

Chapter 6: Financial Analysis

6.1 REQUIREMENT FOR A FINANCIAL PLAN

The Fixing America’s Surface Transportation (FAST) Act¹ requires that the LRTP include a financial plan, including future revenue projections and future project costs. The legislation requires that the LRTP be “fiscally-constrained,” meaning that it must include a financial plan that “demonstrates how the adopted transportation plan can be implemented” and “indicates resources from public and private sources that are reasonably expected to be made available to carry out the plan.” (23 U.S.C., Sec. 134 (i)(2)(E)(i)) In other words, the plan must show how the region will pay for any projects included in the anticipated future scenario, with revenues that are reasonably expected to be available. Thus, the LRTP is grounded in financial reality and is not simply a “wish list” of projects for the region.

The LRTP may include a list of “illustrative projects” representing additional investment priorities that would be considered if additional financial resources become available in the future.

6.2 FUTURE COSTS AND REVENUES

6.2.1 COST PROJECTIONS FOR ANTICIPATED FUTURE PROJECTS

As described in Chapter 5, the SMTC member agencies provided lists of future projects that they would like to complete to address known capacity or accessibility concerns, in addition to the priority projects identified at the beginning of the LRTP process (completion of the I-81 Viaduct Project, enhanced transit system, and regional trail network). These projects were included in the 2050 Anticipated

Federal legislation dictates that the LRTP must show how the region will pay for any projects included in the anticipated future scenario, with revenues that are reasonably expected to be available.

What is a capital project?

A ‘capital project’ is a major construction project or acquisition. It includes all transportation modes: facilities for pedestrians and cyclists, purchasing buses and maintaining, improving and constructing roads and bridges. ‘Capital expenses’ are the costs associated with capital projects.

¹The FAST Act was signed on December 4, 2015, replacing MAP-21 as the current Federal surface transportation law.

How are capital projects selected and funded?

The SMTC prepares the Transportation Improvement Program (TIP), which is a multi-year listing of all capital projects within the MPA that have been selected for receipt of transportation dollars from the Federal Highway Administration and the Federal Transit Administration.

All SMTC member agencies are involved in some fashion in the selection process. In many cases, municipal planners and engineers generate lists of potential improvements based on studies, analysis, and public input. Projects are evaluated by the SMTC Capital Projects Committee, which consists of SMTC staff and representatives from city, county, and state agencies. After projects are evaluated, an initial listing of recommended projects is released for public comment and then moved forward to the SMTC Planning and Policy

Committees for approval.

Typically, more than three-quarters of all federal transportation funding in our area goes to maintenance of existing infrastructure. In the current 2017-2021 TIP, which totals over \$423 million for the 5 years, more than 75 percent of the total funds (highway and transit) are allocated for maintenance activities. This includes activities that preserve or maintain our existing infrastructure or replace infrastructure ‘in-kind’ (i.e. replace with the same structure, without an increase in the capacity of the system). Examples include paving roads, reconstructing roads (without adding lanes), painting bridges, replacing or rehabilitating bridges (without adding travel lanes), or replacing buses.

Future scenario model. The financial analysis considers whether the region can reasonably expect to fund these projects over the next 35 years. However, inclusion in this financial plan does not guarantee that a project will be funded; each project must still compete for federal funding through the SMTC’s TIP process. Projects selected for inclusion on the TIP will be evaluated based on the updated LRTP goals and objectives and weighed against the other projects proposed for that particular TIP update.

Costs were determined for all of the projects included in the 2050 Anticipated Future scenario model (that are anticipated to occur after 2017). Centro provided details of their capital plan through Federal Fiscal Year (FFY) 2050 (updated May 2018), in year-of-expenditure (YOE) dollars, and SMTC staff summarized the data into preventive maintenance, bus replacements, and other capital project needs (for example, bus shelters, farebox system replacements, and fueling facility maintenance), as shown in Table 6.1. Centro operations are primarily funded by Statewide Mass Transportation Operation Assistance (STOA), provided by NYSDOT, and local sources (including farebox revenues). These are established revenue sources that are expected to continue to be used for operations in the future. Costs for anticipated future

