

CHAPTER 16: FINANCIAL ANALYSIS

FISCAL CONSTRAINT

MAP-21 regulations require that the Regional Transportation Plan be a fiscally 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 needs, not all the projects that are identified in the needs analysis section can be included in the Financial Plan.

The major sources of funding for highway-related projects are 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 typically come from the Transportation Bond Bill, which is financed through either gasoline tax revenues or general tax funds.

ESTIMATED HIGHWAY PROGRAM REVENUES

MAP-21 requires that the Regional Transportation Plan be fiscally constrained and that the costs of plan improvements not exceed reasonably expected revenues. The financial element must demonstrate that the projects contained in the Regional Transportation Plan can be implemented using the revenue forecasts contained in the Plan. Forecasting the amount of federal and state revenues that can reasonably be expected over a twenty-five year planning horizon is difficult at best. Changes in administration and policies at the state and federal levels, new federal transportation legislation, and new transportation bond bills are just a few of the factors that will influence transportation spending over time. MassDOT has provided information regarding anticipated funding levels for the Statewide Road and Bridge Program to the MPOs. This information is outlined in Table 16.1 on page 385 and compared with the RTP recommendations in Table 16.2 on page 386.

Table 16.1 provides an estimate of the total amount of highway funding that is anticipated for the state and region, grouped in five-year increments over the life of the RTP. These estimates are based on the following assumptions:

- Federal funding (OA and redistribution) and state match for the period of 2016 – 2020 reflects current STIP allocations, \$600 million per year with no revenue growth. This does not include State match.
- Beginning in 2020, and each year thereafter, federal funding is assumed to grow at a rate of 1.5% per year.
- Deductions for statewide items that cannot be allocated individually to the MPOs, including the Central Artery and Accelerated Bridge Program (APB) Grant Anticipation Note (GAN) repayments, Planning, and Extra Work Orders/Cost Adjustments, are taken from the total available funding, leaving the amount of available federal funding to be allocated in the regional plans.
- Assumed funding for Major Infrastructure Projects, the National Highway System/Interstate Maintenance Programs, the Federal Aid Bridge Program, and Infrastructure Maintenance mirrors the assumptions made for federal funding: 2016-2019 reflect STIP amounts, and thereafter programs are adjusted by a rate of 1.5% per year.
- The Balance Available for the Statewide Road and Bridge Program is a function of the other assumptions made in the state’s financial plan and represents federal funding after deducting statewide line items and GANS repayments. For 2016-2019, this amount reflects the regional targets provided in the STIP; from 2020 to 2040 the forecast grows based upon the assumed 1.5% growth in revenue.
- The distribution of Federal highway funds to the NMMPO is made according to a formula that is primarily based on the region’s road mileage and population. The formula was developed by the Massachusetts Association of Regional Planning Agencies (MARPA) and is known as the “MARPA formula.” The Northern Middlesex region receives approximately 3.9% of the total highway funding available to the MPOs within Massachusetts;
- Funding assumed for the NHS/IM Program is allocated based upon the regional share of National Highway System mileage (3.81% for the Northern Middlesex Region); and
- Amounts assumed for the Bridge Program are allocated based upon each region’s percentage of bridges (2.88% for the Northern Middlesex Region).
- Recommended projects in the plan (see Chapter 15) have a 4% Year of Expenditure (YOE) applied to current cost estimates. The time frames outside of the 2016-2020 band use the median year as the YOE. These cost estimates are developed from consultation with Communities, MassDOT and NMCOG. Communities and/or MassDOT may provide cost estimates for most RTP projects. For those projects without a given cost estimate, NMCOG may use historical projects with similar scopes to determine and initial cost estimate.

Table 16.1: Statewide Funding Estimates (2016-2040)

