This proposed study would look at how a preferential lane system might be configured throughout this corridor in coordination with these other improvement efforts.	Medium Priority		✓	✓	✓		✓			TBD	Transit Share (TBD)
<b>Technical Support/Clean Air &amp; Greenhouse Gas Decision Making</b>	\$25,000	\$25,000	The goal of this study is to provide data to the MPO and its Clean Air and Mobility Subcommittee to guide the MPO's clean air and greenhouse gas reduction activities. The purpose of the information would be to draw a clearer picture of what types of projects and programs provide the most air quality benefit and which provide the most benefit for the level of expenditure. This information would augment the currently data prepared by staff on projects considered for qualification for Congestion Mitigation Air Quality funding. The results of this research would be compiled for presentation in white paper, memorandum, and graphic formats.	Medium Priority	✓			✓		✓	✓		✓	
					✓	Major Consideration		✓	Minor Consideration					

# FFY 2012 UPWP Universe of Proposed New Projects

## LIVABILITY

Project Name	Total Cost	FFY 2012 UPWP Budget	Project Description	FFY 2012 UPWP Staff Evaluation	Link Land Use and Transportation.	Working w Limited Financial Resources	Using a Mngmt & Operations Approach	Protecting Air Quality and Environment	Preserving and Maintaining the System	Increasing Transit and Healthy Transportation Mode Share	Encouraging Sustainable Communities	Considering Transportation Equity	Addresses Documented Need from CMP, RTP, PMT, YOU MOVE, METROFUTURE	Comments
Analysis of JARC and New Freedom Projects	\$35,000	\$35,000	<p>Many MPO recommended proposals for the Federal Transit Administration's Job Access and Reverse Commute (JARC) and New Freedom grant programs were funded during the last three years. These proposals include studies on how to facilitate coordination of existing transportation resources; identifying resource gaps and developing strategies for closing them; enhancing consumers' abilities to access and use transportation options; and planning for and operating paratransit services. The MPO will determine which of these projects are/were effective and will use this information to recommend future projects, to encourage the use of best practices, and to update the Coordinated Human Services Transportation (CHST) Plan. The estimated budget is \$35,000.</p> <p>Tasks will include:</p> <ol style="list-style-type: none"> <li>1. Obtaining the following project information from MassDOT and/or funded agencies:                             <ol style="list-style-type: none"> <li>a. Identified service gaps</li> <li>b. Strategies to close gaps</li> <li>c. Effectiveness of efforts to coordinate services</li> <li>d. Trips served</li> <li>e. Cost per passenger served</li> </ol> </li> <li>2. Developing a subset of projects for which the most data is available</li> <li>3. Determining which practices have or have not been effective</li> <li>4. Determining best practices</li> </ol> <p>Products will include:</p> <ol style="list-style-type: none"> <li>1. A dataset of JARC and New Freedom project statistics</li> <li>2. A memorandum summarizing project achievements to date</li> <li>3. A memorandum listing best practices and how they can be applied in the region</li> </ol>	High Priority	✓	✓	✓	✓				✓		
Safe Access to Transit for Pedestrians and Bicyclists	\$50,000	\$50,000	<p>This study would identify relatively low-cost, quick-implementation measures that can significantly improve pedestrian and bicyclist access at up to 10 stations in the MBTA system. The study would focus both on stations with high crash rates, indicating safety problems, and on stations with high densities of nearby population and employment but low rates of pedestrian and bicycle access, indicating access problems. An initial list of high-priority transit stations would be identified through a combination of factors including existing ridership survey results, bicycle parking utilization data, nearby population and employment densities, and pedestrian and bicycle counts. A GIS analysis would then be performed identifying crashes that have occurred within 1-mile buffers around these stations. The analysis would make it possible to produce a list of the top 25 access-impaired transit stations for bicyclists and pedestrians.</p> <p>City or town officials, as well as the MBTA, would be surveyed in order to determine the accuracy of the high-crash locations, the potential for possible improvements, the existence of other local safety problems for bicyclists and pedestrians, and any other concerns. Selection priority of up to 10 stations will include the municipality's intention to implement improvements at or in the area immediately surrounding stations being studied. A qualitative analysis for each of the 10 selected stations would be sent to the relevant cities or towns for their consideration in design and implementation, and will also be shared with the MBTA. The study could also be used by cities, towns, and the MBTA to prioritize safety improvements and justify use of safety funds, and by the Boston MPO to make recommendations for safety improvements.</p>	Medium Priority	✓	✓	✓	✓	✓	✓		✓		
					✓	Major Consideration			✓	Minor Consideration				

