

4.3.4 FINANCIAL PLAN

Introduction

The CCRPC's long range transportation plan must incorporate a financial section that estimates how much funding over the life of the plan will be needed, how much will be available for the recommended transportation investments, and the costs to maintain and operate the existing system. The financial section must outline how the CCRPC can reasonably expect to fund all included projects and programs within a fiscally constrained environment, drawing on all anticipated revenues from the federal and state governments, regional or local sources, the private sector and user charges.

Federal regulations establish the requirement for the financial plan in 23 CFR 450.324(g)(11)¹. The operative requirements of that regulation are summarized here. The adopted MTP shall include:

- (11) *A financial plan that demonstrates how the adopted transportation plan can be implemented. Key components of this plan to include:*
- (i) *System-level estimates of costs and revenues to adequately operate and maintain Federal-aid highways and public transportation.*
 - (ii) *Agreed upon estimates of funds that will be available to support plan implementation.*
 - (iii) *Recommendations on any additional financing strategies with strategies for ensuring their continued availability.*
 - (iv) *Funding to include all federally funded projects, both highway and transit. Projected funds to reflect "Year of Expenditure dollars." (YoE)*

The financial projections extend 35 years to the MTP planning horizon of 2050.

The completed financial plan will contain three parts:

1. The overall level of fiscal constraint including projection of future transportation funding in Chittenden County and factors that are anticipated to affect this.
2. The base level of investment required for system operations and maintenance as called for under 23 CFR 450.324(g)(11)(i).
3. An estimate and analysis of the costs associated with MTP recommended improvements themselves.

FINANCIAL PLAN PART 1: OVERALL CONSTRAINT

CCRPC MTP funds, guided by the contents of the 2050 MTP, are limited to federal transportation funds allocated to the Chittenden County metropolitan area under federal transportation acts. The Fixing America's Surface Transportation Act or "FAST Act" is the current law governing the use of federal transportation funds. FAST Act was signed into law on December 4, 2015 and largely maintains previous program structures and funding shares between highways and transit.

The Chittenden County region does not currently access other sources of transportation funding such as tolls

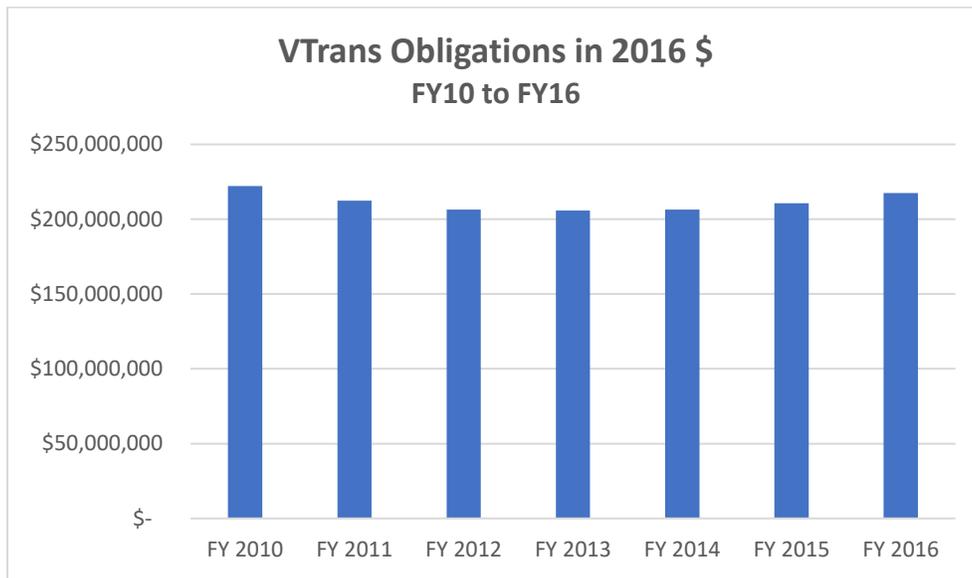
¹ For more details on federal regulations regarding MPO long range planning, see

<https://www.ecfr.gov/cgi-bin/text-idx?c=ecfr;sid=e2662fc63c225d496d1fa6ce22ea6cb8;rgn=div5;view=text;node=23%3A1.0.1.5.11;idno=23;cc=ecfr#sp23.1.450.c>

or private contributions. The primary funding source for significant transportation projects on highways, and transit eligible for federal aid, is expected to be federal funds plus state and local match.

The single most critical issue for establishing how much MTP funding will be available between 2015 and 2050 is therefore the future availability of federal funds. For the purposes of this plan, an estimate of available future funding has been developed based on the history of statewide federal funding and CCRPC’s historic share of that funding. This methodology represents the most reasonable estimate of funding availability for two reasons:

- Actual funding available to the CCRPC over the past ten plus years is variable and has depended on the timing of specific projects. Statewide spending patterns exhibit a more consistent trend, and
- The FAST Act will continue funding programs at levels similar to what its predecessors MAP-21 and SAFETEA-LU previously provided.