Table 6.1: Anticipated future transit projects and costs

All costs are in millions of year-of-expenditure (YOE) dollars

Project	Short-term	Mid-term	Long-term	Total
	FFY 2017-2021	FFY 2022-2031	FFY 2032-2050	
Preventive Maintenance	36.95	82.20	224.90	344.05
Bus replacements	30.72	102.04	185.07	317.83
Other capital project needs	5.85	13.10	35.49	54.44
Total	73.52	197.34	445.46	716.32

Note: FFY 2017 runs from Oct. 1, 2016 through Sept. 30, 2017, etc.

highway projects were determined from the current 2017-2021 TIP and additional information provided by the City of Syracuse, NYSDOT, and Onondaga County Department of Transportation, as shown in Table 6.2. Agencies also identified a timeframe for completion of each project, either within the current TIP (through 2021) or in the mid-term (through 2031). Since the year 2050 is beyond the capital planning horizon of the individual agencies, no specific highway projects were identified for the long-term timeframe. Costs estimates derived from the current TIP are in YOE dollars as required by Federal legislation; for other projects, estimates were inflated by 2 percent per year² from 2014 until the estimated time of completion. Both the City and the County currently spend a portion of their own budgets on preventive and corrective maintenance of FAE roads within their jurisdiction and this is expected to continue in the future; therefore, City and County projects on FAE roads are included in Table 6.2.

SMTC staff also estimated maintenance costs through 2021, 2031, and 2050. In this context “maintenance” includes capital projects that are “replacements in-kind,” such as bus replacements, transit facilities maintenance, paving or reconstructing roads, or rehabilitating or replacing bridges with no increase in the capacity of the current system.

²The NYSDOT indicated that a 2 percent per year rate of inflation should be used for cost projections, based on the best available estimates of overall price trends for the transport public works sector in New York State at the time this plan was written.

Within this plan, “maintenance” includes capital projects that are “replacements in-kind,” such as bus replacements, transit facilities maintenance, paving or reconstructing roads, or rehabilitating or replacing bridges with no increase in the capacity of the current system.

Table 6.2: Anticipated future highway projects and costs

Project	Category	Agency	Total cost (millions YOE \$)
Short-term			
I-690 bridge over Beech St. and Teall Ave.	Interchange improvements	NYSDOT	74.000
State Fairgrounds Access Improvement Project, Phase 1	Interchange improvements	NYSDOT	20.000
Empire State Trail - segment 4	Bicycle/pedestrian enhancements	NYSDOT	17.760
Route 635 bridges over I-690 and CSX railroad	Road and bridge maintenance/replacement in-kind	NYSDOT	14.000
Route 11/Route 20 Improvements	Signals/intersection capacity enhancements	NYSDOT	9.910
Onondaga Lake Parkway Safety Improvements, Old Liverpool to I-81 Ramp	Safety	NYSDOT	6.633
I-81, I-481, and I-690 incident management system	Safety	NYSDOT	5.000
Empire State Trail - segments 1, 3, and 5	Bicycle/pedestrian enhancements	NYSDOT	4.651
Rt. 5 left turn lane, Chamberlin Rd. to Sunview Dr.	Safety	NYSDOT	4.176
NY 31 at Thompson & South Bay Rd. intersection improvements.	Safety	NYSDOT	4.160
Soule Road separation from NY 481 SB on ramp	Interchange improvements	NYSDOT	3.041
Rt. 370 at John Glenn Blvd.	Safety	NYSDOT	2.150
Route 31 paving: CNS to South Bay Rd.	Roadway capacity enhancements	NYSDOT	2.107
Pedestrian Safety Action Plan, Phase 1, Contract 1	Safety	NYSDOT	1.876
Reg 3 Highway Emergency Local Patrol (HELP) Program	Safety	NYSDOT	1.500
Pedestrian Safety Action Plan, Phase 2, Contract 1	Safety	NYSDOT	1.154
Third lane of Frontage Road (along I-81)	Roadway capacity enhancements	NYSDOT	1.126
Rt. 11 ADA sidewalk & pedestrian safety project, E. Taft Rd. to Bear Rd.	Safety	NYSDOT	0.902
Rt. 11 sidewalk installation, Bear Rd. to Caughdenoy Rd.	Safety	NYSDOT	0.825
I-481 at Kirkville Rd. ramp realignment	Safety	NYSDOT	0.700
Railroad grade crossing improvements CSX RR, Old Liverpool Rd.	Safety	NYSDOT	0.400
Rt. 635 (Thompson Road) - ramp re-alignment - (SB Ramp to EB Service Rd./I-690)	Safety	NYSDOT	0.360
Railroad grade crossing improvements CSX RR, Vine St.	Safety	NYSDOT	0.300
Onondaga Lake Parkway speed reduction	Other highway	NYSDOT	0.011