# FFY 2012 UPWP Universe of Proposed New Projects

SYSTEM PRESERVATION, MODERNIZATION AND EFFICIENCY														
Project Name	Total Cost	FFY 2012 UPWP Budget	Project Description	FFY 2012 UPWP Staff Evaluation	Link Land Use and Transportation.	Working w Limited Financial Resources	Using a Mngmt & Operations Approach	Protecting Air Quality and Environment	Preserving and Maintaining the System	Increasing Transit and Healthy Transportation Mode Share	Encouraging Sustainable Communities	Considering Transportation Equity	Addresses Documented Need from CMP, RTP, PMT, YOU MOVE, METROFUTURE	Comments
<b>TIP Project Impacts Before/After Evaluation</b>	\$30,000	\$30,000	<p>This would be a pilot study to identify the effectiveness of Transportation Improvement Program projects. Measuring project effectiveness is important in order to know whether the employed strategies work well and are therefore suitable for application in similar situations.</p> <p>To this end, staff will select TIP projects that are programmed for construction during Spring 2012. It is likely that traffic and operations TIP projects will only be selected, as the construction period of projects in this category is shorter than other projects, such as the construction of freeway interchanges. The "before" data will be collected in early spring 2012, before the selected project begins. The "after" data will be collected upon project completion, which may be later than 2012.</p> <p>The type of "before" and "after" data that staff will collect depends on the nature of the project. For a traffic management and operations project, chances are that traffic flow, speed, delay, and safety information will be collected. If budget allows, the level of service and air quality information will also be calculated for the "before" and "after" conditions. Staff will compare the two sets of data and draw conclusions.</p>	High Priority									✓	Before/After evaluations are included SAFETEA LU regulation and were recommended by FHWA and FTA in their comments to the MPO following last year's certification process.
<b>Comparison of MBTA Systemwide Passenger Survey Results</b>	\$30,000	\$30,000	<p>The purpose of this study would be to document trends over time for information gathered through systemwide passenger surveys. During 2008 and 2009 survey, CTPS collected data from passengers on all MBTA bus, rail rapid transit, light rail, commuter rail, and water transportation routes. The results were presented in 17 volumes that are available in PDF format on the MPO website. Due to time and budget constraints, these reports do not include a comparison of the results of the 2008-2009 surveys with those of prior surveys on the same services. Surveys on most of the commuter rail system had been last done in 1993. The rail rapid transit and light rail lines had been surveyed in 1994, the bus system in 1995, the Old Colony commuter rail lines in 1998, and water transportation services in 2000.</p> <p>Comparisons of the results of the 2008-2009 surveys with those of these prior surveys would show whether there have been significant changes in characteristics of MBTA riders and their use of the system since the 1990s. This information will be useful for transportation planning purposes. In addition, if there have not been significant changes, this suggests that the 2008-2009 results can be relied on for planning purposes for many years. If there have been significant changes, this suggests that surveys should be conducted at more frequent intervals to allow the MBTA to make service changes consistent with changing needs of riders.</p>	High Priority		✓				✓		✓		
					✓	Major Consideration		✓	Minor Consideration					

## FFY 2012 UPWP Universe of Proposed New Projects

### SYSTEM PRESERVATION, MODERNIZATION AND EFFICIENCY (Cont.)

Project Name	Total Cost	FFY 2012 UPWP Budget	Project Description	FFY 2012 UPWP Staff Evaluation	Link Land Use and Transportation.	Working w Limited Financial Resources	Using a Mngmt & Operations Approach	Protecting Air Quality and Environment	Preserving and Maintaining the System	Increasing Transit and Healthy Transportation Mode Share	Encouraging Sustainable Communities	Considering Transportation Equity	Addresses Documented Need from CMP, RTP, PMT, YOU MOVE, METROFUTURE	Comments
Pavement Management System	\$375,000	\$75,000	Discussions are underway both with MARPA's Pavement Management Subcommittee and MassDOT on possible methods for conducting in FFY 2012 a study that identifies the cost of maintaining MPO municipality-maintained (non-MassDOT maintained) federal aid arterial roadways and urban collectors in the MPO for use in developing the presently under development Regional Transportation Plan. Starting with the FFY 2011 UPWP, federal input in the subcommittee indicates that Massachusetts MPOs must develop a comprehensive Pavement Management System to be fully operational for cost-data input on municipally-maintained federal aid (FA) roadways in the 2040 LRTP. Depending on the resources allocated, it would take five years to collect data for the over 3,000 center miles in our region's federal aid system. The pavement management system would estimate the cost required to bring all the FA MPO roadways to a "good-to-excellent" condition. Presently, based on a 34% sample of, mostly, state numbered roadways, only 6% of the MPO FA network center miles are in excellent condition (it is likely that this statistic is lower for non-state-numbered roadways, typically maintained by municipalities). The rest, about 30% in each category, are in good, fair, and poor condition.	High Priority		✓			✓				✓	First phase of multi-year project included in staff recommended slate of new FFY 2011 UPWP projects.
Freight Survey	\$60,000	\$60,000	This study would survey truckers in the Boston region along major truck corridors (such as I-495 and I-95) to determine their origin, destination, and the commodity they are hauling. This information would fill a major void in our knowledge about freight movements in the region. It would also help answer questions about the possibility of moving more freight by other modes, such as maritime (via short sea shipping), and rail.	Medium Priority	✓		✓		✓				✓	
					✓	Major Consideration		✓	Minor Consideration					

