

CHAPTER 11

FINANCE PLAN

11.0 Introduction

The federal SAFTEA-LU requires that the Regional Transportation Plan include a financial component that demonstrates how the projects and improvements it identifies can be implemented. In addition, the statutory language directs that the Plan be financially constrained to revenues expected to be reasonably available to carry out the Plan. The Regional Transportation Plan must be cost feasible. The costs of planned improvements and maintenance must be balanced with revenues that can be reasonably expected.

Historical data on transportation spending and allocation within the region are key indicators of probable future spending levels over the period of this document. It is also assumed that federal and state-funding commitments will continue beyond the life of SAFETEA-LU with future federal and state legislation. In addition, this section includes a description of federal and state funding programs, and highway and transit financing.

11.1 Historical Spending Trends

Estimating the amount of funds available in the future is an inexact science at best. One approach is to chart past funding experience and attempt to discern a trend. This trend could then be extrapolated to future years.

The potential issue with such an approach is that funding levels are not as constant as we would like. The amount of money available changed dramatically between 1991 and 1992 when ISTEA replaced its predecessor, Surface Transportation and Uniform Relocation Assistance Act (STURAA). While there is no certain reason to think that similar changes in funding are likely at the end of the SAFETEA-LU period, that change illustrates the variability of the system and the tentativeness of any long term financial projections.

In addition to uncertainties at the federal level, the future amount of funding that will be available from the state for transportation is indeterminate. State dollars for transportation come from the following sources: gasoline tax, license/registration fees; bond proceeds, sales tax; tolls; fares; annual appropriation; and local assessment. Furthermore, the distribution of both federal and state funds among the thirteen regions of the Commonwealth does not adhere to a strict formula. The Old Colony region could receive a bigger or smaller share of the statewide total depending on a number of factors.

Table 11-1 summarizes both federal and non-federal construction spending in the Old Colony Region, from 1992 to 2006. The historical data illustrate that a total of approximately \$205.5 million dollars was spent in the fourteen-year period averaging approximately \$13.7 million dollars annually.

**Table 11-1
Summary of Construction Spending in the Region**

YEAR	Sum of Advertised Project Amounts
1992	\$ 20,246,117
1993	\$ 39,417,562
1994	\$ 10,045,153
1995	\$ 29,362,750
1996	\$ 15,738,263
1997	\$ 36,942,432
1998	\$ 8,594,745
1999	\$ 1,869,334
2000	\$ 1,800,000
2001	\$ 3,358,460
2002	\$ 7,225,538
2003	\$ 4,276,801
2004	\$ 5,712,046
2005	\$ 9,971,410
2006	\$ 10,967,000
Total	\$ 205,527,611
Annual Average	\$ 13,701,841

11.2 Transportation Funding Programs

The transportation network is financed through federal and state revenue sources. These sources are described below.

Federal Funding

Massachusetts receives transportation funds from the federal government. The major sources are the Federal Highway Administration (FHWA), Federal Transit Administration (FTA) and the Federal Aviation Administration (FAA). The United States Congress authorizes funding for these transportation projects through federal legislation. For highways and mass transportation, the most recent authorization was the SAFETEA-LU (2005). Federal funding received from SAFETEA-LU is allocated to different funding programs. Some of these programs are listed below.

Highway Funding Programs

National Highway System (NHS) consists primarily of existing Interstate routes and portions of the Primary System. The program was established to focus federal resources on roads that are the most important to interstate travel and national defense, roads that connect with other modes of transportation, and others that are essential for international commerce.

Interstate Maintenance (IM) includes resurfacing, restoration and rehabilitation as eligible activities for maintaining Interstate facilities. Reconstruction is also eligible if it does not add capacity. However, high-occupancy-vehicle (HOV) and auxiliary lanes can be added.

Surface Transportation Program (STP) is a block grant program that may be used for any roads (including NHS) that are not functionally classified as local or rural minor collectors. These roads are collectively referred to as federal-aid eligible roads. Bridge projects paid for with STP funds are not

restricted to federal-aid roads but may be on any public road. Transit capital projects are also eligible under this program.