Table 6.2, continued: Anticipated future highway projects and costs

Project	Category	Agency	Total cost (millions YOE \$)
County projects on FAE roads	Road and bridge maintenance/ replacement in-kind	OCDOT	13.460
Onondaga County Canalways Trail Phase II: Pedestrian bridge over CSX RR	Bicycle/pedestrian enhancements	OCDOT	10.490
Onondaga Lake Canalways Trail, extension	Bicycle/pedestrian enhancements	OCDOT	1.887
Electronics Pkwy/Henry Clay Blvd signal interconnect	Signals/intersection capacity enhancements	OCDOT	1.139
Pedestrian Signal Safety Project - 10 Priority Locations	Safety	OCDOT	0.825
CARDS installation project-various locations	Safety	OCDOT	0.520
Onondaga Creekwalk Phase II	Bicycle/pedestrian enhancements	City of Syracuse	12.616
City projects on FAE roads	Road and bridge maintenance/ replacement in-kind	City of Syracuse	11.406
N, S, E, W Interconnect Expansion	Signals/intersection capacity enhancements	City of Syracuse	7.538
Erie Blvd West 3 lane cross section between Clinton St and W Genesee	Road diets/lane reductions	City of Syracuse	2.252
University Hill Bike Network implementation	Road diets/lane reductions	City of Syracuse	1.952
Hiawatha Blvd Bridge Sidewalk Improvement Project	Bicycle/pedestrian enhancements	City of Syracuse	1.822
Reconstruction of E. Genesee Street Connective Corridor to Syracuse University	Bicycle/pedestrian enhancements	City of Syracuse	0.593
Water Street closure between University and Walnut	Road diets/lane reductions	City of Syracuse	0.282
South Salina Street turn lane additions	Signals/intersection capacity enhancements	City of Syracuse	0.225
Revitalization and redevelopment of the Hamlet of Brewerton	Bicycle/pedestrian enhancements	Town of Cicero	0.569
Sidewalk project, Rt. 257	Bicycle/pedestrian enhancements	Village of Fayetteville	0.775
Canal Landing Park Phase IV	Bicycle/pedestrian enhancements	Village of Fayetteville	0.382
Complete streets corridor project	Bicycle/pedestrian enhancements	Village of N. Syracuse	1.253
Remaining maintenance projects cost from current TIP	Road and bridge maintenance/ replacement in-kind	all	169.398
Short-term total			416.125

Table 6.2, continued: Anticipated future highway projects and costs

Project	Category	Agency	Total cost (millions YOE \$)
Mid-term			
I-81 interchange at Route 31	Interchange improvements	NYSDOT	37.752
Route 31 widening: Morgan Rd to Route 11	Roadway capacity enhancements	NYSDOT	11.120
Route 5 widening	Roadway capacity enhancements	NYSDOT	4.256
Girden Road extension	Roadway capacity enhancements	NYSDOT	3.844
County projects on FAE roads	Road and bridge maintenance/ replacement in-kind	OCDOT	27.732
Buckley Rd shared turn lane and Buckley/Bear intersection upgrades	Signals/intersection capacity enhancements	OCDOT	13.041
Soule Road widening	Roadway capacity enhancements	OCDOT	12.355
Onondaga Lake Canalways Trail, Salina Extension Project	Bicycle/pedestrian enhancements	OCDOT	10.700
7th North Street/Buckley Rd intersection Upgrades	Signals/intersection capacity enhancements	OCDOT	6.178
White Pines development, improvements to Caughdenoy Rd and Route 31/Caughdenoy Rd intersection	Signals/intersection capacity enhancements	OCDOT	5.491
City projects on FAE roads	Road and bridge maintenance/ replacement in-kind	City of Syracuse	23.500
Onondaga Creekwalk Phase III	Bicycle/pedestrian enhancements	City of Syracuse	13.728
James Street 3 lane cross section from State to Grant/Shotwell	Road diets/lane reductions	City of Syracuse	4.118
Conversion of downtown streets to 2-way	Road diets/lane reductions	City of Syracuse	2.7466
Roundabout at James/Shotwell/Grant	Signals/intersection capacity enhancements	City of Syracuse	1.373
Maintenance/replacement in-kind	Road and bridge maintenance/ replacement in-kind	all	377.873
Safety projects	Safety	all	64.863
Mid-term total			620.669
Long-term			
Maintenance/replacement in-kind	Road and bridge maintenance/ replacement in-kind	all	1,581.276
Highway projects grand total			2,618.070