# FFY 2012 UPWP Universe of Proposed New Projects

SAFETY AND OPERATIONS														
Project Name	Total Cost	FFY 2012 UPWP Budget	Project Description	FFY 2012 UPWP Staff Evaluation	Link Land Use and Transportation.	Working w Limited Financial Resources	Using a Mngmt & Operations Approach	Protecting Air Quality and Environment	Preserving and Maintaining the System	Increasing Transit and Healthy Transportation Mode Share	Encouraging Sustainable Communities	Considering Transportation Equity	Addresses Documented Need from CMP, RTP, PMT, YOU MOVE, METROFUTURE	Comments
<b>Transit Service Planning Technical Support RTA, TMA &amp; Municipal Governments</b>	\$20,000	\$20,000	The MPO has a policy of supporting transit services and taking steps to reduce single occupant travel in the region. The Clean Air and Mobility Program and its predecessor, the Suburban Mobility Program, have provided funding for transit services around the region. In addition, RTAs in the region have asked for and been provided with technical support for service planning in their service areas. This project will continue the MPO's current offering of technical support to RTAs to promote best practices and assist in problem-solving in their service planning. It will also extend support to TMA's and municipalities seeking to improve existing transit services they operate or fund. This project will support the MPO's policies with the goal of assisting others in planning transit services that better address the issues of ridership, cost effectiveness and other service characteristics.	High Priority		✓		✓		✓	✓			
<b>Emergency Evacuation/Hazard Mitigation Mapping: Phase 3</b>	\$35,000	\$35,000	This study advances the MPO's Safety and Security policy of protecting the region from natural and human threats, and addresses the SAFETEA-LU planning factor for security. This study would continue work from previous UPWP work programs for Emergency Evacuation and Hazard Mitigation Mapping, to incorporate new information and data that becomes available on natural hazards, evacuation plans that are being developed, and critical infrastructure in the region, and to update data from previous work programs. MPO staff would update and add to the materials produced in Phase 1 and Phase 2.	High Priority					✓			✓	✓	
					✓	Major Consideration			Minor Consideration					



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## APPENDIX D GLOSSARY

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The following terms, acronyms, and abbreviations are used in planning documents produced by the Boston Region Metropolitan Planning Organization. Acronyms and abbreviations are listed separately, after the list of terms.

*Sources: With each definition, the source is given if it is outside the MPO. Key to the citations: AC Transit—Alameda-Contra Costa Transit District; APTA—American Public Transportation Association; Mineta—Mineta Transportation Institute at San Jose State University; NCDOT—North Carolina Department of Transportation Public Transportation Division.*

**3C process** - A continuing, comprehensive transportation-planning process carried out cooperatively by metropolitan planning organizations as they plan for the future and program federal transportation funds for studies, projects, and programs in their region.

**Access Advisory Committee to the MBTA (AACT)** – A consumer group that provides input to the MBTA on the transportation concerns of people with disabilities and assists in monitoring the MBTA’s ADA compliance. Also provides input to the MPO on accessibility matters.

**accessibility** – The ability to reach a destination or use a facility or service without being impeded by physical or other barriers due to auditory, visual, mobility, or cognitive disabilities.

**accessible station** - A station that provides ready access, and does not have physical barriers that prohibit and/or restrict access by individuals with disabilities, including individuals who use wheelchairs. (APTA)

**accessible vehicle** - A public transportation revenue vehicle that does not restrict access, is usable, and provides allocated space and/or priority seating for individuals who use wheelchairs. (APTA)

**adult base cash fare** - The minimum cash fare paid by an adult for one transit ride; excludes transfer charges, zone or distance charges, express service charges, peak-period surcharges, and reduced fares. (APTA)

**Americans with Disabilities Act (ADA)** - Federal legislation prohibiting discrimination on the basis of disability and requiring accessible transportation services.

**arterial** - A highway serving primarily through traffic and also providing access to abutting properties.

**average fare** - The overall average amount per ride paid by cash-fare passengers and pass users on a given service, equal to the combined total cash-fare and pass revenue divided by total riders.

**average farebox deposit** – The total cash-fare revenue from a given service divided by the combined total cash-fare passengers and pass users. This average can be used to calculate the subsequent total ridership from cash-fare revenue alone.

