



INTRODUCTION

This Long-Range Transportation Plan (LRTP) is a fiscally constrained document that includes information on costs and revenues to demonstrate the MPO's ability to fund the improvements recommended in this LRTP. The Boston Region MPO's financial plan is limited to the components of the regional transportation system over which the MPO has some funding or programming jurisdiction. These components are the Statewide Road and Bridge Program (including highway funding for alternative modes), the Central Artery/Tunnel project, the Accelerated Bridge Program (ABP), and the regional public transportation system.

The finances demonstrated in this document are indicative of the funding constraints within which the Boston Region MPO must plan during the next 20-plus years. The MPO is working within this financial framework; however, the MPO acknowledges that the transportation capital needs of the region far exceed the anticipated available funds. Many projects that would contribute greatly to achieving the transportation visions and goals of *Paths to a Sustainable Region* cannot be funded with the revenue and funding currently projected to be available.

THE HIGHWAY TRANSPORTATION SYSTEM

The Massachusetts Department of Transportation (MassDOT) has forecast highway revenues through federal fiscal year (FFY) 2035 for the 13 metropolitan planning organizations (MPOs) in the commonwealth. Highway revenues consist of federal and state funds made available on an annual basis. Federal funding projections are based upon current apportionment levels as constrained by federally imposed obligation limits, while state funds are based upon recent trends in non-Central Artery/Accelerated Bridge Program funding. Funding available for the Statewide Road and Bridge Program is determined after deducting from expected federal and state funding the costs of certain programs. These programs include the Central Artery/Tunnel project (CA/T),

the Accelerated Bridge Program (ABP), metropolitan and statewide planning, cost adjustments, and extra work orders. This available funding represents the amount of funding that can reasonably be expected for the Statewide Road and Bridge Program, from which the MPO's Discretionary Capital Program funds (also called MPO targets) are developed, and represents the upper limit for the LRTP's financial constraint.

The projections for the time period FFYs 2012–15 are the targets provided to the MPO by MassDOT for the Transportation Improvement Programs (TIPs). MassDOT developed these estimates based on estimates of expected federal funding provided by the Federal Highway Administration (FHWA).¹ The funding levels for FFYs 2016 through 2035 are projections from the FFY 2012 obligation authority increased by 3 percent from the previous year's funding.²

The Central Artery and Tunnel project

The Central Artery and Tunnel (CA/T) project was funded through seven sources:

- 1) Federal reimbursements
- 2) Grant Anticipation Notes (GANs)
- 3) Commonwealth Bonds
- 4) Transportation Infrastructure funds
- 5) Massachusetts Port Authority funds
- 6) Massachusetts Turnpike Authority funds
- 7) Insurance Trust revenue

At this time, the only outstanding CA/T funding commitment is the Grant Anticipation Notes (GANs). This repayment is deducted from the State's available Federal Obligation

Authority through FFY 2014. In FFY 2014 the GANs in the amount of \$1.5 billion will be completed.



The Statewide Road and Bridge System

Reinvestment in the existing system is the top priority of the Boston Region MPO. For roadways, *Paths to a Sustainable Region* includes funding for the maintenance, modernization, and expansion of the transportation system through 2035. Funding for maintenance of the roadways for the Boston Region MPO area is provided through the statewide resurfacing,

¹ Statewide Transportation Improvement Program (STIP), FFYs 2012–15, Appendix B, Guidance Documents and Regional Targets.

² An annual increase in obligation authority of 3 percent was applied after 2015. Base obligation authority is taken from Federal Highway Administration (FHWA) guidance received on June 8, 2011.

maintenance, and infrastructure programs, the statewide infrastructure and bridge programs, and state Chapter 90 funds.

Funding the Highway Capital Program

Major infrastructure and capacity expansion projects and other maintenance and rehabilitation projects not included in the statewide programs are funded through the Boston Region MPO’s share of the Discretionary Capital Program and the Regional Infrastructure Program. MassDOT provided these forecasts to the 13 MPOs in the commonwealth.

This LRTP allocates funding to certain projects that are defined by federal regulations as being regionally significant for air quality purposes (expansion projects) or projects that are major infrastructure projects. A major infrastructure project is any project that costs over \$10 million. An expansion project is any project that adds capacity to the existing system through the addition of a travel lane, the construction of an interchange, the construction of an extension of a commuter rail or rapid transit line, or the procurement of additional (not replacement) public transportation vehicles.