	Estimated Highway Federal Funding					
	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	Total
Federal funding in today's dollars w/ 1.5% increase starting in 2021	\$3,000,000,000	\$3,194,405,494	\$3,441,281,941	\$3,707,237,987	\$3,993,748,182	\$17,336,673,604
Less GANs Payments	\$323,530,450	\$574,374,304	\$167,280,246	0	0	\$1,065,185,000
Total Federal Funds Available Including State Match	\$2,676,469,550	\$2,620,031,190	\$3,274,001,695	\$3,707,237,987	\$3,993,748,182	\$16,271,488,604
Funding w/ non-Federal match	\$3,345,586,938	\$3,275,038,988	\$4,092,502,119	\$4,634,047,484	\$4,992,185,228	\$20,339,360,755
Statewide Infrastructure, bridge, & other items	\$2,317,711,938	\$2,193,121,633	\$2,740,533,765	\$3,103,178,260	\$3,343,004,300	\$13,697,549,896
Statewide Funding Potentially for NMMPO Highway Assets						
Statewide Interstate Maintenance	\$13,677,041	\$12,944,665	\$16,175,706	\$18,316,176	\$19,731,724	\$80,845,312
Statewide NHS	\$6,798,072	\$6,583,850	\$8,227,206	\$9,315,882	\$10,035,850	\$40,960,860
Statewide Bridge Program	\$21,127,516	\$20,461,745	\$25,569,080	\$28,952,540	\$31,190,108	\$127,300,989
Statewide Infrastructure	\$1,526,003	\$1,477,915	\$1,846,809	\$2,091,190	\$2,252,806	\$9,194,723
Remaining Statewide Programs	\$34,734,960	\$36,707,139	\$45,869,391	\$51,939,114	\$55,953,177	\$225,203,781

Source: MassDOT

Table 16.2: NMMPO Funding Estimates (2016-2040)

NMMPO Federal and Non Federal Funding Estimates						
	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	Total
Total Estimated NFA System Preservation Funds available to the NMMPO	\$19,548,000	\$19,841,220	\$20,134,440	\$20,427,660	\$20,720,880	\$100,672,200
Federal Aid Funding (all MPO's)	\$1,027,875,000	\$1,081,917,355	\$1,351,968,354	\$1,530,869,224	\$1,649,180,928	\$6,641,810,859
Northern Middlesex MARPA Formula Percentage				3.9096%		
Total Federal Aid RTP Funding Allocation to NMMPO	\$40,185,801	\$42,298,641	\$52,856,555	\$59,850,863	\$64,476,378	\$259,668,237

Source: MassDOT

Table 16.3 below shows the estimated highway costs for recommended project versus expected allocation to the Northern Middlesex MPO. These funding targets are grouped into five year increments and show the Regional Transportation Plan’s Financial Constraint.

Table 16.3: NMMPO Estimated Highway Project Costs vs. Available Funding (2016-2040)

	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	Total
Estimated Costs	\$38,432,568	\$41,715,467	\$52,765,570	\$59,803,003	\$64,437,277	\$257,153,885
Total Available Funds	\$40,185,801	\$42,298,641	\$52,856,555	\$59,850,863	\$64,476,378	\$259,668,238
Difference	\$1,753,233	\$583,174	\$90,985	\$47,860	\$39,101	\$2,514,353
Financial Constraint	Yes	Yes	Yes	Yes	Yes	Yes

TRANSIT PROGRAM REVENUES

Estimates of available transit revenues were provided by the Massachusetts Department of Transportation and the Lowell Regional Transit Authority. In order to prove fiscal constraint, these revenues were compared to expected capital and operating costs for the LRTA. This data is outlined in Table 16.4 on the following page. The table shows that for each five year increment during the lifetime of the RTP, the LRTA transit financials are constrained.

Table 16.4: Anticipated LRTA Revenues (2016-2040)

Description	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	Total
Federal Programs - Source: MassDOT						
Urbanized Area Formula (5307)	\$20,074,851	\$21,626,317	\$23,297,684	\$25,098,222	\$27,037,913	\$117,134,987
Capital Fixed Guideway Program (5309)	0	0	0	0	0	\$0
Elderly & Disabled (5310)	0	0	0	0	0	\$0
Non-Urbanized Area Formula (5311 & 5340)	0	0	0	0	0	\$0
Section 5339	0	0	0	0	0	\$0
Subtotal	\$20,074,851	\$21,626,317	\$23,297,684	\$25,098,222	\$27,037,913	\$117,134,987
Commonwealth Programs - Source: LRTA						
State Capital Investment	\$13,721,172	\$5,800,000	\$6,847,773	\$8,397,550	\$6,991,060	\$41,757,555
State Contract Assistance for Operations	\$18,484,893	\$22,181,872	\$26,618,246	\$31,941,895	\$38,330,274	\$137,557,180
Mobility Assistance Program	\$1,260,650	\$1,445,000	\$1,661,000	\$1,911,000	\$1,911,000	\$8,188,650
Subtotal	\$33,466,715	\$29,426,872	\$35,127,019	\$42,250,445	\$47,232,334	\$187,503,385
Lowell Regional Authority Revenues - Source LRTA						
Local Assessments	\$13,252,605	\$13,583,920	\$13,923,518	\$14,271,606	\$14,628,396	\$69,660,045
Farebox Revenue	\$7,127,517	\$7,555,168	\$7,706,271	\$7,860,397	\$8,017,605	\$38,266,958
Other Revenue	\$697,647	\$711,600	\$725,832	\$740,349	\$755,156	\$3,630,584
Parking Revenues	\$6,313,880	\$6,440,158	\$6,504,559	\$6,569,605	\$6,635,301	\$32,463,503
Total	27,391,649	28,290,846	28,860,180	29,441,957	30,036,458	144,021,090
Total All Anticipated Revenues	\$80,933,215	\$79,344,035	\$87,284,883	\$96,790,624	\$104,306,705	\$448,659,462
Total All Anticipated Expenses (Capital + Operating)	\$80,884,761	\$79,324,141	\$87,268,392	\$96,790,320	\$104,306,081	\$448,573,695
Difference	\$48,454	\$19,894	\$16,491	\$304	\$624	\$85,767