**average speed** - Vehicle revenue-miles divided by vehicle revenue-hours. (APTA)

**average trip length** - The average distance ridden for an unlinked passenger trip by time period (weekday, Saturday, Sunday), computed as passenger-miles divided by unlinked passenger trips. (APTA)

**bus (mode)** - The transportation mode that uses vehicles powered by diesel, gasoline, battery, or alternative-fuel engines contained within the vehicle. (APTA)

**bus rapid transit (BRT)** - A type of limited-stop service developed in the 1990s that relies on technology to help speed up the service. It combines the quality of rail transit and the flexibility of buses. It can operate on exclusive transitways, high-occupancy-vehicle lanes, expressways, or ordinary streets. A BRT line combines intelligent-transportation-systems technology, priority for transit, rapid and convenient fare collection, and integration with land use policy in order to substantially upgrade bus system performance. (APTA)

**busway (or bus lane)** - A roadway reserved for buses only. It may be a grade-separated (meaning it is above or below the level of the public street or other roadway) or a controlled-access roadway. (APTA)

**capital costs** – The expenses incurred that are related to the purchase of facilities, vehicles, and equipment.

**Capital Investment Program (CIP)** - The MBTA’s five-year capital expenditures plan.

**carbon monoxide (CO)** - A colorless, tasteless gas produced primarily by the combustion of organic fuels in transportation and industrial activities. Overly high levels of CO reduce oxygen in the bloodstream, preventing normal respiration. CO emissions are regulated by the Clean Air Act Amendments of 1990.

**Central Transportation Planning Staff (CTPS)** - The staff of the Boston Region Metropolitan Planning Organization (MPO). CTPS provides technical and policy-analysis support for transportation planning in the MPO area.

**Clean Air Act Amendments of 1990 (CAAA)** – The federal legislation that establishes allowable levels for various air pollutants. Where these standards are not attained, officials must take specified actions within a set time frame or face sanctions, such as the loss of federal highway funds.

**commuter rail** (also called metropolitan rail, regional rail, or suburban rail) - An electric- or diesel-propelled multicar railway utilizing exclusive rights-of-way for urban passenger train service consisting of local, short-distance travel, operating between a central city and adjacent suburbs. Service must be operated on a regular basis by or under contract with a transit operator for the purpose of transporting passengers within urbanized areas, or between urbanized areas and outlying areas. Such rail service, using either locomotive-hauled or self-propelled railroad passenger cars, is generally characterized by multitrip tickets, specific station-to-station fares, and usually only one or two stations in the central business district. Intercity rail service is excluded, except for that portion of such service that is operated by or under contract with a public transit agency for predominantly commuter services, which means that for any given trip segment (the distance between any two stations), more than 50 percent of the average daily ridership travels on the train at least three times a week. (APTA)

**complementary paratransit service** - Complementary paratransit service is required by law for those disabled persons and others not able to use fixed-route service. Generally it must operate in the same areas and during the same hours. The fare is limited to twice the fixed-route fare. Service may be provided by the fixed-route bus agency or by a completely separate agency. (APTA)

**conformity** - The requirement that state or metropolitan transportation plans, programs, and projects be consistent with the State Implementation Plan for attaining air quality standards. A conformity finding by the U.S. Environmental Protection Agency is required as part of the federal review of Long-Range Transportation Plans and Transportation Improvement Programs.

**Congestion Management Process (CMP)** - A method for evaluating the level of congestion on the region's transportation system and for identifying strategies that will reduce this congestion.

**Congestion Mitigation and Air Quality (CMAQ) Improvement Program** - A federal funding program that directs funding to projects that contribute to meeting National Ambient Air Quality Standards. Generally, CMAQ funds cannot be used for projects that result in the construction of new capacity available to single-occupant vehicles.

**demand-response (or demand-responsive) service** - Demand response (also called paratransit or dial-a-ride) is composed of passenger cars, vans, or small buses operating in response to calls from passengers or their agents to the transit operator, who then dispatches a vehicle to pick up the passengers and transport them to their destinations. A demand-response operation is characterized by the following: (a) the vehicles do not operate over a fixed route or on a fixed schedule except, perhaps, on a temporary basis to satisfy a special need; and (b) typically, the vehicle may be dispatched to pick up several passengers at different pick-up points before taking them to their respective destinations and may even be interrupted en route to these destinations to pick up other passengers. The following types of operations fall under the above definitions provided they are not on a scheduled fixed-route basis: many origins-many destinations, many origins-one destination, one origin-many destinations, and one origin-one destination. The transit agency may limit the service to certain people, such as persons with disabilities, their attendants and companions, and seniors, or it may be available to anyone. Some such services operate during late-night and weekend hours in place of fixed-route services. (APTA)

**Department of Conservation and Recreation (DCR)** – The state agency that maintains about parkland and numerous public beaches and parkways within the Boston Region. DCR is the successor to the Metropolitan District Commission and the Department of Environmental Management.