The short-term maintenance costs are derived directly from the current 2017-2021 TIP. Mid-term maintenance cost projections were developed based on the total cost of maintenance projects in the current 2017-2021 TIP, inflated by 2 percent per five-year time block. For the long-term timeframe, maintenance/replacement in-kind costs were developed to be consistent with the total annual spending estimated for the short-term timeframe. Although no specific projects were identified by the members for the long-term timeframe, we recognize that additional projects (primarily maintenance/replacement in-kind) will be identified as time progresses, and, therefore, the total annual cost of projects in the short-term timeframe was projected over the 19 years of the long-term timeframe.

Based on this methodology, the maintenance/replacement in-kind costs identified here assume only that these activities will continue at their current rate, although the cost of completing those projects will rise over time. However, the SMTC acknowledges that the existing maintenance needs are not being met at the existing funding levels and that additional maintenance projects – and funds – would be necessary to address all the needs of the current system. This shortcoming is discussed further at the end of Section 6.4.

As shown in Tables 6.1 and 6.2, the total project costs, including maintenance existing levels, are approximately \$3.33 billion through 2050, with 22 percent of that total for transit projects and 78 percent for highway projects. Since no specific projects were identified for the long-term timeframe, the project costs in the long-term consist solely of maintenance/replacement in-kind costs. Within the short- to mid-term timeframes (through 2031), the total project costs – including member agencies’ projects and maintenance at existing levels – are anticipated to be about \$1.3 billion. As shown by Figure 6.1, about 70 percent of the anticipated project costs through year 2031 are for maintenance of the transit system, roads, and bridges. As previously noted, maintenance projects are considered to be any projects that do not increase the capacity of the existing transportation system.

Current levels of maintenance funding are inadequate to address all the needs of the existing system.

FIGURE 6.1: SHORT- AND MID-TERM ANTICIPATED FUTURE PROJECT COSTS BY CATEGORY

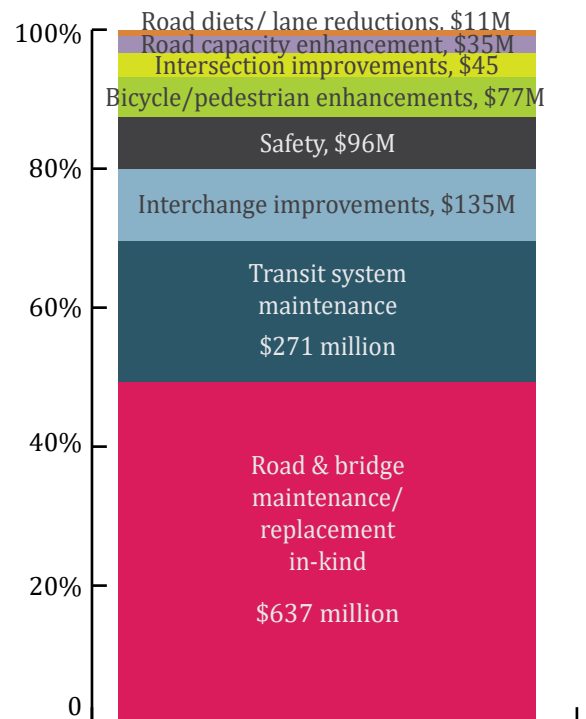


Table 6.3: Anticipated revenues for transit capital projects and projects on Federal Aid Eligible highways