VERMONT FEDERAL TRANSPORTATION FUNDING HISTORY FY2010 - 2016

Total statewide federal funding was projected for future years based on historical funding levels as depicted on the chart above. NOTE: The estimates began in FY2010 because FY2009 was distorted with the infusion of additional funding from the American Recovery and Reinvestment Act (ARRA)

Over the last seven years there was no discernable increasing or decreasing trend in constant dollar funding to Vermont. Therefore, the MTP assumes flat statewide funding over the 25-year planning horizon at the level of \$211,609,103 per year in 2016 dollars. See table below for recent history.

MTP Fiscal Constraint, VTrans Obligations by Year		
	Year Of Expenditure (YOE)	Constant 2016 \$
FY 2010	\$201,834,075	\$222,152,066
FY 2011	\$199,004,872	\$212,335,621
FY 2012	\$197,467,517	\$206,423,453
FY 2013	\$199,746,293	\$205,791,234
FY 2014	\$203,614,734	\$206,428,095
FY 2015	\$208,080,804	\$210,705,770
FY 2016	\$217,427,482	\$217,427,482
	AVG	\$211,609,103

The next step is to calculate CCRPC’s estimated share of the statewide federal funds. As shown in the table below, CCRPC’s share of the total statewide funds has fluctuated significantly between 7.5% (FY14) and 40.6% (FY05) between 1999 and 2016.

Federal Transportation Funds* Obligated in Vermont and Chittenden County				
Federal Fiscal Year	FHWA and FTA Formula Funds	Chittenden County Obligations	CC as Percentage of State	
FY1999	\$141,644,879	\$20,716,152	14.6%	
FY2000	\$137,475,720	\$34,124,215	24.8%	
FY 2001	\$141,162,474	\$26,574,888	18.8%	
FY 2002	\$153,992,216	\$37,213,939	24.2%	
FY 2003	\$149,892,007	\$42,359,853	28.3%	
FY 2004	\$161,396,138	\$55,511,396	34.4%	
FY 2005	\$147,008,522	\$59,717,025	40.6%	
FY 2006	\$149,970,687	\$32,022,092	21.4%	
FY 2007	\$156,335,139	\$24,053,735	15.4%	
FY 2008	\$157,949,734	\$25,990,323	16.5%	
FY 2009	\$156,442,879	\$27,373,347	17.5%	
FY 2010	\$222,152,066	\$27,663,934	12.5%	
FY 2011	\$212,335,621	\$26,643,026	12.5%	
FY 2012	\$206,423,453	\$32,458,183	15.7%	
FY 2013	\$205,791,234	\$43,519,161	21.1%	
FY 2014	\$206,428,095	\$15,517,128	7.5%	
FY 2015	\$210,705,770	\$18,450,521	8.8%	
FY 2016	\$217,427,482	\$31,321,866	14.4%	
AVERAGE			19.4%	
*Funds are in 2016 dollars calculated from http://www.usinflationcalculator.com/				

The average proportion of statewide federal funding going to CCRPC projects over the 1999 - 2016 period was 19.4%². This is a bit lower than Chittenden County’s proportion of statewide population at 25.8% (US Census, 2016 estimate) and Vehicle Miles of Travel (VMT) at 20.3% (VTrans, 2016) and appears to represent a reasonable estimator of available funding in the County. As a result, CCRPC’s annual funding is estimated to be 19.4% of the total federally supported transportation funding coming to Vermont. This nearly one fifth share results in \$41,052,166 (in 2016 dollars) for Chittenden County projects annually.

The table below presents CCRPC’s estimated annual funding at five-year intervals. This is based on the projected flat statewide funding and the County’s 19.4% historic share of statewide funds. In constant year 2016 dollars the annual 5-year increments accumulate over the 35 years to \$1.437 billion. The year-of-expenditure (YoE) row applies an annual inflation rate of 3%³. Adjusting for inflation, and compounding over 25

² This percentage is intended to represent a best estimate of available funding, and is in no way intended to be construed as a CCRPC “entitlement” or “rightful share” of statewide funds.

³ 3% is the most recent 10-year average inflation construction cost increase from the Engineering News Record (ENR)

years, results in significantly higher annual amounts – particularly closer to 2050 when the compounding effect is more pronounced.

Projected Annual and Cumulative Funding Available for Chittenden County Projects (millions) at 3% annual inflation

Federal Fiscal Year		2015	2020	2025	2030	2035	2040	2045	2050
Annual	Constant 2016 \$	\$41.05	\$41.05	\$41.05	\$41.05	\$41.05	\$41.05	\$41.05	\$41.05
	Year of Expenditure \$	\$41.05	\$47.59	\$55.17	\$63.96	\$74.14	\$85.95	\$99.64	\$115.52
Cumulative	Constant 2016 \$	\$41.05	\$205.26	\$410.52	\$615.78	\$821.04	\$1,026.30	\$1,231.56	\$1,436.83
	Year of Expenditure \$	\$41.05	\$224.49	\$484.74	\$786.43	\$1,136.18	\$1,541.63	\$2,011.67	\$2,556.56

Potential Adjustments to Projected Funding

While there are a number of factors that could change the projected level of funding detailed in the table above, the likelihood of significant changes is low. Looking back over the past 20 years, there have been efforts, discussions, and other initiatives to increase the funding for transportation. These have occurred on the regional, state, and national levels. For example, the CCRPC established a Blue-Ribbon Commission in 2007 to identify alternative and/or innovative funding, especially to boost transit funding and reduce its reliance on the property tax. That work concluded without any firm implementation measures, therefore new potential funding sources were deemed too uncertain to include in this estimation of future available funds. The Vermont Legislature has also tinkered with transportation finance, allowing limited bonding and modest fuel tax increases for transportation uses and, while these funding sources could lead to an increase in funding for the MPO region, they are too small or inconsistent to reliably count on for a 35-year planning horizon.

