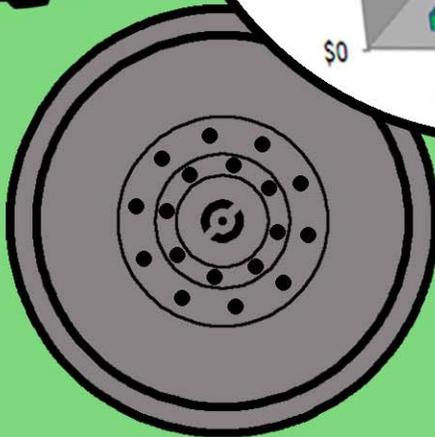
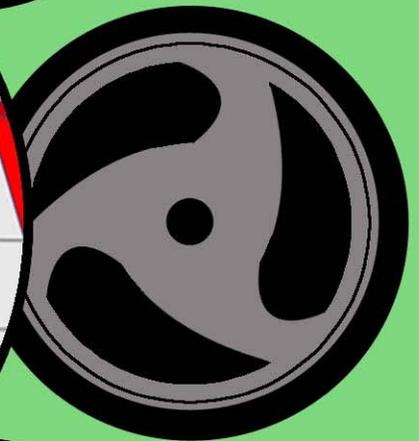
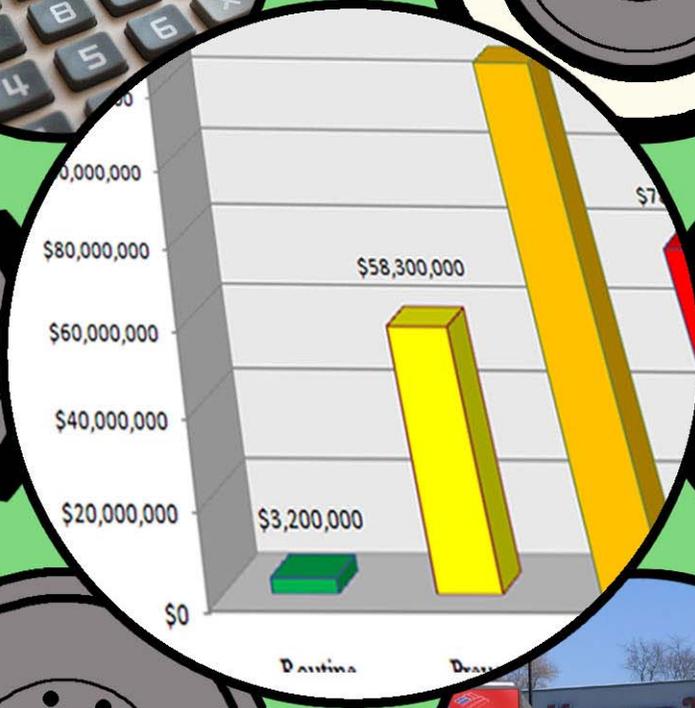
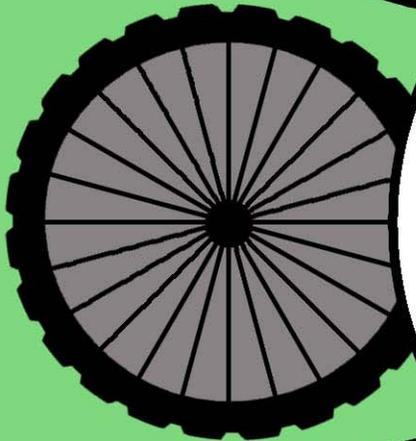


FINANCIAL PLAN

IX



IX. FINANCIAL PLAN

A. INTRODUCTION

Federal SAFETEA-LU regulations require that the long-range Regional Transportation Plan be a financially-constrained document. To ensure financial constraint, it is necessary to estimate the costs of all projects recommended in the Plan and to assess the amount of funds that are expected to be available over the course of the planning horizon. Ultimately, the costs of the proposed projects should not exceed that of the expected funding. Because there is not enough expected revenue to meet all the need, it means that not all the projects that are identified in the needs analysis section can be included in the Financial Plan.

B. ROAD AND BRIDGE PROGRAM

B.1 Projected Revenue

The major source of funding for highway-related projects is apportionments provided through the Federal Highway Administration (FHWA). These funds typically provide 80% of project funds, with the remaining 20% coming from a state match. Federal funds are usually derived from gasoline tax revenues, and state funds from the Transportation Bond bill which is paid through either gasoline tax revenues or general tax funds.