All revenues are in millions of dollars

Revenue Source	Short-term		Mid-term		Long-term		Total
	FFY 2017-2021		FFY 2022-2031		FFY 2032-2050		
Transit							
Federal Aid Sections 5307 + 5339	40.74		98.51		269.52		408.77
Surplus 5307 + 5339	12.40		n/a		n/a		12.40
Competitive 5339	3.60		14.40		21.60		39.60
Total Federal Aid	56.74		112.91		291.12		460.77
Local match to Federal Aid	14.19		28.23		72.78		115.19
Federal Aid + match total	70.93		141.13		363.90		575.95
State dedicated funds (SDF)	10.74		50.20		90.80		151.74
Transit total, all sources	81.66		191.33		454.70		727.69
Highway							
	Suballo-	Addi-					
	cation	tional					
Federal Aid Total (<i>from core programs only</i>)	183.38	82.00	466.14	1,185.28	1,916.79		
<i>HSIP</i>	8.03	12.37	20.41	51.90	92.72		
<i>NHPP</i>	120.13	62.85	305.35	776.43	1,264.75		
<i>STP-Flex</i>	26.83	5.028	68.21	173.44	273.50		
<i>STP-Off System Bridge</i>	4.61	1.75	11.71	29.78	47.84		
<i>STP-Urban</i>	23.76	n/a	60.46	153.73	237.98		
TAP	1.46	3.48	3.26	8.29	16.49		
HPP	n/a	10.10	n/a	n/a	10.10		
CMAQ, TEP	n/a	2.70	6.03	15.34	24.07		
NHFP	15.00	n/a	n/a	n/a	n/a		
Total Federal Aid	199.84	98.28	475.43	1,208.90	1,982.45		
Match to Federal Aid	35.27	15.56	83.91	213.37	348.12		
Federal Aid + match total	235.11	113.84	559.33	1,422.28	2,330.57		
State dedicated funds	0.00	0.00	25.00	47.50	72.50		
CHIPs (FAE roads only)	13.90	0.00	27.80	52.83	94.54		
Other County and City funds on FAE roads	10.96	0.00	21.93	41.66	74.55		
Other State funding	42.41	0.00	n/a	0.00	42.41		
Highway non-Federal Aid total	67.28	0.00	74.73	141.99	283.99		
Highway total, all sources	416.23		634.07		1,564.26		2,614.57
Summary							
Total Federal Aid (transit + highways)	354.86		588.34		1,500.02		2,443.21
Total match	65.03		112.14		286.15		463.31
Total other sources	78.02		124.93		232.79		435.73
Grand total available revenue	497.89		825.41		2,018.96		3,342.26

6.2.2 REVENUE PROJECTION

Revenues were projected for the short-, mid-, and long-term timeframes for both transit and highway funding sources, as shown in Table 6.3. Transit revenue estimates were based on data provided by Centro from their capital plan. Revenues for highway projects in the short-term are consistent with the current 2017-2021 TIP (as of May 2018), with an average 15 percent local match assumed. Federal Aid for highway projects was projected for all current programs based on a 2 percent per year increase in the total allocation, as agreed upon by NYSDOT in consideration of previous authorizations and the future uncertainty in the Federal program. Since other fund sources are also used for projects on the Federal Aid system, these sources are also included in the revenue estimates shown in Table 6.3. These include State funding provided to specific highway projects in our planning area, Consolidated Local Street and Highway Improvement Program (CHIPs) funds, and municipal funds. (Note that only CHIPs and municipal funds

Table 6.3 notes:

- 20% local match assumed for FTA fund sources; average of 15% local match assumed for FHWA fund sources.
- FTA Section 5307 and 5339 expected revenues were provided by Centro. Centro assumed a 2.5% per year increase in funding.
- Centro intends to apply for \$3.6M in Competitive 5339 funds in 2018. This plan assumes they will be successful in that application in 2018, and every 3 years after for the rest of the plan (with no increase over time).
- Centro provided information on the amount of State dedicated funds they expect to receive each year of this plan, inclusive of all of their properties. In consultation with Centro staff, this plan assumed that 50% of the total SDF would go to Onondaga County in the short-term, increasing to 80% in the mid- and long-term (based on population and ridership within this service area).
- "Additional" highway funds in the short-term timeframe are for programs that have had (or are expected to have) statewide solicitations.
- HPP is a fund source from prior authorization acts, so no future funds are anticipated.
- Based on discussions with NYSDOT, state dedicated funds for highways were included at \$2.5M per year for mid- and long-term timeframes. In short-term "other State funding" includes funds provided by NYSDOT specifically for the Empire State Trail (\$22.41M) and the NYS Fairgrounds Access Improvement Project (\$20M).
- Highway Federal Aid total (core programs) for mid- and long-term were projected to increase at 2% per year starting from the five-year average total annual allocation in the current 2017-2021 TIP. The five-year average was calculated based on all Federal fund sources, including "additional" funds with the exception of the I-690 bridge over Beech St/Teall Ave project (which accounts for about \$57M of the "additional" NHPP funds in the short-term timeframe). Total Federal Aid was then assumed to be distributed among the core programs proportionally to the distribution in the current TIP.
- TAP and CMAQ/TEP funds were assumed to increase by 2% per year in the mid- and long-term starting from the average annual allocation based on the current TIP.
- The OCDOT indicated that approximately 27% of their annual paving work is on FAE roads. SMTc staff review of City of Syracuse paving work indicated that approximately 46% of their 3-year average road reconstruction budget was spent on FAE roads. These percentages were applied to the CHIPs funding and other County and City funds (based on the respective Capital Improvement Plans and/or Department of Public Works budget) and assumed to remain steady (annually) throughout all timeframes in this plan.