Congestion Mitigation and Air Quality Improvement Program (CMAQ) directs funds toward transportation projects in Clean Air Act non-attainment areas for ozone and carbon monoxide. These projects will contribute to meeting the attainment of national ambient air quality standards. The state receives funds based on its share of the population of air quality non-attainment areas weighted by degree of air pollution.

Bridge Replacement and Rehabilitation Program provides funds for rehabilitation and replacement of any bridge on a public road. Bridges on the federal-aid system or off the federal-aid system are eligible for these funds. Newly eligible are bridge painting, seismic retrofitting and calcium magnesium applications.

Other Federal Aid includes projects that received federal funding outside the federal-aid program. Funds in this category are generally approved as line items appended to various pieces of federal legislation. Projects in this category are generally intended to improve public safety within a specified region that might not qualify for funding through other sources.

Transit Funding Programs

49 U.S.C. Section 5307 provides capital, preventative maintenance, and operating assistance to transit systems in urbanized areas.

49 U.S.C. Section 5309 provides funding for the construction or extension of new transit service projects, modernization of existing rail systems, and major bus purchases and related facilities.

49 U.S.C. Section 5310 is the Elderly and Persons with Disabilities program, which provides capital assistance to private non-profit service carriers.

49 U.S.C. Section 5311 provides funding capital and operating assistance to transit systems in non-urbanized areas (Rural Transit).

49 U.S.C. Section 5316 provides funding for transportation services designed to transport welfare recipients and low income individuals to and from jobs and to develop transportation services for residents of urban centers and rural and suburban areas to suburban employment opportunities.

49 U.S.C. Section 5317 provides funding to encourage service and facility improvements to address the transportation needs of persons with disabilities that go beyond those required by the Americans with Disabilities Act.

State Funding

State funds are also a key component for transportation purposes. State funding programs are listed below.

Highway Funding Programs

Non-Federal Aid (NFA) contains all projects not receiving federal funds. Various categories of state funding are included in this group such as bikeways, State Aid (Chapter 90) and highway construction and maintenance (Chapter 497).

Public Works Economic Development (PWED) projects are funded entirely with state funds and are often part of state grant projects targeting downtown revitalization.

Transit Funding Program

Mobility Assistance Program (MAP) is a state funded program similar to Section 5310, but provides capital assistance to public non-profit service carriers. MAP funds are intended for use by public agencies, such as Councils on Aging, South Shore Community Action Council, and the Brockton Area Transit Authority (BAT), to provide van service to elderly and disabled persons.

11.3 Highway Financing

Federal

Table 11-1 provides a summary of the amounts spent on highway construction projects in the region over the last fourteen years.

In September 2000, the state and its MPOs executed a Memorandum of Understanding of the Task Force of the State and Regional Officials to Define, Develop, and Monitor a Statewide Road and Bridge Program (Statewide Road and Bridge MOU). The Statewide Road and Bridge MOU commits MassHighway to expend no less than \$400 million per year on transportation projects for the remaining years of the Central Artery, through state fiscal year 2005. Given the recent and historic trends concerning payouts and for previously obligated projects, an expenditure of \$400 million per year translate into an annual advertising program of approximately \$20-\$25 million.

For programming and planning purpose, the Massachusetts Association of Regional Planning Agencies (MARPA) has developed targets to apportion highway funding between MPOs. Under the MARPA Target, the Old Colony MPO assumes that it will receive approximately 4.56 % of all available highway funds. Table 11-2 shows that based on that assumption and EOT's expectations regarding the, the region can expect to receive approximately \$890,584,759 million for highway and bridges between FY 2007 and FY 2030. Furthermore, the estimated transit revenue is \$458,999,159.

The Executive Office of Transportation has developed revenue estimates for the 23 years of the Regional Transportation Plan. To supplement these estimates, reasonable estimates of Chapter 90 Allocations were have been added to the Executive Office of Transportation revenue forecasts.

The estimates from the Executive Office of Transportation are based on the following assumptions: Federal and state matching funding (core programs plus High Priority Project amounts) for the period of 2007 – 2010 reflect current allocations and are inflated three percent per year thereafter, beginning in 2011.

- All figures provided are based upon an assumed obligation amount of 85%.
- Consistent with FHWA STIP guidance, \$25 million in redistributed obligation authority is assumed each year.