SAFETEA-LU provided federal transportation funding from 2005 to 2009 and now, through Continuing Resolutions to September 2011. To estimate federal funds beyond 2011, the MassDOT-Office of Transportation Planning (OTP) developed programming assumptions based on guidance from FHWA, and provided these estimates to each MPO region in Massachusetts.

**Table IX-1
FFY 2011-2035 Estimated Regional Transportation Plan Highway Funding**

	2011-2015 (Programmed in TIP)	2016-2020	2021-2025	2026-2030	2031-2035	Total
Total Highway Revenue Available for Programming	\$298,964,000	\$351,798,000	\$492,493,000	\$600,574,000	\$696,230,000	\$2,440,058,000
Recommended Maximum for Major Infrastructure Projects	\$14,143,000	\$19,008,000	\$28,717,000	\$35,089,000	\$40,677,000	\$137,634,000
Recommended Minimum for Bridge Projects	\$81,663,000	\$89,973,000	\$134,627,000	\$164,228,000	\$190,385,000	\$660,877,000
Recommended Minimum for NHS/IM Projects	\$47,543,000	\$50,948,000	\$76,475,000	\$93,340,000	\$108,207,000	\$376,514,000
Statewide Maintenance	\$93,794,000	\$95,677,000	\$116,433,000	\$137,025,000	\$158,850,000	\$601,779,000
Regional Discretionary Funding (O&M)	\$61,822,000	\$96,190,000	\$136,240,000	\$170,892,000	\$198,110,000	\$663,255,000

As can be seen in Table IX-1 above, a total of \$2,440,058,000 is anticipated to be available for highway-related transportation improvements within the Central Massachusetts region between 2012 and 2035. This figure includes adjustments for inflation. The first line of the table provides the total funding expected to be available and the remaining lines show the MassDOT recommended split for programming purposes.

These estimates include the following assumptions:

- Federal funding and state matching funds (core programs plus High Priority Project amounts) for the period of 2011 – 2014 reflect current allocations and funding for FFY 2015 is assumed to be equal to estimates for FFY 2014.
- Funding availability is inflated three percent per year, beginning in 2016.
- Deductions for statewide items that cannot be allocated individually to the MPOs -- Central Artery GANs repayment, Statewide Planning, and Extra Work Orders/Cost Adjustments -- are taken from total available funding, leaving the remaining amount for allocation in the regional plans.
- Assumed funding for Major Infrastructure Projects, the NHS/IM Programs, the Federal Aid Bridge Program, and Infrastructure Maintenance mirrors the assumptions made for federal funding - 2011-2015 reflect STIP amounts, and thereafter programs are adjusted by a rate of 3% per year.
- The Balance Available for the Statewide Road and Bridge Program is a function of the other assumptions made in the financial plan and represents federal funding after deducting statewide line items and GANS repayments. For 2011-2015, this amount reflects the regional targets provided in the STIP; from 2016 to 2021 it fluctuates based upon the assumed 3% growth in revenue and programs costs, as well as the repayment schedule of the ABP GANs; in 2022, the amount balloons to reflect the end of GANs repayments and thereafter it grows at a rate of 3% per year.
- The Non-Federal-Aid Program is based upon the existing program and held constant at current STIP amounts for 2012 - 2015. Beginning in 2016 and thereafter, NFA funding is adjusted by a 3% annual inflation factor.
- With the exception of funds for the NHS/IM and Bridge Programs, the estimated funding is allocated among the MPOs based upon the existing MARPA TIP targets.
- Funding assumed for the NHS/IM Program is allocated based upon the regional share of National Highway System mileage.
- Amounts assumed for the Bridge Program are allocated based upon each region's percentage of federal-aid eligible bridges.
- The estimated MPO allocations for Major Infrastructure Projects and the NHS/IM and bridge programs are included to provide order-of-magnitude guidance, but can be adjusted by MPOs, within the overall financial constraint provided in the table, on an as-needed, agreed-to basis.
- The Major Infrastructure Program is provided to account for projects of a significant cost that would not normally be expected to be included in an MPO's target component of the TIP. While this program would typically be the source of funding for projects that are regionally significant for air quality, it may also be used to fund large cost non-expansion projects. Most bridge projects, regardless of cost, should be accommodated within the Bridge Program; however, depending upon the magnitude of the project, it may be necessary for a region to fund a particular bridge project under the Major Infrastructure Program.

- The funding available should be allocated to operating, maintaining, and improving the highway-funded transportation system. In addition to road projects, this may include bicycle, pedestrian, enhancement, CMAQ, ITS, or any other program for which federal highway funding is expected to be used.