spent by Onondaga County and the City of Syracuse were included because there are so few miles of Federal Aid-eligible roads owned/maintained by towns and villages.)

As shown in Table 6.3, the SMTC anticipates a total of \$3.3 billion in revenue to be available for transit and highway capital projects in our planning area through the year 2050, with about 78 percent of that total for highway projects and 22 percent for transit projects. These projections are based on the assumption of very modest increases in fund allocations over time (see the table notes for details). About 73 percent of the expected revenue is Federal Aid, with the remaining revenue about evenly split between local match funds and other sources (State dedicated, municipal funds, etc.). No new financing strategies or funding sources (such as private contributions) are included as their availability is not currently considered likely. However, if this situation changes, future LRTPs may include additional resources currently not available to member agencies.

Within the timeframe of the anticipated future projects (the short- and mid-term, through the year 2031), the SMTC anticipates a total of just over \$1.3 billion in Federal Aid, matching funds, and other funds to be available to capital projects for transit and Federal Aid eligible roadways in the region.

6.3 FISCAL CONSTRAINT

Table 6.4 compares the anticipated future project costs to the anticipated available revenue from all sources identified in the previous section, over the life of this plan. This financial analysis indicates a surplus of more than \$7 million over the life of this plan when comparing total revenue (all sources) to total costs including both transit and highway projects. However, the analysis shows a deficit of \$6 million for transit projects in the mid-term timeframe and a deficit of over \$17 million for highway projects in the long-term timeframe. These specific deficits can be addressed by:

- Accounting for the allowable rollover of transit surplus funds from the short-term to the mid-term timeframes.
- Increasing the anticipated average match to FHWA funds from 15 percent to 16.5 percent in the long-term timeframe.

Table 6.4: Comparison of anticipated revenue and future capital project costs

All figures in millions of year-of-expenditure (YOE) dollars.

	Short-term	Mid-term	Long-term	Total
	FFY 2017-2021	FFY 2022-2031	FFY 2032-2050	
Transit				
Federal aid + match (20%)	70.93	141.13	363.90	575.95
State dedicated funds	10.74	50.20	90.80	151.74
Total capital project costs	73.52	197.34	445.46	716.32
Balance	8.14	-6.00	9.23	11.38
Highways				
Federal aid + match (15%)	348.95	559.34	1,422.28	2,330.57
State funding (inc. SDF)	42.41	25.00	47.50	114.91
CHIPs, local funds	24.87	49.73	94.49	169.08
Total capital project costs	416.13	620.67	1,581.28	2,618.07
Balance	0.10	13.40	-17.01	-3.51
All projects				
Total revenue	497.89	825.41	2,018.96	3,342.26
Total capital project costs	489.65	818.01	2,026.74	3,334.39
Overall balance	8.25	7.40	-7.78	7.87

Table 6.5 demonstrates how the SMTC will achieve fiscal constraint over the life of this plan, incorporating the items mentioned above. With these actions, we anticipate an overall balance of about \$33 million (or about 1 percent of total anticipated revenues) and no deficits in any timeframe for highway or transit projects.

6.4 ADDITIONAL PROJECTS

The SMTC acknowledges that non-traditional, competitive funding will be necessary to complete two significant projects: the I-81 Viaduct Project and an enhanced transit system. Both of these projects would require substantial additional funding and are included for illustrative purposes as important projects that would be added to the LRTP if additional resources could be identified. At their October 2016 Public Open House for the I-81 Viaduct Project, the NYSDOT indicated that the Viaduct Alternative would cost \$1.7 billion and the Community Grid Alternative would cost \$1.3 billion, and the 2017 I-81 Independent Feasibility Study indicated that tunnel alternatives would range in cost

Table 6.5: Fiscal constraint

All figures in millions of year-of-expenditure (YOE) dollars.