- Deductions for statewide items that cannot be allocated individually to the MPOs -- Central Artery GANs repayment, Planning, and Extra Work Orders/Cost Adjustments -- are taken from total available funding, leaving the amount for the available federal funding to be allocated in the regional plans.
- Major infrastructure project funding for the first four years is as reflected in the current STIP. From 2011 to 2014, funding availability is estimated to approximately equal an inflation-adjusted current STIP amount. After 2015, because the Central Artery GANs payments end in 2014, it is estimated that major infrastructure funding availability is approximately equal to an inflation-adjusted NHS amount (annual apportionment constrained by obligation authority). In addition, beginning in 2011, an assumption is made that half of the assumed federal earmarks will be available for such projects.
- Similarly, Interstate Maintenance funding availability for the first four years is based upon the existing STIP for 2007 – 2010. From 2011 to 2014, such funding availability is estimated to be approximately equal to an inflation-adjusted STIP amount. Once the Central Artery GANs are paid off, beginning in 2015, such needs are approximately equal to an inflation-adjusted IM amount (apportionment constrained by obligation authority).
- Funding availability for bridges is based upon the Commonwealth’s commitment to a Statewide Bridge Program of \$200 million per year. The bridge program has two components: federal aid and non-federal aid. Beginning in 2011, this program is annually adjusted by a 3% inflation factor.
- The Non-Federal Aid Program is based upon the existing program and held constant at current STIP amounts for 2007 - 2010. Beginning in 2011 and thereafter, NFA funding is adjusted by a 3% annual inflation factor.
- With the exception of funds for the IM and Bridge Programs, the estimated funding is allocated among the MPOs based upon the existing MARPA TIP targets.
- Funding assumed for the IM Program is allocated based upon the regional share of Interstate lane mileage, exclusive of the Massachusetts Turnpike.
- Amounts assumed for the Bridge Program are allocated based upon each region’s percentage of federal-aid eligible bridges.
- The estimated MPO allocations for IM and bridges are included to provide order-of-magnitude guidance.

State

SAFETEA-LU is not the sole source of funding for transportation projects in the Commonwealth. State funds are also a key component in the financing mix for highway projects. State funds are used to “match” federal dollars to pay for the state share of federally aided projects, to undertake other projects not eligible for federal funding, and to assist cities and towns in maintaining and improving local roadways (Chapter 90 funding).

State funding for highway projects are raised from a variety of sources. As in most states, the gasoline tax is the major source of user fee revenues for transportation. Massachusetts started collecting a tax on gasoline in 1928. Since 1991, the gasoline tax has been steady at 21 cents per gallon, just slightly higher than the nationwide average of 18.6 cents. A percentage of the gasoline tax revenues is distributed to the State Highway Fund (for local use, roadway and bridge projects, etc.), to the General Fund (for mass transportation) and to a variety of environmental funds. The percentage of gasoline tax that is deposited into the Highway Fund is mandated for local use in all 351 Massachusetts cities and towns.

In addition, the Commonwealth finances most of its capital improvement program, including transportation, through bond sales. The Transportation Bond Bill (TBB) authorizes and directs the MHD

to expend moneys for transportation projects such as reconstruction, resurfacing, relocation or improvements of highways, bridges, and parking facilities.

In summary, the cumulative dollars estimated to be apportioned to the region during fiscal years 2007 to 2030 is shown in Table 11-2.

Local

Local funding has historically been used to help design and engineer highway projects. Many of these costs are reimbursable to the communities with Chapter 90 funds once the project has received final state and federal clearances.

11.4 Transit Financing

As with highway projects, transit projects in the Old Colony region have historically been financed with a combination of federal, state and local funds. Brockton Area Transit Authority (BAT) generates its funding from a number of sources that are described below.

Federal

Federal funding under the Surface Transportation Program (STP), Congestion Mitigation/Air Quality (CMAQ) and, to a limited degree, the National Highway System (NHS) programs under SAFETEA-LU may be used for transit purposes. By allowing states to use some SAFETEA-LU funds interchangeably for highways, transit or intermodal purposes, regions can determine the appropriate mix of projects to most efficiently attain their transportation goals.