Table 7-1 shows projections of available highway revenue available for capital projects for the Boston Region MPO through FFY 2035, by program. The estimates are summarized by five-year time periods.



TABLE 7-1

PROJECTED SOURCES OF FUNDS FOR CAPITAL PROJECTS IN THE BOSTON REGION MPO HIGHWAY SYSTEM (IN MILLIONS)

CAPITAL PROGRAM	FFYs 2012-2015	FFYs 2016-2020	FFYs 2021-2025	FFYs 2026-2030	FFYs 2030-2035	TOTAL
Boston share of Discretionary Capital Program	\$244.54	\$475.60	\$673.62	\$844.95	\$979.53	\$3,218.24
Estimated Boston share of regional Major Infrastructure projects	\$69.93	\$93.99	\$141.99	\$173.49	\$201.12	\$666.54
TOTAL	\$300.49	\$569.59	\$815.61	\$1,018.44	\$1,180.665	\$3,884.78

Table 7-2 shows all of the projects and programs funded with highway money that are recommended in this LRTP, as major infrastructure projects, regionally significant projects (expansion) for air quality conformity, projects that are funded using highway money for transit (flex funding), or all three. Table 8-3 (in Chapter 8) lists these projects by the project name, type, and current and future costs.

TABLE 7-2

**MAJOR INFRASTRUCTURE PROJECTS, EXPANSION HIGHWAY PROJECTS, AND FLEX-FUNDED TRANSIT PROJECTS
IN THE RECOMMENDED PLAN**

HIGHWAY PROJECTS	TYPE OF PROJECT	CURRENT COST
Bedford, Billerica, & Burlington: Middlesex Turnpike Improvements, Phase III	Expansion/Major Infrastructure	\$20,800,000
Belmont: Trapelo Road	Major Infrastructure	\$14,592,000
Boston: Conley Haul Road*	Expansion/Major Infrastructure	\$25,000,000
Boston: Sullivan Square/Rutherford Avenue	Major Infrastructure	\$71,000,000
Braintree: Braintree Split	Expansion/Major Infrastructure	\$36,000,000
Canton: Interstate 95/Interstate 93 Interchange	Expansion/Major Infrastructure	\$235,500,000
Canton: I-95 Northbound/Dedham Street Corridor	Expansion/Major Infrastructure	\$35,000,000
Framingham: Route 126/135 Grade Separation	Major Infrastructure	\$58,500,000
Concord to Westford: Bruce Freeman Rail Trail	Expansion/Major Infrastructure	\$18,700,000
Hanover: Route 53, Final Phase	Expansion	\$1,000,000
Hudson to Acton: Assabet River Rail Trail	Expansion/Major Infrastructure	\$18,100,000
Malden, Revere, & Saugus: Route 1 Improvements	Expansion/Major Infrastructure	\$175,196,000
Needham & Newton: Needham Street/Highland Avenue	Major Infrastructure	\$18,400,000
Reading & Woburn: I-93/I-95 Interchange	Expansion/Major Infrastructure	\$276,000,000
Salem: Bridge Street	Expansion	\$11,223,000
Weymouth: Route 18 Capacity Improvements Project	Expansion/Major Infrastructure	\$31,350,000
Woburn: Montvale Avenue	Expansion	\$3,700,000
Woburn: New Boston Street Bridge	Expansion	\$4,900,000
Clean Air and Mobility Program		\$2,000,000/ year
HIGHWAY FUNDING FLEXED TO TRANSIT		
Somerville: Green Line Medford Hillside (College Avenue) to Mystic Valley Parkway (Route 16)	Expansion/Major Infrastructure	\$140,608,000

* This project will be funded by the Massachusetts Port Authority.

Funding Highway Maintenance

Table 7-3 shows projections of highway revenue available for maintenance of the highway system in the Boston Region MPO area through FFY 2035, by program, as provided by MassDOT.