**Department of Environmental Protection (DEP)** - The state regulatory agency within the Executive Office of Energy and Environmental Affairs charged with protecting the natural environment of the commonwealth.

**directly operated service** - Service that is provided by a transit agency using its own employees, as opposed to service operated under contract by a separate company.

**discretionary funds** - Federal funds that are distributed based upon agency action or congressional action, rather than upon an established formula.

**environmental impact statement (EIS)** – A document developed as part of a federal environmental review process that studies all impacts likely to result from a project, including a major transportation project. Impacts include those on the natural environment, as well as impacts on the economy and society and those on the built environment of historical and aesthetic significance.

**environmental justice** - Balancing the benefits and burdens of government policies and actions so that no racial, ethnic, or socioeconomic community bears a disproportionate share of the negative environmental consequences. The MPO works to provide an equitable distribution of transportation benefits and burdens and encourages full participation by minority and low-income communities in advising the MPO during its planning and decision-making process.

**Environmental Protection Agency (EPA)** - The federal agency charged with protecting the nation's environmental quality. The agency reviews all Long-Range Transportation Plans and Transportation Improvement Programs to ensure compliance with the Clean Air Act Amendments of 1990.

**Executive Office of Energy and Environmental Affairs (EOEEA)** - The cabinet-level agency that oversees energy and environmental issues for the state and is responsible for State Implementation Plan adoption.

**expressway** - A multilane, divided highway without traffic signals and with limited access and egress.

**fare mix** - The percentage distribution of passengers by fare payment method on a given service. This information is obtained by sample observations on board vehicles that have onboard fare collection, and at fare collection areas of stations with off-vehicle fare collection.

**fare recovery ratio (farebox recovery ratio)** – A measure of the proportion of operating expenses covered by passenger fares; found by dividing farebox revenue by total operating expenses for each mode and/or systemwide. (Mineta)

**Federal Highway Administration (FHWA)** - The federal agency that administers federal highway programs. The agency reviews all Long-Range Transportation Plans, Transportation Improvement Programs, and Unified Planning Work Programs to ensure compliance with federal planning and funding requirements.

**Federal Transit Administration (FTA)** - The federal agency that administers federal transit programs. The agency reviews all Long-Range Transportation Plans, Transportation Improvement Programs, and Unified Planning Work Programs to ensure compliance with federal planning and funding requirements.

**fixed-route service** – Transit service that is provided on a repetitive, fixed-schedule basis along a specific route, with vehicles stopping to pick up and deliver passengers to specific locations; each fixed-route trip serves the same origins and destinations, unlike demand-responsive service. Includes route-deviation service, where revenue vehicles deviate from fixed routes on a discretionary basis. (APTA)

**flexible funds** - Transportation-funding categories that may be used for either highway or transit programs. Within the Boston region, highway funds have been flexed to the MBTA to fund commuter rail extensions, transit station improvements, and park-and-ride facilities.

**formula funds** - Funds distributed on a quantified basis according to legislative or administrative criteria.

**GIS** - Geographic information systems.

**heavy rail (transit)** – Generally applies to higher speed, multicar rail transportation that utilizes exclusive, grade-separated rights-of-way in subway tunnels, on the surface, or on elevated structures. The MBTA’s Red Line is an example of heavy rail.

**high-occupancy vehicle (HOV)** - A vehicle carrying two or more persons. Examples of high-occupancy vehicles are a bus, vanpool, and carpool. These vehicles sometimes have exclusive traffic lanes called “HOV lanes,” “busways,” “transitways,” or “commuter lanes.” (APTA)

**high-occupancy-vehicle (HOV) lane** - A lane designated for the exclusive use of high-occupancy vehicles, such as carpools, vanpools, other ridesharing modes, and buses.

**Highway Safety Improvement Program (HSIP)** - A method for evaluating highway safety needs and making recommendations to address deficiencies.

**intelligent transportation systems (ITS)** - Computer and communications technology that provides real-time information to operators of vehicles about transportation system conditions. Also includes technologies that identify, monitor, or control vehicles.

**intermodal (multimodal)** - Those issues or activities that involve or affect more than one mode of transportation, including transportation connections and choices, and cooperation and coordination between various modes. (APTA)

**intermodal planning** - Planning that reflects a focus on connectivity between modes as a means of facilitating linked trip-making.

**JOURNEY TO 2030** - The current Boston Region MPO's Long-range Transportation Plan (and a certification document), which defines the overarching vision for the future of transportation in the region, establishes principles and policies that will lead to the achievement of that vision, and allocates projected revenue to transportation programs and projects that reflect those principles and policies.