	Short-term	Mid-term	Long-term	Total
	FFY 2017-2021	FFY 2022-2031	FFY 2032-2050	
Transit				
Federal aid + match (20%)	70.93	141.13	363.90	575.95
State dedicated funds	10.74	50.20	90.80	151.74
Rollover	0.00	8.14	0.00	8.14
Total capital project costs	73.52	197.34	445.46	716.32
Balance	8.14	2.14	9.23	11.38
Highways				
Federal aid + match (15% short- and mid-term, 16.5% long-term)	348.95	559.34	1,447.78	2,356.08
State funding (inc. SDF)	42.41	25.00	47.50	114.91
CHIPs, local funds	24.87	49.73	94.49	169.08
Total capital project costs	416.13	620.67	1,581.28	2,618.07
Balance	0.10	13.40	8.50	22.00
All projects				
Total revenue	497.89	825.41	2,044.47	3,367.77
Total capital project costs	489.65	818.01	2,026.74	3,334.39
Overall balance	8.25	7.40	17.73	33.38

Additional funding will need to be secured for the I-81 Viaduct Project and for the implementation of an enhanced transit system.

from \$3.0 billion to \$4.5 billion (construction costs only). Consider that the total cost of all highway projects included in this plan - the 2050 Anticipated Future projects plus maintenance at current levels - is estimated at \$2.62 billion and that total revenue from FHWA sources is anticipated to be \$2.36 billion through 2050. The I-81 Viaduct Project alone could consume our region's entire allocation of traditional federal highway funds. Clearly, an additional fund source or financing mechanism must be identified to complete the I-81 work.

An enhanced transit system will also require additional funds. The recently-completed Syracuse Metropolitan Area Regional Transit (SMART) Study, Phase 1, identified two corridors for mixed-traffic Bus Rapid Transit as the Locally Preferred Alternative for enhanced transit in the region. The anticipated capital cost to implement both corridors is about \$34 million (plus an additional \$8 million annually for operations and maintenance).

Projects that are not included in this plan

Some projects that are discussed in our community have been examined in the past. Previous planning studies recommended that these projects not move forward, generally because the costs substantially outweighed the benefits or the project did not support the objectives of the LRTP. These projects include the following.

Completion of I-481 west of Syracuse (the “Western Bypass”). The NYSDOT’s I-81 Corridor Study (July 2013) indicated that the Western Bypass “would require extensive investment and have significant impacts to surrounding western communities without meeting the corridor needs. It would be generally located within built urban environments with significant impacts on property, community, economic and environmental resources and was therefore eliminated from further consideration as a stand-alone strategy.” An extension of I-481 to NYS Route 695 was considered as a possible mitigation measure associated with the boulevard strategy, but even this was found to have significant costs with minimal benefit and “the western bypass was ultimately eliminated from further consideration.”

New I-81 interchange between Route 31 and Brewerton. The SMTC’s Clay-Cicero Route 31 Transportation Study (2010) evaluated options for a new I-81 interchange north of Route 31 and concluded that “additional interchanges should only be considered if a regionally significant development occurs within the study area.” Not only would this require substantial fiscal resources, but interchange spacing requirements (given proximity to existing interchanges) and environmental constraints would pose serious challenges. The study states that “more detailed analysis would be required to clearly demonstrate the need for a new interchange and show that less resource-intensive mitigation measures, such as upgrading existing roads and employing travel demand management techniques, are not

adequate to provide safe and efficient access.” At this time, additional analysis of this interchange is not warranted.

Extension of the Baldwinsville Bypass (Route 631) to Route 48. The construction of Route 631 was split into two phases due to the availability of funds when the project was initially approved in 1998. Phase 1 was constructed between Route 31 and Route 370 in 2000/2001 at a cost of around \$3 million. The second phase would have included a new bridge over the Seneca River, making the cost significantly higher than the first phase (on the order of \$15 million in 1998). The project was also found to have relatively limited capacity benefits. Due to these factors, Phase 2 has not successfully competed for the limited capital funds available in our region over the past 15 years, and we do not expect this situation to change in the future as the maintenance needs throughout the transportation system continue to grow.