TABLE 7-3

**PROJECTED SOURCES OF FUNDS FOR MAINTENANCE OF HIGHWAY SYSTEM IN THE BOSTON REGION MPO REGION
(IN MILLIONS)**

MAINTENANCE PROGRAM	FFYs 2012-2015	FFYs 2016-2020	FFYs 2021-2025	FFYs 2026-2030	FFYs 2030-2035	TOTAL
National Highway System/ Interstate Maintenance	\$115.08	\$155.93	\$234.05	\$285.67	\$331.17	\$1,152.32
Federal-Aid Bridge	\$154.57	\$213.27	\$319.11	\$389.27	\$451.27	\$1,566.49
Chapter 90 funding	\$252	\$345	\$399	\$463	\$537	\$2,059
Statewide Maintenance Program	\$369.09	\$473.06	\$575.69	\$677.50	\$785.41	\$2,975.42
TOTAL MAINTENANCE PROGRAM	\$890.74	\$1,187.26	\$1,527.85	\$1,815.44	\$2,104.85	\$7,753.23

The condition of the Boston Region MPO’s Federal Aid (FA) road system under the jurisdiction of municipalities (approximately 2,768 centerline miles) is not yet fully documented. The MPO is currently assessing the possibility of implementing a pavement management system (PMS), but in order to inform this LRTP, a rough estimate of the condition of the system is being used. The LRTP’s condition assessment was accomplished by using a sample of 936 centerline miles for which MassDOT collected information. Extrapolating from that sample, the condition of the system is estimated to be 6 percent Excellent, 30 percent Good, 30 percent Fair, and 34 percent Poor. However, MPO staff believes that the condition of the system is closer to: 20 percent Excellent, 29 percent Good, 25 percent Fair, and 26 percent Poor to account for the possibility that the MPO may adopt less strict standards than those used by MassDOT to evaluate pavement conditions.³

A final detailed estimate of the amount of expenditure needed to bring the FA road system to the MPO’s target for a state of good repair cannot be made at this time. The condition of the complete system is as yet undocumented, as stated above, and the MPO has not adopted a target strategy to implement for pavement management. Staff have started work on an FFY 2011 Unified Planning Work Program study that will inform the MPO and help it to define a potential Pavement Management System (PMS) and a desired level of expenditure. Inputs to the staff recommendation on this topic will be based on what municipalities presently spend for maintenance using Chapter 90 funds and on information about



³ Based on the weighted average of the Old Colony Planning Council and Central Massachusetts Regional Planning Commission pavement condition data, used for the purposes of estimation.

funding from other sources combined with data on the current condition of the FA road system. Utilizing preliminary information from this ongoing study, an estimate was made for purposes of this LRTP. Roadway rehabilitation and roadway paving work are included in three of the four funding categories listed above – National Highway System/ Interstate Maintenance, Statewide Maintenance Program, and Chapter 90 funds. Based on preliminary information obtained in the MPO’s study, it was determined that the following percentages of funding are used for pavement management:

- National Highway System/Interstate Maintenance – 90 percent
- Statewide Maintenance Program – 20 percent
- Chapter 90 funds – 50 percent

In addition, after reviewing descriptions of all projects funded through the TIP process, staff estimated that approximately 27 percent of the costs could be attributed to pavement rehabilitation. Table 7-4 shows estimated funds that will be used for pavement management of the highway system in the Boston Region MPO area through FFY 2035, by program.

TABLE 7-4

**PROJECTED FUNDING FOR PAVEMENT MANAGEMENT OF THE FEDERAL-AID ROADWAY SYSTEM IN THE BOSTON REGION MPO REGION
(IN MILLIONS)**

PROGRAM	FFYs 2012–2015	FFYs 2016–2020	FFYs 2021–2025	FFYs 2026–2030	FFYs 2030–2035	TOTAL
National Highway System/ Interstate Maintenance	\$103.57	\$140.34	\$210.65	\$257.10	\$298.05	\$1,037.09
Statewide Maintenance Program	\$73.82	\$94.61	\$115.14	\$135.50	\$157.08	\$595.08
Chapter 90 funding	\$126.50	\$172.50	\$199.50	\$231.50	\$268.50	\$1,029.50
TIP funding	\$101.41	\$153.79	\$220.21	\$274.98	\$318.78	\$1,069.17
TOTAL MAINTENANCE PROGRAM	\$404.80	\$561.24	\$745.50	\$899.08	\$1,042.41	\$3,730.84