**Key Station Plan** - A document designating critical transit facilities needed to expand accessibility for individuals with disabilities and to meet ADA requirements.

**land use** - The purpose for which land or the structures on the land are being utilized; for example: commercial, residential, retail.

**layover** – The amount of time built into a schedule between the arrival of a transit vehicle at the end of a route and the departure for the return trip, used for the recovery of delays and preparation for the return trip.

**level of service (LOS)** - A qualitative measure used to characterize the operating conditions of a transportation service as perceived by its users. Most commonly applied to traffic operations, where designations range from A (best) to F (worst).

**linked trip** - A trip from origin to destination on the transit system. Even if a passenger must make several transfers during a journey, the trip is counted as one linked trip on the system. (NCDOT)

**Long-Range Transportation Plan** - A long-range certification document that identifies facilities and programs that should function as an integrated metropolitan transportation system and includes a financial plan that demonstrates how the long-range plan can be implemented. The plan must show that the current system can be operated and maintained over the long term, and must recommend capital expansion projects to be constructed.

**major investment study (MIS)** - An alternatives analysis required to support decisions on significant transportation investments. The purpose of an MIS is to examine the possible impacts and consequences of various alternatives to address an identified transportation need at the subarea or corridor level.

**Massachusetts Bay Transportation Authority (MBTA)** - An authority that provides public-transportation service in eastern Massachusetts. A member of the Boston Region Metropolitan Planning Organization.

**Massachusetts Bay Transportation Authority (MBTA) Advisory Board** - A group created by the legislature that represents the 175 cities and towns within the MBTA service district. A member of the Boston Region Metropolitan Planning Organization.

**Massachusetts Environmental Policy Act (MEPA) Unit** - The section of the Executive Office of Energy and Environmental Affairs responsible for administration of the Massachusetts Environmental Policy Act, which establishes a process for evaluating impacts from a public or private infrastructure project and for identifying steps to be taken to avoid or minimize negative impacts. This process may require preparation of an environmental impact report. MEPA permits are required for most large transportation projects.

**Massachusetts Port Authority (Massport)** - The agency charged with operating and developing major commercial maritime and aviation facilities in the Boston region. Owns and operates Logan International Airport, Hanscom Field, and maritime terminals located in the Port of Boston. A member of the Boston Region Metropolitan Planning Organization.

**MassRIDES** - An organization that implements the Massachusetts Department of Transportation's statewide travel options program providing free assistance to commuters, employers, students, and other traveler markets.

**Metropolitan Area Planning Council (MAPC)** - The regional comprehensive-planning agency for the Boston metropolitan area, comprising 101 communities. Composed of officials from cities, towns, and state agencies, and independent gubernatorial appointees. A member of the Boston Region Metropolitan Planning Organization.

**metropolitan planning organization** - The regional organization responsible, under federal regulations, for comprehensive transportation planning and for programming of federal funds for projects and programs in an urbanized area. Work products include the the Long-Range Transportation Plan, Transportation Improvement Program, and Unified Planning Work Program.

**mode (transportation mode)** - A particular means of transportation (for example, transit, automobile, bicycle, walking).

**multimodal** - See **intermodal**.

**multimodal planning** - Planning that reflects consideration of more than one mode to serve transportation needs in a given area.

**National Ambient Air Quality Standards (NAAQS)** - Federal standards that set allowable concentrations and exposure limits for pollutants such as ozone, carbon monoxide, and particulate matter.

**National Environmental Policy Act (NEPA)** - Federal legislation that requires agencies to give full consideration to environmental effects in planning and implementing federal programs and

that may require the preparation of an environmental impact statement. NEPA permits are required for most large transportation projects.

**nitrogen oxides (NO<sub>x</sub>)** - Precursor emissions that form from high-temperature combustion processes and react with volatile organic compounds in the presence of heat and sunlight to form ozone.

**nonattainment area** - A geographic region that the Environmental Protection Agency has designated as failing to meet National Ambient Air Quality Standards. The Boston area has been designated as being in “moderate nonattainment” for the eight-hour standard (as of August 2010).

**operating expenses (transit)** - The expenses associated with the operation of the transit agency, and classified by function or activity and the goods and services purchased. (APTA)

**ozone** - A colorless gas with a sweet odor that is not a direct emission from transportation sources, but is formed when volatile organic compounds (VOCs) and nitrogen oxides (NO<sub>x</sub>) from car exhaust and from certain industrial emissions combine in the presence of sunlight. Ground-level ozone is associated with smog conditions and initiates damage to lungs, trees, crops, and other materials. Regulated by the Clean Air Act Amendments of 1990.