Tables 16.5 below and 16.6 on the following page provide a breakdown and comparison of anticipated revenues/funding assistance and the cost of service for the LRTA for both operations and capital programs. As shown, expenses do not exceed anticipated revenues, therefore, the Regional Transportation Plan is financially constrained.

Table 16.5: Anticipated LRTA Operating Revenues and Cost of Service (2016-2040)

Revenue Assistance	2016-2020	2021-2025	2026-2030	2030-2035	2036-2040	Total
Contract Assistance	\$18,484,893	\$22,181,872	\$26,618,246	\$31,941,895	\$38,330,274	\$137,557,180
Local Assessments	\$13,252,605	\$13,583,920	\$13,923,518	\$14,271,606	\$14,628,396	\$69,660,046
Farebox Revenue	\$7,127,517	\$7,555,168	\$7,706,271	\$7,860,397	\$8,017,605	\$38,266,958
Other Revenue	\$697,647	\$711,600	\$725,832	\$740,349	\$755,156	\$3,630,583
§5307 Preventive Maintenance	\$13,126,219	\$13,979,423	\$14,888,086	\$15,855,811	\$16,886,439	\$74,735,978
§5307 ADA	\$2,200,000	\$2,244,000	\$2,288,880	\$2,334,658	\$2,381,351	\$11,448,888
Parking Revenues	\$6,313,880	\$6,440,158	\$6,504,559	\$6,569,605	\$6,635,301	\$32,463,502
Total Operating Revenue	\$61,202,761	\$66,696,141	\$72,655,392	\$79,574,320	\$87,634,521	\$367,763,135
Estimated Cost of Service	\$61,202,761	\$66,696,141	\$72,655,392	\$79,574,320	\$87,634,521	\$367,763,135

Source: LRTA

Table 16.6: Transit Capital Expenditures and Revenues (2016-2040)

Category	2016-2025	2026-2035	2036-2040	Total
<i>Bus Replacement</i>				
Fixed Route Buses over 35 ft.	\$10,236,000	\$15,614,000	\$8,928,050	\$34,778,050
Fixed Route Buses Under 35 ft.	\$2,000,000	\$2,500,000	\$1,262,500	\$5,762,500
Paratransit	\$3,629,000	\$4,873,000	\$2,642,160	\$11,144,160
Support Vehicles	\$439,000	\$649,000	\$356,000	\$1,444,000
Preventive Maintenance	\$27,105,642	\$30,743,897	\$16,886,439	\$74,735,978
<i>Facility Updates and Improvements</i>				
Gallagher Parking Garage Facilities	\$1,124,000	\$1,216,000	\$635,500	\$2,975,500
100 Hale Street Maintenance Facility	\$680,000	\$912,000	\$476,625	\$2,068,625
Robert B. Kennedy Intermodal Center	\$500,000	\$500,000	\$250,000	\$1,250,000
Robert Maguire Facility	\$563,000	\$599,000	\$317,750	\$1,479,750
Spare Parts, Equipment and Miscellaneous	\$1,241,000	\$1,838,000	\$1,034,225	\$4,113,225
Fareboxes and Communication	\$1,000,000	\$1,250,000	\$768,750	\$3,018,750
Total Capital Expenditures	\$48,517,642	\$60,694,897	\$33,557,999	\$142,770,538
Available Capital Revenues	\$51,330,168	\$60,791,229	\$34,334,973	\$172,319,035

Source: LRTA Transit Projections

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