Funding Bridge Maintenance

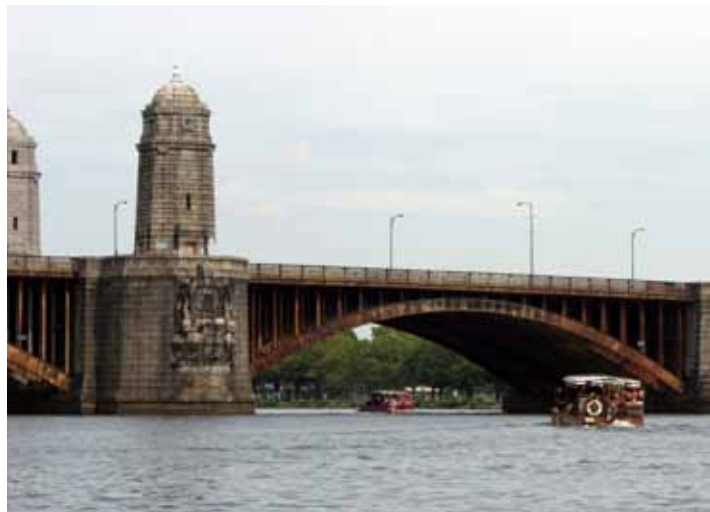
Maintenance of the bridges is provided via the statewide bridge program and the Accelerated Bridge Program.

The Accelerated Bridge Program

In 2008, the Patrick-Murray administration secured \$3 billion in bonds and Grant Anticipation Notes (GANs) to fund the Accelerated Bridge Program. The program represents a monumental investment in the maintenance and upgrade of Massachusetts bridges, particularly addressing the needs of large bridges and expensive projects.

As of May 2, 2011, the ABP has completed 51 bridge projects, with another 76 bridge

projects currently in construction, and an additional 47 bridge projects scheduled to start construction within the next year. Over the course of the eight-year program, more than 200 bridges are expected to be replaced or repaired. Since 2008, the number of structurally deficient bridges that were managed by the former MassHighway Department and Department of Conservation and Recreation, which are now managed by MassDOT, has dropped from 543 to 457, a decline of almost 16 percent. This program has allowed some of the more critical bridges in the Boston Region MPO area to be repaired, including the Longfellow Bridge.



Funding for the program is from two sources: a Massachusetts-owned Build America Bond for approximately \$1.9 billion, and approximately \$1.1 billion in Grant Anticipation Notes (GANs). The payback schedule for the GANs is approximately \$150 million a year starting in FFY 2015. The final year, FFY 2022, will be paid at the amount of \$185 million.

The Statewide Bridge Program

The statewide bridge program is funded with federal aid at an average rate of \$130 million per year for the entire commonwealth. The Boston Region MPO's portion of this funding is shown in Table 7-3. As for the roadway program, the Commonwealth and the MPO are working within this financial framework; however, they acknowledge that the transportation capital needs of the region far exceed the anticipated available funds.

THE REGIONAL PUBLIC TRANSPORTATION SYSTEM

The Massachusetts Bay Transportation Authority's (MBTA) projections of long-range revenues and expenses are based on the current Green Line Finance Plan (Finance Plan), which was based on the previous Silver Line, Phase III, Revised Finance Plan used for the federal New Starts program application that was submitted to the Federal Transit Administration (FTA) in September 2008. The Finance Plan includes projections through State Fiscal Year (SFY) 2035 and is the basis for the results in this LRTP.

The bonding strategy associated with this plan assumes that the MBTA will issue bonds only to match its federal formula funds. However, this level of bonding falls far short of the identified needs at the MBTA. The MBTA currently projects that it would need to spend \$750 million per year to address its State-of-Good-Repair (SGR) needs. This fact is detailed in the MBTA's pro forma documents and is also signaled in recent versions of the Capital Investment Program (CIP). This plan, therefore demonstrates that the MBTA cannot maintain its existing system, and that bonding to match federal formula funds worsens the MBTA's current bonding status. A summary of MBTA operations and capital investments is provided below.

Funding MBTA Operations and Maintenance

The MBTA Enabling Act (Chapter 161A of the Massachusetts General Laws), as amended by Section 151 of Chapter 127 of the Acts of 1999, establish the MBTA financing structure, which is commonly referred to as Forward Funding. The advent of Forward Funding, among other changes, included dedicated sources of revenue and mandated the MBTA to operate as an independent, financially self-sustaining public transportation agency.