**paratransit** - Any one of a variety of smaller, flexibly scheduled and routed, demand-responsive transportation services using low-capacity vehicles. Primarily used by persons for whom use of standard mass transit services is difficult or impossible.

**park-and-ride facility** - A parking garage and/or lot used for parking passengers’ automobiles, either free or for a fee, while they use transit agency facilities. Park-and-ride facilities are generally established as collector sites for rail or bus service. Park-and-ride facilities may also serve as collector sites for vanpools and carpools, and as transit centers. (APTA)

**passenger fares** -The revenue earned from carrying passengers in regularly scheduled and demand-responsive service. Passenger fares include: the base fare; zone premiums; express-service premiums; extra-cost transfers; and quantity-purchase discounts applicable to the passenger’s ride. (APTA)

**passenger-miles (transit)** - The cumulative sum of the distances ridden by each passenger. (APTA)

**pass-ride value** - The average revenue per trip obtained from pass users. This figure is calculated from pass sales figures and from survey data on the number of trips by mode that pass users make per day or per week.

**pointcheck** - An observation of the arrival times, departure times, and passenger loads of a transit service at a single location.



**Program for Mass Transportation (PMT)** - The Massachusetts Bay Transportation Authority's 25-year fiscally unconstrained capital plan that and is reviewed by the MBTA Advisory Board. It describes scheduled MBTA capital projects.

**pulse system** - A transit system in which vehicles from all or several routes simultaneously converge at a central location at regular intervals (such as hourly or half-hourly) to allow passengers to transfer directly between vehicles arriving on any of the routes and vehicles departing on any of the others.

**purchased transportation** - A transportation service provided to a public transit agency or governmental unit by a public or private transportation provider based on a written contract. The provider is obligated in advance to operate public transportation services for a public transit agency or governmental unit for a specific monetary consideration. Purchased transportation does not include franchising, licensing operation, management services, cooperative agreements, or private conventional bus service. (APTA)

**Regional Transportation Advisory Council** - A citizen group that advises the Boston Region Metropolitan Planning Organization on transportation issues and reviews the Long-Range Transportation Plan, Transportation Improvement Program, and Unified Planning Work Program. Composed of state agencies, municipalities, and civic and private associations with an interest in regional transportation planning.

**reverse commuting** - Movement in a direction opposite the main flow of traffic, such as from the central city to a suburb during the morning peak period. (APTA)

**ridership** - The number of rides taken by people using a public transportation system in a given time period. (Mineta)

**ridesharing** - A form of transportation, other than that provided by a transit agency, in which more than one person shares the use of the vehicle, such as a van or car, to make a trip. Also known as "carpooling" or "vanpooling." (APTA)

**Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)** - The federal legislation governing federally funded surface transportation projects and planning through 2010. Provides the framework and contemporary guidance for metropolitan transportation planning and the programming of federal funds.

**single-occupant vehicle (SOV)** - A vehicle containing only the driver and no other passengers.

**State Implementation Plan (SIP)** - A document that contains procedures detailing how a state will attain or maintain compliance with National Ambient Air Quality Standards. Prepared by the state and submitted to the U.S. Environmental Protection Agency for approval.

**State Transportation Improvement Program (STIP)** - A short-range transportation-planning document detailing the federally assisted projects in a state planned to be undertaken in a given three-year period. By federal law, the STIP consists of a compilation of regional MPO

Transportation Improvement Programs and a list of projects to be undertaken outside of MPO boundaries.

**station** - A passenger boarding/alighting facility with a platform, which may include stairs; elevators; escalators; passenger controls (for example, faregates or turnstiles); canopies; wind shelters; lighting; signs; and buildings with a waiting room, ticket office or machines, restrooms, or concessions. Includes all fixed-guideway passenger facilities (except for on-street cable car and light rail stops), including busway passenger facilities; underground, at-grade, and elevated rail stations; and ferryboat terminals. Includes transportation/transit/transfer centers, park-and-ride facilities, and transit malls with the above components, including those only utilized by motor buses. Does not include bus, light rail, or cable car stops (which are typically on-street locations at the curb or in a median, sometimes with a shelter, signs, or lighting). (APTA)

**timecheck** - An observation of the arrival times, departure times, and passenger loads of a transit service at multiple locations, usually the start and end of the route and at least one midpoint.

**Title VI** - Title VI of the Civil Rights Act of 1964, which prohibits discrimination on the basis of race, color, or national origin in programs and activities receiving federal financial assistance.

**transportation analysis zone (TAZ)** - An area delineated by state and/or local transportation officials for tabulating transportation-related data, especially journey-to-work and place-of-work statistics. A TAZ usually consists of one or more census blocks, block groups, or census tracts.