Brockton Area Transit Authority (BAT) receives the vast majority of its federal capital and operating assistance through the 49 U.S.C Section 5307 funding program. These formula grants are distributed annually on a percentage basis. In addition to funds from 49 Section 5307 of the United States Code, funds are also made available from Sections 5309, 5310, 5311, 5316, and 5317. Estimated Federal funding for transit is outlined on Table 11-2.

State

The Commonwealth provides the Brockton Area Transit Authority (BAT) with financial assistance (through transportation bond issues and annual appropriations).

Under the Mobility Assistance Program (MAP), BAT requests annually 3-6 accessible mini-buses and vans each year, as part of their paratransit vehicle replacement program.

Local

Communities within the Brockton Area Transit Authority (BAT) service area are assessed annually for transportation services.

Direct Income

Farebox revenues generate direct income. The Executive Office of Transportation developed revenue estimates for the 23 years of the Regional Transportation Plan. To supplement these estimates, reasonable estimates of farebox, revenue, Mobility Assistance Program and Section 5309 capital assistance were added to the Executive Office of Transportation revenue forecasts.

The estimates from the Executive Office of Transportation are based on the following assumptions:

- The federal numbers for 2007 through 2009 are from SAFETEA-LU.
- The federal numbers for 2010 are the same as 2009 assuming that the new SAFETEA-LU will not yet be enacted and the State will be operating under a continuation of SAFETEA-LU.
- The federal numbers beyond 2010 are increased each year by 3%.
- The Section 5310 numbers come from the State and were distributed is region based on Elderly and Disabled population. This is for planning purposes only.
- The State Capital Investment numbers for the years 2007 through 2009 were taken from information received from the RTAs and for 2010 and beyond represent 25% of the 5307 and 5309 reported funding.
- State Contract Assistance for the RTAs was taken from the RTA Program Preview forms for the years 2007 through 2009 and increased 2.5% annually beyond that point.
- No determination has been speculated on how the JARC and New Freedom funding will be distributed.

Table 11-2
2007-2030 Estimated Available Revenues

<u>Highway and Bridge</u>	
Major Infrastructure Projects	\$ 134,226,000
Bridge Projects	\$ 189,719,000
Interstate Maintenance	\$ 6,697,000
Operations and Maintenance	\$ 435,059,000
Chapter 90	\$ 124,883,759
Subtotal	\$ 890,584,759
<u>Transit</u>	
Urbanized Area Formula (5307)	\$ 90,647,597
Section 5309 Capital Assistance	\$ 46,965,580
Elderly and Disabled (5310)	\$ 8,678,772
Non-Urbanized Area Formula (5311)	\$ 1,200,000
State Capital Investment	\$ 30,193,792
State Contract Assistance for Operations	\$ 170,601,799
Mobility Assistance Program	\$ 14,950,000
Local Share	\$ 37,801,619
Farebox Revenue	\$ 57,960,000
Subtotal	\$ 458,999,159
<u>Competitive UZA Federal Funding</u>	
Elderly and Disabled (5310)	\$ 97,295,647
Non-Urbanized Area Formula (5311 and 5340)	\$ 109,906,548
JARC (5316)	\$ 53,483,821
New Freedoms (5317)	\$ 46,021,157
Total Estimated Available Revenue*	\$ 1,349,583,918

**Does not include Competitive UZA Federal Funding*

11.5 Fiscal Constraint Analysis

Roadway and transit service operations and maintenance (Table 11-4), as well as capital improvements (Table 11-3) outlined in the Regional Transportation Plan, are estimated to cost approximately \$1.2 billion dollars as shown in Table 11-5 for the 23-year period (2007 to 2030). In order to have a financially constrained plan, resources of an equal amount must be identified. These resources are shown in Table 11-2.

Because surface transportation legislation must be renewed for the federal fiscal year beginning October 1, 2007, the Regional Transportation Plan (2007 to 2030) represents a large and uncertain time span for financial planning purposes. During these 23 years, many things may or may not occur and could seriously change any financial forecast made today. For instance, state match requirements can change, flexible-funding categories can be increased, reduced or eliminated, or overall federal funding levels can be substantially changed in response to budget decisions made by Congress.

Despite these and other uncertainties, assumptions associated with Table 11-2 include that the amounts similar to those programmed under SAFETEA-LU will be provided for local transportation needs by the federal appropriations process throughout the life of the Regional Transportation Plan. The amounts from local and state sources are also assumed to remain at approximately the same levels throughout the life of the Regional Transportation Plan.