Revenues for Funding Operations and Maintenance

Under the Enabling Act, the MBTA receives a dedicated local and state revenue stream consisting of the amounts assessed on cities and towns of the MBTA's service district (local assessments) and revenue from the dedicated sales tax. In addition to these two dedicated revenues, other revenues available for funding MBTA operations and maintenance over the life of this LRTP come from the following sources: fare revenue, non-fare revenue, and federal operating assistance. Table 7-5 lists the MBTA's projected revenues from SFYs 2012 to 2035.

TABLE 7-5

PROJECTED OPERATIONS AND MAINTENANCE REVENUES OF THE MBTA TRANSIT SYSTEM (IN MILLIONS)

OPERATING REVENUES	SFYs 2012-2015	SFYs 2016-2020	SFYs 2021-2025	SFYs 2026-2030	SFYs 2030-2035	TOTAL
Tax revenues*	\$4,498	\$6,139	\$7,104	\$8,472	\$10,141	\$36,354
Fare revenues	\$1,835	\$2,395	\$2,517	\$2,645	\$2,780	\$12,173
Non-fare operating revenues	\$275	\$326	\$338	\$384	\$447	\$1,769
Federal operating assistance	\$36	\$20	\$20	\$20	\$20	\$116
TOTAL OPERATING REVENUES	\$6,644	\$8,880	\$9,979	\$11,521	\$13,388	\$50,412

*Includes sales tax and local assessments.

Sales Tax

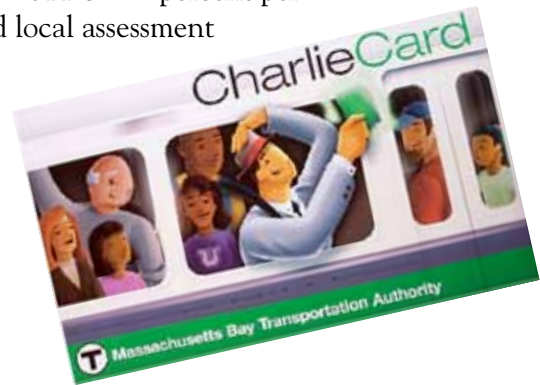
The dedicated income from the statewide sales tax is equal to whichever is greater: the amount raised from 1 percent of the statewide sales tax, which equals 20 percent of the previous statewide 5 percent sales tax, or the base revenue amount, which was \$767 million in SFY 2011. In either case, the funds come from existing sales tax receipts, subject to upward adjustment under certain circumstances set forth in the Enabling Act. Additionally, under legislation (Section 1 of Chapter 35 of the Acts of 2009), beginning August 1, 2009, the MBTA receives \$160 million more annually (subject to annual appropriation) from the legislated sales tax increase, which rose from 5 percent to 6.25 percent. Over the period SFY 2012 to SFY 2035, the projected sales tax revenue was assumed to increase at an average of 4 percent per year, starting at 2 percent and then increasing over time to just over 4 percent. Therefore, the projected sales tax revenue received by the MBTA over the life of this LRTP equals approximately \$31.5 billion.

Local Assessment

In addition to the sales tax revenue, the MBTA receives funding through local assessments in accordance with a statutory formula. The 175 municipalities within the MBTA's service district pay an assessment to the MBTA on an annual basis. The amount paid by each municipality varies according to the population and the level of service provided. Local assessments were \$150 million in SFY 2011. This LRTP projects that the local assessments will have an average increase after SFY 2011 of 2.2 percent per year through SFY 2035. Over the life of this LRTP, projected local assessment revenue equals approximately \$4.8 billion.

Fare Revenue

Fare revenue projections from the existing system total \$451 million in SFY 2011 and increase by 1 percent per year to yield \$12.2 billion over the life of the LRTP. The MBTA has recently announced that it is considering fare increases in the future; however, no additional fare increases are assumed in this LRTP.



Non-Fare Revenue

Non-fare revenue is revenue derived from parking fees, advertising, concessions, rent, interest income, utility reimbursements, and non-operating revenues such as income earned on investments and sale of property. The non-fare revenue in SFY 2011 was \$82 million. Over the life of this LRTP, projected non-fare revenue equals approximately \$1.8 billion.