B.2 Projected Expenses

The CMMPO deliberated extensively on what major highway-related projects to recommend in the 2012 Regional Transportation Plan, given the need to remain within the constraints of estimated funding available. This task was made more difficult for projects in the later years of the plan because it was often necessary to estimate costs on projects that are in the early concept stages. The process of estimating costs began with the Stakeholder Consultation interviews conducted as part of the RTP early public outreach. As the process continued, CMMPO staff discussed the scope and estimated costs of potential major infrastructure projects with MassDOT District #3. This coordination continued to take place throughout the development of the RTP with input from MassDOT-OTP staff. All estimated costs were inflated at 4% per year after the year 2012. The following Tables IX-2 and IX-3 represent the CMMPO recommendations.

**Table IX-2
Major Infrastructure Projects**

(Amounts in millions)	Community	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	Total
I-90/I-495/Rte 9	Westborough, Hopkinton, Southborough			25.31			
Route 20	Charlton, Oxford		19.76				
Route 20	Worcester	6.00					
Worcester E-W (Central)	Worcester				20.78		
Worcester E-W (South)	Worcester				16.79		
Route 146/Boston Road	Sutton	7.00				52.63	
Total Cost Estimate		13.00	19.76	25.31	37.57	52.63	
Total Available (estimate)		14.143	19.008	28.717	35.089	40.677	137.634
Total Needed from Targets					2.481	11.953	14.434

Amount Assumed to be Available **\$799,722,000**

**Table IX-3
Operations & Maintenance (O&M):**

Category	2011 – 2015 Costs (Anticipated 12- 15 TIP years)	Expected Cost 2016-2020	Expected Cost 2021-2025	Expected Cost 2026-2030	Expected Cost 2031-2035	Total Cost*
Safety	\$4,327,540	\$6,733,300	\$9,536,800	\$11,788,770	\$13,030,990	\$45,417,400
Congestion	\$5,563,980	\$8,657,100	\$12,261,600	\$15,156,990	\$16,754,130	\$58,393,800
Pavement	\$49,457,600	\$76,952,000	\$108,992,000	\$134,728,800	\$148,925,600	\$519,056,000
Park-and-Ride	\$618,220	\$961,900	\$1,362,400	\$1,684,110	\$1,861,570	\$6,488,200
Pedestrian/Bike	\$618,220	\$961,900	\$1,362,400	\$1,684,110	\$1,861,570	\$6,488,200
ITS-Technology	\$618,220	\$961,900	\$1,362,400	\$1,684,110	\$1,861,570	\$6,488,200
Railroad Improvements	\$618,220	\$961,900	\$1,362,400	\$1,684,110	\$1,861,570	\$6,488,200
<i>Moved to Major Infrastructure</i>				\$2,481,000	\$11,953,000	\$14,434,000
<i>Total Cost of Identified Needs</i>						\$663,254,000
<i>Amount Assumed to be Available</i>						\$663,254,000

The costs above represent the following breakdown recommended by the CMMPO after extensive public consultation and deliberation:

Regional Discretionary Funding Allocation

7%	Safety
9%	Congestion
80%	Pavement
1%	Park and Ride
1%	Pedestrian/Bicycle
1%	ITS –Technology
1%	Railroad Improvements

As noted earlier, the anticipated revenues are not enough to meet all the needs of the region. With this in mind, CMMPO recognized several evolving issues that may affect the allocations within the timeframe of this plan:

- The desire of the public for a more multi-modal system with more alternative mode options and interconnectivity between modes;
- Capacity additions will be difficult to fund, and thus there is a need to reduce demand through implementation of new Travel Demand Management strategies;

- Low cost strategies that reduce the need for larger capital projects will become more important. Such low cost strategies might be identified through Safety Audits, planning studies, or through greater use of technology. The CMMPO supports the use of target funding to perform engineering analyses that can lead to low cost strategy implementation, such as traffic synchronization analyses to mitigate congestion. Identification of a wide-range of implementation strategies for low cost improvements will be a major focus in the coming years; and
- While significant need exists for preservation of existing systems, and that has been reflected in the high percentage of funds allocated to pavement needs, climate change and the reduction of greenhouse gases has become a major federal and state emphasis area, and there is ongoing discussion about how to accommodate that concern and to balance both needs.