Extension or relocation of Route 290 in DeWitt and Manlius. This concept was discussed at length in the SMTC’s original 2020 LRTP (published in 1995). According to the 2020 LRTP, the idea of relocating Route 5 from the vicinity of the I-481/I-690 interchange to the vicinity of Manlius Center was considered as far back as 1971, and the relocation of Route 290 was included in the 1994-99 TIP as an “unfunded project.” The 2020 LRTP states that “the purpose of the proposed facility was to increase highway capacity between Syracuse and the eastern suburbs in the towns of DeWitt, Manlius, and Sullivan.” The 2020 LRTP included an analysis of the Route 290 project in terms of its effectiveness at meeting the plan objectives, and found that the project would have only a minimal positive impact on the most congested areas in the eastern suburbs and the cost would be substantial. The 2020 LRTP concluded that “this project is ineffective at meeting 2020 Plan objectives.”

Infrastructure condition trends

In the 2009-2010 rating cycle, 39 percent of bridges in our MPA were considered deficient, and that number increased to 47 percent deficient in the 2014-2015 rating cycle. Our MPA also has a higher percentage of deficient bridges than the state as a whole, with 36 percent of bridges statewide considered deficient in 2014-2015. The average pavement rating on Federal-Aid Eligible (FAE) roads in our MPA was 6.85, based on 2016 data and NYSDOT's 1-10 (poor-excellent) rating

system. This is actually a slight improvement from the 2013 average score of 6.53, but still considered only "fair" on the NYSDOT's scale. Looking just at the FAE roads rated by the NYSDOT (Interstates, U.S. highways, and State Touring Routes), 21 percent of the centerline miles in our MPA were rated as poor in 2016, compared to only 9 percent statewide. More details about pavement and bridge conditions can be found in the SMTC's Bridge and Pavement Condition Management System Report.

Two additional transit projects were also discussed in this planning process: a reduction of off-peak headways throughout the Centro system and implementation of an express route on I-81 north of Syracuse with park-n-ride facilities along the highway. The reduction of off-peak headways would result in increased operating costs only; since this financial analysis is focused on capital costs, this additional service was not included. Operating funds present a continual challenge for Centro each year. An express I-81 route with park-n-ride facilities was examined in the Syracuse Transit Systems Analysis (STSA), and the total capital and operating cost was estimated to be \$40 million over 20 years - far more than the available transit funds shown in Table 6.5 for the entire plan.

Working with the LRTP SAC, the SMTC developed a list of other additional projects that may be considered if additional funding becomes available. This list of projects was presented at the April 2015 public meetings (see Appendix C), and meeting attendees were asked to indicate which projects, if any, we should prioritize if transportation funding increases in the future. Bicycle and pedestrian projects (including "complete streets," completion of the Erie Canalway Trail, and general on-road bicycle infrastructure) as well as "increased maintenance work to bring pavement and bridges to good condition" received the most support from the public meeting attendees. Expanding the regional trail network was already identified early-on in this process as a regional priority, and improving bicycle

Public support for additional projects focused on bicycle and pedestrian projects and increased maintenance work on the existing transportation system.

and pedestrian infrastructure is a general theme of the plan, as is the substantial unmet need for increased maintenance projects. Based on this feedback, coupled with the financial realities facing the region as discussed above, the decision was made not to include any additional specific highway projects in the LRTP.

The need for additional highway maintenance projects was, however, supported by the SAC members and the public input. The maintenance costs included in Table 6.2 are based on what the SMTC has programmed over the last few years, projected out over the life of this plan, and, therefore, assume that maintenance activities will continue at their current rate. But we know that the condition of our roads, bridges, and transit system has been declining faster than we can fix them (even though about 75 percent of the funds in our recent capital programs have been spent on pavement and bridge projects) and that additional money will be needed to stop further decline and bring the majority of the system into good condition. SMTC staff worked with our member agencies to estimate the funding that would be necessary to bring a substantial portion of our system into good condition by 2030. This figure was estimated to be on the order of \$2 billion for additional maintenance activities. This is a substantial investment in our transportation system above and beyond the funding that we currently anticipate for the foreseeable future.

An additional \$2 billion would be necessary to bring most of our roads and bridges into good condition over the next 15 years.