**transfer surcharge** - An extra fee charged when boarding another transit vehicle to continue a trip. (APTA)

**transportation control measures (TCMs)** - Actions, usually found in a State Implementation Plan, that improve traffic flow or reduce vehicle use or congestion with the objective of reducing air pollutant emissions.

**transportation demand management (TDM)** - In its most general form, any action or actions that attempt to control or alter existing travel patterns or choices. Included in this group is a wide range of strategies, such as promoting ridesharing, requiring alternative work hours or flextime, and increasing travel costs for single-occupant vehicles.

**Transportation Improvement Program (TIP)** - A short-range certification document of transportation projects, consistent with the Long-Range Transportation Plan, required for receiving federal capital funding. The Boston Region MPO's TIP shows the projects to be funded within the region during a given four-year period.

**transportation management area (TMA)** - Defined by the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) as any urban area with a population over 200,000. Within a TMA, all transportation plans and programs must be based on the 3C process. The TMA boundary affects the responsibility for the selection of transportation projects that receive federal funds.

**transportation management association (TMA)** - A voluntary association of public agencies and private firms that develop, fund, or implement transportation programs or services in a given area.

**Transportation Planning and Programming Committee** - A standing committee of the Boston Region Metropolitan Planning Organization (MPO) comprising a designated representative of each MPO agency and a representative of the Regional Transportation Advisory Council. The committee reviews and approves the preparation and distribution of reports, studies, and other documents, including the Long-Range Transportation Plan, Transportation Improvement Program, and Unified Planning Work Program, and recommends the approval of these and other actions to the MPO.

**Unified Planning Work Program (UPWP)** - A certification document that contains a description of all proposed transportation-related planning activities and air quality planning activities undertaken in a metropolitan region in a given year.

**unlinked passenger trips** - The number of passengers who board public transportation vehicles. When a count is conducted to ascertain this number, passengers are counted each time they board a vehicle no matter how many vehicles they use to travel from their origin to their destination. (APTA)

**unlinked trip** - A trip on a particular mode or vehicle; any segment of a linked trip.

**vehicle-miles (transit)**- The number of miles a vehicle travels from the time it pulls out from its garage to go into revenue service to the time it pulls in from revenue service. They are often called platform-miles. For conventional scheduled services, they include revenue-miles and deadhead-miles. (APTA)

**vehicle miles traveled (VMT)** – The sum of the number of miles traveled by all vehicles on a defined roadway segment for a given time period.

**volatile organic compounds (VOCs)** - A group of chemicals that react in the atmosphere with nitrogen oxides in the presence of heat and sunlight to form ozone. Examples include gasoline fumes and oil-based paints.

## **List of Acronyms and Abbreviations**

AACT	Access Advisory Committee to the MBTA
ADA	Americans with Disabilities Act
AFC	automated fare collection
APC	automatic passenger counter
BRT	bus rapid transit
BTPR	Boston Transportation Planning Review
CA/T	Central Artery/Tunnel
CAAA	Clean Air Act Amendments of 1990
CMAQ	Congestion Mitigation and Air Quality
CMP	congestion management process
CO	carbon monoxide
CTPS	Central Transportation Planning Staff
DCR	Department of Conservation and Recreation
DEP	Department of Environmental Protection
DOER	Department of Energy Resources
FHWA	Federal Highway Administration
EIS	environmental impact statement
EOEEA	Executive Office of Energy and Environmental Affairs
EPA	Environmental Protection Agency
FTA	Federal Transit Administration
HOV	high-occupancy vehicle
HSIP	Highway Safety Improvement Program
IMS	Intermodal Management System
ISTEA	Intermodal Surface Transportation Efficiency Act
ITS	intelligent transportation systems
LOS	level of service
LRTP	Long-Range Transportation Plan
MAPC	Metropolitan Area Planning Council
MassDOT	Massachusetts Department of Transportation
MassPike	Massachusetts Turnpike
Massport/MPA	Massachusetts Port Authority
MBTA	Massachusetts Bay Transportation Authority
MEPA	Massachusetts Environmental Policy Act
MIS	major investment study
MOE	measure of effectiveness
MPO	metropolitan planning organization
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NO <sub>x</sub>	nitrogen oxides
NTD	National Transit Database
NTS	National Transportation System

PMS	pavement management system
PMT	Program for Mass Transportation
RPA	regional planning agency
RTA	regional transit authority
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SAR	Strategic Assessment Report
SIP	State Implementation Plan
SOV	single-occupant vehicle
STIP	State Transportation Improvement Program
3C	comprehensive, continuous, and cooperative
TAZ	traffic analysis zone
TCM	transportation control measure
TDM	transportation demand management
TIP	Transportation Improvement Program
TMA	Transportation Management Area
TMA	Transportation Management Association
UPWP	Unified Planning Work Program
VOCs	volatile organic compounds