The funding available has allocated to operating, maintaining, and improving the highway, bridge and transit transportation system. The financial capacity from federal, state and local sources has been examined by comparing projected revenues to transportation needs as outlined in Table 11-6. As a result, we find that the Regional Transportation Plan is financially constrained according to the definition in the Federal Register 23 CFR Part 450.

**Table 11-3
Capital Improvements**

Location	Project	Air Quality Status	Cost	Air Quality Analysis Year
<u>Regionally Significant Capital Projects For Fiscal Constraint Analysis</u>				
Bridgewater	Route 24 On Ramp From Route 104 Westbound	Exempt	\$ 3,330,147	2020
Brockton	Downtown Brockton Circulation	Non-Exempt	\$ 6,500,000	2007
Brockton Area Transit	BAT Intermodal Transportation Centre Improvements	Exempt	\$ 5,750,000	
Brockton Area Transit	Ongoing Paratransit Bus Replacement	Exempt	\$ 13,241,726	
Brockton Area Transit	Ongoing Fixed Route Bus Replacement, Hybrid Buses & Technologies, AVL, Farebox	Exempt	\$ 50,865,580	
Brockton Area Transit	Ongoing Commuter Coach Replacement	Exempt	\$ 4,729,188	
Plymouth	Long Pond Road Bridge Capacity Enhancement	Recommended for Study	\$ 12,924,301	2020
Plymouth	Route 3 Exit 4 Northbound Off-ramp to Plimouth Plantation Highway	Recommended for Study	\$ 3,000,000	2010
Plymouth	Route 3 Northbound Slip Ramp from Long Pond Road Westbound	Recommended for Study	\$ 3,500,000	2010
Plymouth	Route 3A at Herring Pond Rd Geometric Improvements and Signalization	Exempt	\$ 1,000,000	2010
Old Colony Region	Route 24 Conversion to Interstate Standards	Exempt	\$ 244,177,728	2020
SSCAC	Ongoing Maxivan Replacement	Exempt	\$ 10,026,846	
West Bridgewater	Route 106 Capacity Enhancement	Non-Exempt	\$ 11,248,640	2010
West Bridgewater	West Bridgewater Central Square	Exempt	\$ 3,937,024	2010
Regionally Significant Capital Projects For Fiscal Constraint Analysis			\$ 374,231,179	
<u>Illustrative Projects (Funding not Identified at this time)</u>				
Brockton	Transit Orientated Development - Brockton	Exempt		
Hanson	Transit Orientated Development - Hanson	Exempt		
Plymouth	Plymouth Intermodal Transportation Center	Recommended for Study	\$ 11,000,000	
Plymouth	Route 25 Interchange at Bourne Rd	Recommended for Study	\$ 15,000,000	
Randolph to Bridgewater	Route 24 Capacity Enhancement	Recommended for Study		
Kingston	Transit Orientated Development - Kingston	Exempt		
Region	Intelligent Transportation Systems	Exempt		
Region	Municipal Airports	Recommended for Study		
Region	Potential Use of Out of Service Railroad Rights of Way	Recommended for Study		
Stoughton	Transit Orientated Development - Stoughton	Exempt		
<u>Other Regionally Significant Capital Projects (Funded by Others) for Informational</u>				
Kingston	Route 3 On Ramp from Cranberry Road (Developer Mitigation)	Non-Exempt	\$ 2,474,701	2010
MBTA	Commuter Rail Extension to Fall River & New Bedford (MBTA)	Non-Exempt	\$ 800,000,000	2010
MBTA	Commuter Rail Extension to Buzzard's Bay (MBTA)	Non-Exempt	\$ 103,500,000	2010
Plymouth	Long Pond Rd Jug Handle (Developer Mitigation)	Non-Exempt	\$ 328,983	2010
Plymouth	Route 3A and vicinity improvements (Cedarville) (Developer Mitigation)	Exempt	\$ 4,000,000	2010
Plymouth	Long Pond Road and Holman Road Access Roads (Developer Mitigation)	Non-Exempt	\$ 5,821,658	2030
Plymouth	Long Pond Road and Holman Road and Home Depot Connector Access Roads (Developer Mitigation)	Non-Exempt	\$ 5,827,757	2020
West Bridgewater	West Bridgewater Park N' Ride Expansion (EOT)	Exempt	\$ 400,000	2007
West Bridgewater	West Bridgewater Commuter Rail Station (MBTA)	Non-Exempt	\$ 5,000,000	2010
Weymouth	South Weymouth NAS Access Improvements (Developer Mitigation)	Non-Exempt	\$ 3,000,000	2007
Weymouth and Abington	Route 18 Capacity Enhancement (Boston MPO)	Non-Exempt	\$ 14,000,000	2007
Weymouth to Duxbury	Route 3 Capacity Enhancement (Route 18 to Route 14) (Boston MPO)	Non-Exempt	\$ 427,000,000	2020
Other Regionally Significant Capital Projects (Funded by Others) Sub Total			\$ 1,371,353,099	
Total of All Capital Projects			\$ 1,745,584,278	