C. TRANSIT PROGRAM

C.1 Projected Revenue

Estimates of available federal and state transit revenue were provided by the MassDOT-OTP and Transit Division. Typically, federal funds are used for capital expenses, although some funds are available for preventive maintenance and programs for rural areas, low-income commuters, and services for elders and people with disabilities. Capital funds are provided at 80% levels and operating funds are provided at 50% levels. Massachusetts provides approximately 72% of the net cost of operating regional transit authority services, with member communities contributing the remaining 28%. A summary of projected revenue is presented in Table IX-4 below.

**Table IX-4
FFY 2011-2035 Estimated Regional Transportation Plan Transit Funding**

	2012-2015 (Anticipated from TIP)	2016-2020	2021-2025	2026-2030	2031-2035	Total
Total Transit Revenue Available for Programming	\$169,315,476	\$148,214,056	\$170,405,786	\$196,074,050	\$225,784,588	\$909,793,956
Urbanized Area Formula (5307)						
WRTA	\$45,151,903	\$50,559,918	\$58,612,802	\$67,948,302	\$78,770,705	\$301,043,630
Conn DOT	\$22,587	\$25,293	\$29,321	\$33,991	\$39,405	\$150,597
RTA Capital Assistance Program	\$3,350,256	\$4,294,290	\$4,723,719	\$5,196,091	\$5,715,700	\$23,280,056
Capital Fixed Guideway Program (5309)	\$7,755,875	\$7,989,000	\$8,229,000	\$8,476,000	\$8,730,000	\$41,179,875
Section 5310 (Fed. \$ for Elders & Disabled)	\$1,173,319	\$1,353,000	\$1,556,000	\$1,791,000	\$2,066,000	\$7,939,319
Mobility Assistance Program (State \$ for Elders & Disabled)	\$967,097	\$1,115,000	\$1,280,000	\$1,471,000	\$1,693,000	\$6,526,097
Job Access Reverse Commute (JARC-5316)	\$1,218,213	\$1,406,000	\$1,615,000	\$1,858,000	\$2,141,000	\$8,238,213
New Freedom (5317)	\$874,160	\$1,003,000	\$1,151,000	\$1,321,000	\$1,518,000	\$5,867,160
Fed. Rural Funding (5311)	\$231,462	\$260,000	\$285,000	\$310,000	\$338,000	\$1,424,462
FTA State of Good Repair grant	\$39,000,000					

	2012-2015	2016-2020	2021-2025	2026-2030	2031-2035	Total
State Contract Assistance for Operations	\$45,090,016	\$51,970,000	\$60,233,000	\$69,816,000	\$80,930,000	\$308,039,016
Community Operating Subsidies	\$17,535,006	\$20,210,555	\$23,423,944	\$27,150,666	\$31,472,778	\$119,792,949
Statewide Federal Programs for Competitive Bid						
RTAP	\$542,519	\$620,000	\$701,000	\$800,000	\$915,000	\$3,578,519
Private non-profits (vehicles & related equipment)	\$4,802,297	\$5,560,000	\$6,435,000	\$7,445,000	\$8,617,000	\$32,859,297
Councils on Aging (vehicles & related equipment)	\$1,600,766	\$1,848,000	\$2,131,000	\$2,457,000	\$2,838,000	\$10,874,766

These estimates include the following assumptions:

- Federal Program and State Operating Assistance increase 3% each year from current levels to adjust for inflation.
- State Capital reflects amount actually programmed through 2016 with 10% increase every fifth year to adjust for inflation. Forecasts outside of 2016 are rounded to the nearest hundredth.
- The Central Massachusetts region has been appropriated the amounts specified for the JARC (Job Access Reverse Commute) and New Freedom programs
- Costs for 2011 and beyond are inflated at 4% per year.
- Federal rural funds (Section 5311) are also available for distribution by the state. The Commonwealth has three Regional Transit Authorities (Franklin, Martha's Vineyard and Nantucket) which do not receive 5307 Urban Formula funds and therefore rely on 5311 Rural Grant funds as their sole source of federal funding.
- RTACAP was distributed based on total fleet value.

C.2 Projected Expenses

The major transit capital efforts anticipated over the planning horizon of the Regional Transportation Plan is the continued replacement of the WRTA fixed route fleet, the replacement of the WRTA Maintenance and Operations facility, the construction of a WRTA Hub Transfer facility at Union Station Intermodal facility, and the expansion of the number of trains on the MBTA Worcester Commuter Rail line. As noted in the Public Transportation chapter, the average age of the current fleet is approximately 7 years old, which is down from 10 years old as reported in the 2007 RTP. The WRTA is expecting to continue to replace the fleet over the next three years. The replacement program will need to begin again in 2021.