Federal Operating Assistance

Federal operating assistance is received from the Federal Transit Administration (FTA) Section 5307 Preventative Maintenance funding. The federal operating assistance revenue in SFY 2011 was \$12 million. After SFY 2015, it is assumed that federal operating assistance will remain at \$4 million per year through SFY 2035. Over the life of this LRTP, projected federal operating assistance equals approximately \$116 million.

Operations and Maintenance Costs

Operating Expenses

The MBTA's operating expenses include wages, benefits, payroll taxes, materials, supplies, services, and purchased transportation. Given the data in the Finance Plan, operating expenses for SFY 2011 were \$1.2 billion. The Finance Plan also assumes a variable average annual increase in operating costs of 3 to 7 percent, averaging 4 percent from SFY 2012 to SFY 2035. This percentage is based on trend line analysis of known anticipated need and past operating costs. The total operating expenses over the life of the LRTP are \$49 billion, as shown in Table 7-6.

Debt-Service Expenses

The MBTA is fully responsible for its finances, thus creating the need for managing operating costs while providing efficient transit service to the region. The 1997 financial reform legislation (Forward Funding) provided the MBTA with the tools necessary to develop a sensible approach to controlling the growth of operating expenses.

MBTA bonds were previously backed by the Commonwealth prior to the enactment of the Forward Funding legislation. Upon the effective date of the Forward Funding legislation, however, contract payments from the state ceased and all outstanding debt became the responsibility of the MBTA. The projected total debt service for new debt and prior-obligation debt over the life of the LRTP equal approximately \$9.7 billion, as shown in Table 7-6.

TABLE 7-6

**PROJECTED OPERATIONS AND MAINTENANCE COSTS OF THE MBTA TRANSIT SYSTEM
(IN MILLIONS)**

OPERATING COSTS	SFYs 2012-2015	SFYs 2016-2020	SFYs 2021-2025	SFYs 2026-2030	SFYs 2030-2035	TOTAL
Operating and maintenance costs	\$5,472	\$8,338	\$9,889	\$11,651	\$13,676	\$49,023
Total debt service	\$1,765	\$2,367	\$2,086	\$1,907	\$1,546	\$9,671
TOTAL OPERATING COSTS	\$7,237	\$10,704	\$11,975	\$13,558	\$15,219	\$58,694

Summary of Operations and Maintenance Revenues and Costs

The total revenues and costs of operations and maintenance were described above. Table 7-7 summarizes and compares the total revenues to total costs.

TABLE 7-7

**PROJECTED REVENUES AND COSTS FOR OPERATIONS AND MAINTENANCE OF THE MBTA TRANSIT SYSTEM
(IN MILLIONS)**

OPERATING COSTS	SFYs 2012-2015	SFYs 2016-2020	SFYs 2021-2025	SFYs 2026-2030	SFYs 2030-2035	TOTAL
Total Operations and Maintenance revenues	\$6,644	\$8,880	\$9,979	\$11,521	\$13,388	\$50,412
Total Operations and Maintenance costs	\$7,237	\$10,704	\$11,975	\$13,558	\$15,219	\$58,694
DIFFERENCE	-\$593	-\$1824	-\$1996	-\$2037	-\$1831	-\$8282

As shown in the table, the projected costs are greater than the projected revenues. The MBTA is currently reviewing potential options to close that gap. They are moving forward with a study to review the MBTA fare structure, tariffs, and service to be completed in the spring of 2012. They will continue to explore other options including increasing user- and non-user-generated revenues and changes in service.

Funding MBTA Capital Investments

The Boston Region MPO assumes that over time the capital maintenance needs of the MBTA will consume almost 100 percent of all MBTA capital revenues (excluding those from any special state appropriations). MBTA capital maintenance needs include infrastructure projects, such as signal and track upgrades; fleet overhauls

and replacements; system enhancement projects; and accessibility projects, such as improvements necessary for complying with the Americans with Disabilities Act (ADA) Key Station Plan. The MBTA expects that all revenues during the LRTP time period will be used to maintain the system in a state of good repair. The MBTA is not proposing any new expansion projects at this time. The Commonwealth will be providing the funding for all of the SIP commitment projects.

The MBTA's capital program is primarily funded by two major sources: federal grants and revenue bonds; other sources include project financing and state appropriations.