**Table 11-4
Operations and Maintenance**

Project	Cost
Ongoing Recon/Resurf/Rehab (Fed-Aid Roads) \$8,300,000 per year for 23 Years	\$ 198,200,000
Ongoing Recon/Resurf/Rehab (Local Roads) \$4,500,000 per year for 23 Years	\$ 103,500,000
Ongoing Intersection Improvements/Safety \$1,500,000 per year for 23 Years	\$ 34,500,000
Ongoing Infrastructure (Signage, Guardrails, Etc) \$1,000,000 per year for 23 Years	\$ 23,000,000
Ongoing Bridge Replacements/Repair/Inspections \$8,250,000 per year for 23 Years	\$ 189,750,000
Ongoing Enhancement Projects \$100,000 per year for 23 Years	\$ 2,300,000
Ongoing Transit Operating and Maintenance \$12,597,814 per year for 23 Years	\$ 289,749,726
Highway and Bridge Sub Total	\$ 551,250,000
Transit Sub Total	\$ 289,749,726
Total Operations and Maintenance Needs	\$ 840,999,726

**Table 11-5
Comparison of Operations and Maintenance and Capital Projects**

Project	Cost	
Capital Improvements - Highway and Bridge	\$ 289,617,840	
Capital Improvements - Transit	\$ 84,613,339	
Sub Total	\$ 374,231,179	30.8%
Operations and Maintenance - Highway and Bridge	\$ 551,250,000	
Operations and Maintenance - Transit	\$ 289,749,726	
Sub Total	\$ 840,999,726	69.2%
Total Financial Need	\$ 1,215,230,905	

**Table 11-6
Estimated Needs vs. Estimated Available Revenues**

Total Funds Available To Region (23 Years)	\$1,349,583,918
Highway and Bridge	\$890,584,759
Transit	\$458,999,159
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Total Financial Need of Region (23 Years)	\$1,215,230,905
Highway and Bridge	\$840,867,840
Transit	\$374,363,065
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Sub Total Differences	
Highway and Bridge	\$49,716,920
Transit	\$84,636,094
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Total Difference	\$134,353,014

11.6 Conclusions and Recommendations

Preserve and maintain transportation assets for future generations.

Adequately maintain all elements of the transportation system to protect the public's investment.

Increase the efficiency of the transportation system using appropriate technologies.

Discuss, analyze, and incorporate, as deemed appropriate, the recommendations of the Transportation Finance Commission.

Support the increase of the annual Chapter 90 statewide total amount to at least \$250 million.

Assist communities in preparing and updating their road inventories to ensure that they reflect accurate mileage amounts for publicly accepted roads.

Continue to review, develop, and analyze supplemental funding resources. Such resources could include increased user fees, transit mitigation banks, and concurrency management systems. Concurrency is the growth management concept intended to ensure that the necessary public facilities are available concurrent with the impacts of development.

Implement fare and revenue policies that grow with inflation.

Establish and dedicate transit funding from sources that grow with inflation.

Support congestion improvements and the reward for regional approaches to coordinating and interconnecting signalized intersections and corridors.

Support and enhance asset management capabilities to perform the appropriate type of improvement at the right time.

Support the establishment of a RTA service fund to restore and enhance service.

Support the changing of RTA financing from retroactive reimbursement to current financing (forward funding).