The WRTA has received a \$39M federal grant to relocate the Maintenance & Operations facility. This facility will be constructed over the next 3 years. Acquisition of the property has begun and the facility is expected to be completed in 2014. The WRTA is also in the process of designing a downtown Hub Bus Transfer facility. The facility is funded with 5307 funds, and construction is expected to be completed by the end of 2012. The WRTA is also considering establishing satellite mini hubs to house vehicles fleet and serve as connection and transfer facilities. It is expected that 5307 funds will be adequate to fund these following the initial period of fleet replacement. Ongoing capital expenditures associated with the existing operations are expected to equate with projected capital funds in later years.

Other needed improvements to transit include implementation of Intelligent Transportation Systems (ITS) technology to improve efficiency and ease of passenger use, improved access to bus stops through sidewalk construction and crosswalk installation, and use of Transit Signal Priority technology to improve the use of transit in congested areas.

Improvements will be made to the Worcester commuter rail line to reduce travel time between Worcester and Downtown Boston and improve reliability as well as frequency. The number of train round trips is expected to increase from 12 trips per day to 20 trips per day from Worcester to Boston. The existing stations will remain, however improvements will be made to Yawkey Station to make that station fully functional from its existing status. Improvements to the Worcester line are also dependent upon the completion of the expansion/reconstruction of the CSX Intermodal freight rail yard in Downtown Worcester and procurement of additional MBTA locomotives and coaches. Additional improvements to enhance this project may also include the following:

- Installation of third tracks segment between Worcester and Framingham along designated segments of the line
- Reconstruction of the Grand Junction branch from Brighton through Cambridge to North Station to allow some Worcester Line trains to terminate at North Station
- Replacement/installation of new system signals

While this project is expected to occur within the next several years, the costs and revenue source have not yet been identified.

The following Table IX-5 presents the expected expenses associated with transit.

**Table IX-5
Projected Expenses Associated with Transit**

	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	Total
Fleet replacement (5307)	\$8,249,382	\$9,325,215	\$10,767,208	\$12,434,546	\$14,362,688	\$55,139,039
Ongoing Capital Expenses(5307)	\$40,252,777	\$45,528,993	\$52,569,313	\$60,709,847	\$70,123,717	\$269,184,647
Capital Fixed Guideway Program (5309) (rail-related)	\$7,755,875	\$7,989,000	\$8,229,000	\$8,476,000	\$8,730,000	\$41,179,875
Elderly & Disabled expenses	1,173,319	\$1,353,000	\$1,556,000	\$1,791,000	\$2,066,000	\$7,939,319
Mobility Assistance Program	\$967,097	\$1,115,000	\$1,280,000	\$1,471,000	\$1,693,000	\$6,526,097
Job Access Reverse Commute	\$1,218,213	\$1,406,000	\$1,615,000	\$1,858,000	\$2,141,000	\$8,238,213
New Freedom	\$874,160	\$1,003,000	\$1,151,000	\$1,321,000	\$1,518,000	\$5,867,160
Fed. Rural Program (5311)	\$231,462	\$260,000	\$285,000	\$310,000	\$338,000	\$1,424,462
ConnDOT (5307)	\$22,587	\$25,293	\$29,321	\$33,991	\$39,405	\$150,597
Ongoing Operations & Maintenance	\$62,625,022	\$72,180,555	\$83,656,944	\$96,966,666	\$112,402,778	\$427,831,965
Maintenance & Operations Facility	\$39,000,000					\$39,000,000
Total	\$162,369,894	\$140,186,056	\$161,138,786	\$185,372,050	\$213,414,588	\$862,481,374

The WRTA is operating under less than ideal conditions, given operational funding cuts experienced in the late 1990s and early 2000s. Further exacerbating the situation is the current and projected funding situation in which state and local revenues are effectively constrained to a 2.5-3% increase each year. Not only will this annual increase does adequately restore lost service or allow the WRTA to respond to increasing demand, but it will also not keep pace with annual fuel, labor, and healthcare increases and could result in continued degradation of service at a time when the public is demanding more service.

D. FINANCIAL CONSTRAINT

The financial analysis provided above has addressed the revenue sources reasonably expected to be available and the costs associated with operations and maintenance needs of the existing transportation system, as well as a limited number of potential major infrastructure projects selected by the CMMPO. These identified costs have been compared to estimates of reasonably expected funding from both federal and state sources. Based on the funding priorities established by the CMMPO, the 2012 Regional Transportation Plan has been determined to meet the federal requirement for financial constraint.