The MBTA's goal is to preserve sufficient funding for the operating budget, and therefore it cannot allow debt-service expenses to increase in relation to operating expenses. It is assumed that appropriate additional capital funds for projects required by legal commitments that pre-dated the Forward Funding legislation and for other projects mandated by new legislation will be provided. (See Chapter 161A, Section 18, of the Massachusetts General Laws, as amended, and the following section of this LRTP, for more details.)

The total proceeds from all capital program funding sources from SFY 2012 through SFY 2035 are estimated at \$13.2 billion. Table 7-8 shows the projections of available capital funds.

TABLE 7-8

**PROJECTED FUNDS AVAILABLE FOR THE MBTA CAPITAL PROGRAM
(IN MILLIONS)**

FUNDING SOURCE	SFYs 2012–2015	SFYs 2016–2020	SFYs 2021–2025	SFYs 2026–2030	SFYs 2030–2035	TOTAL
Federal aid: Section 5307 Annual	\$565	\$826	\$958	\$1,110	\$1,287	\$4,746
Federal aid: Section 5307 Carryover	\$225	\$45	\$0	\$0	\$0	\$270
Federal aid: Section 5309 Fixed Guideway	\$400	\$584	\$677	\$785	\$910	\$3,355
Federal Aid: New Starts & Homeland Security	\$802	\$72	\$0	\$0	\$0	\$874
MBTA revenue bonds	\$1,534	\$615	\$327	\$379	\$439	\$3,294
Commonwealth expansion funding	\$629	\$62	\$0	\$0	\$0	\$691
TOTAL CAPITAL FUNDS	\$4,155	\$2,204	\$1,961	\$2,274	\$2,636	\$13,230

Federal Aid

The federal appropriations program established under SAFETEA-LU specifies formulas that govern the dispersal of nondiscretionary federal funds. The funding programs assumed in this LRTP include Section 5307 (formula funds), Section 5309 (rail and bus modernization funds), and other federal funding, including American Recovery and Reinvestment Act and Department of Homeland Security funding. A total of \$589 million was appropriated in SFY 2011, with that figure increasing thereafter, at a variable rate, through SFY 2035. This results in a total estimate of \$8.7 billion in federal funds over the life of this LRTP, excluding New Starts program grants.

Currently, federal discretionary New Starts program funds are projected to be secured for two MBTA projects:

1. Fitchburg Line Commuter Rail Improvements: \$73 million (50 percent of total cost) is anticipated in SFY 2012
2. Green Line Extension from Lechmere Station to College Avenue and a Spur to Union Square: \$560 million (50 percent of total costs) is anticipated between SFY 2012 and SFY 2016

The combined total of New Starts funds for these projects over the life of the LRTP would be \$633 million. The total federal aid projected to be available to the MBTA during the life of the LRTP from all such programs combined is \$9.2 billion.



Bond Proceeds

The MBTA currently issues bonds to pay for the local share of its capital projects. It is assumed that the MBTA will need to issue \$3.3 billion in revenue bonds over the life of this LRTP.

It is the goal of the MBTA to use pay-as-you-go financing in the long-term to fund the capital program. The advent of Forward Funding enabled the MBTA to maintain a modest amount in the Capital Maintenance Fund. This fund was used for the MBTA's State-of-Good-Repair program and addressed the ongoing schedule of maintaining the

equipment and mass transportation facilities of the system. Pay-as-you-go is a method of funding capital projects using cash rather than issuing bonds and incurring additional debt-service expenses. Continuance of a pay-as-you-go financing method requires significant surpluses in the upcoming years, which this LRTP does not include. As a result, pay-as-you-go financing remains a goal of the MBTA but is unachievable in this LRTP.

State Appropriations

Based upon current assumptions contained in this LRTP, it is estimated that the Commonwealth's capital subsidy for the State Implementation Plan expansion projects contained in this LRTP will be approximately \$691 million. It is understood that efforts to secure additional state funding will require the involvement of MassDOT, the Executive Office of Administration and Finance, and the Legislature, and such additional funding is subject to annual appropriations.

Table 7-9 shows all of the transit projects that are specifically recommended in this LRTP, whether as major infrastructure projects, regionally significant (expansion) projects for air quality, or both. The projects listed below are SIP projects, with the exception of Assembly Square and the additional parking spaces in Beverly and Salem. Assembly Square will be funded with federal and state earmarks and other state, local, and private funds. One additional transit expansion project is being funded in this

LRTP—Green Line Extension from Medford Hillside (College Avenue) to Mystic Valley Parkway; it is being funded with highway funds that are flexed to transit. This project is not part of the Commonwealth’s SIP commitments.

TABLE 7-9

MAJOR INFRASTRUCTURE AND EXPANSION TRANSIT PROJECTS IN THE RECOMMENDED PLAN

PROJECT	TYPE OF PROJECT*	COST
Fairmount Line Improvements Project**	MI/Exp	\$54,100,000
1,000 Additional Parking Spaces at Transit Facilities (Regionwide)	MI/Exp	\$32,000,000
Assembly Square Orange Line Station (Somerville)	MI/Exp	\$50,000,000
Green Line to Medford Hillside (College Avenue)/ Union Square	MI/Exp	\$1,120,000,000
Red Line–Blue Line Connector Design Only***	MI/Exp	\$49,000,000
Russia Wharf Ferry Terminal	MI/Exp	\$2,200,000
Additional Parking Spaces in Beverly and Salem	MI/Exp	\$50,000,000

* Exp = Expansion Project – Project adding capacity to the roadway or transit system.
MI = Major Infrastructure Project – Project costing more than \$25 million.

** The total cost of the Fairmount Line Project was \$125 million. The remaining cost is \$54.1 million.

*** MassDOT made a formal request on August 1, 2011, to remove this project from the State Implementation Plan regulation. The MPO is continuing to carry this cost until this process is completed.

MassDOT recently announced through its State Implementation Plan – Transit Commitments 2011 Status Report submitted to DEP on July 27, 2011 that they are proposing delays or changes to the SIP projects. In that submission, MassDOT included a Petition to Delay for the Fairmount Line Improvement Project and the 1,000 New Park and Ride Spaces. They also made a formal request to remove the Red Line-Blue Line project and have informed DEP that the Green Line Extension to Medford Hillside (College Avenue)/Union Square will be delayed. MassDOT will work with DEP to set up a process for addressing these changes over the next several months and will continue to keep the Boston Region MPO informed of this process through its monthly reports at their regularly scheduled meetings. The Boston Region MPO will continue to fund these projects in the LRTP until the process has been completed. When the process has been completed, the MPO will amend the LRTP and its conformity determination to include any changes (including any interim projects or programs).

Table 7-10 summarizes how the MBTA anticipates using its capital funds through SFY 2035.

TABLE 7-10**PROJECTIONS OF THE USE OF TRANSIT CAPITAL FUNDS
(IN MILLIONS)**

PROJECT TYPE	SFYs 2012-2015	SFYs 2016-2020	SFYs 2021-2025	SFYs 2026-2030	SFYs 2031-2035	TOTAL
CIP projects	\$2,166	\$1,861	\$1,961	\$2,274	\$2,636	\$10,898
New Starts/Small Starts	\$830	\$120	\$0	\$0	\$0	\$950
Other state-funded projects	\$216	\$0	\$0	\$0	\$0	\$216
TOTAL USES OF CAPITAL FUNDS	\$3,212	\$1,981	\$1,961	\$2,274	\$2,636	\$12,064

The MBTA's Capital Investment Program (CIP) is a rolling five-year plan, which outlines its current infrastructure needs and details planned investments. It is used to implement the Program for Mass Transportation, a 25-year plan for future investments in the MBTA.

The CIP focuses mainly on improvements and upgrades to vehicles, stations, tracks, signals, power systems, bridges, tunnels, and maintenance facilities which increase system reliability and safety. Also included are initiatives to enhance customer service and accessibility improvements that will benefit all of our riders. As shown in Table 7-10 and as noted throughout the LRTP, the majority of the MBTA's funding will be dedicated to the state of good repair of the regional transit system. This spending, however, does not meet the true state of good repair needs, which would require over \$1 billion more to be spent through 2020.

New Starts/Small Starts projects include funding for the Fitchburg Commuter Rail, Assembly Square, and Green Line Extension projects. Other state-funded projects include projects such as Beverly Parking Garage and the Salem Parking Garage.