At the federal level, given the passing of the FAST Act in late 2015, it appears that funding from this source should remain stable for the near future. However, we shouldn't ignore the long-term health of the national transportation trust funds that are currently subsidized from the general fund. Any long-term solution will likely need new revenues from some other source in the future.

In general, the above factors related to funding adjustments and potential uncertainty are too questionable or short lived to significantly impact the quantitative estimates of future transportation funding for Chittenden County. The discussion is intended to highlight some of the uncertainties which may affect CCRPC's ability to fund transportation projects into the future.

Overall Funding Constraint Conclusion

Funding for CCRPC transportation projects is presently dependent on federal funding, which is generally matched on an 80% federal / 20% non-federal basis at the state and local levels. Historically, CCRPC has accounted for 19.4% of the annual federal transportation funds available statewide. A review of funding levels over the past seven years reveals that funding is essentially flat in constant dollar terms. Total funding available, over the coming 35 years, is estimated to be \$1,436.83 million in constant 2016 dollars, however budget decisions in Washington DC could impact future funding levels. Additional funding sources, especially for transit operating, will be critical for the preservation and future expansion of transit services in the region.

FINANCIAL PLAN PART 2: SYSTEM OPERATIONS & MAINTENANCE ELEMENT

The operations and maintenance element is a fundamental component of the MTP financial plan. As directed by federal regulations, the estimate of funds available to implement new plan initiatives is the total constraint amount as detailed in Part 1 minus the funds necessary to operate and maintain the existing investment in transportation infrastructure to an acceptable standard of service. Defining the acceptable standard and the appropriate programs to operate and maintain facilities and services is the purpose of this element of the financial plan.

To calculate anticipated future maintenance and operations funding for the existing system, we have looked at historical expenditures in the relevant funding categories from annual Transportation Improvement Programs (TIPs). See the table below. When reviewing the TIP obligation history over the past 17 years (FY00 – FY16) and using the categories of Bridge, Paving, Slope and Ledge Improvements, and Transit Operations and Maintenance, as our maintenance/operation proxies, the average percent of the overall funding to those categories is just under 55.1%. However, if we examine a shorter recent window of time, the past 7 years (FY10 – FY16), and, we feel, a more likely scenario, the maintenance/operations share goes to 73.6%. Projecting this higher share into the future defines a reasonable, if conservative, standard of system operation and maintenance investment.

Comparison of Chittenden County Obligation History by Project Use Categories

Use Category	FY2000 - FY2016		FY2010 - FY2016	
	No Earmarks	% of Total	No Earmarks	% of Total
Paving	\$83,348,715	17.3%	\$42,917,307	22.8%
Bridge	\$103,223,336	21.5%	\$57,186,462	30.4%
Slope and Ledge Improvements	\$5,098,295	1.1%	\$3,179,610	1.7%
Transit Operations & Maintenance	\$73,141,240	15.2%	\$35,341,817	18.8%
Preservation Total	\$264,811,586	55.1%	\$138,625,196	73.6%
Roadway Corridor Improvements	\$19,095,871	4.0%	\$4,491,984	2.4%
Roadway System Management	\$28,106,086	5.9%	\$13,734,842	7.3%
New Facility/Major Roadway Upgrades	\$105,422,522	21.9%	\$8,522,390	4.5%
Bike&Pedestrian/ Enhancement	\$29,217,067	6.1%	\$10,908,684	5.8%
Intermodal	\$7,265,577	1.5%	\$4,762,049	2.5%
Stormwater/ Environmental	\$280,538	0.1%	\$188,000	0.1%
Rail	\$7,920,000	1.6%	\$0	0.0%
Transit Expansion	\$10,109,672	2.1%	\$7,009,935	3.7%
Other	\$8,210,543	1.7%	\$0	0.0%
Other Total	\$215,627,876	44.9%	\$49,617,884	26.4%
Grand Total	\$480,439,462	100.0%	\$188,243,080	100.0%

*These are in Year of Expenditure dollars

Given the significant historical fluctuation in the share of funding for operations and maintenance, and to simplify our analysis of future funding, we've rounded the 73.6% down to 70%. (For historical comparison, we used 64% in our last MTP). The total annualized costs (applying the 70% to the projected \$41+ million) for system operations and maintenance are \$28.74M in 2016 dollars.

Operations and maintenance funding comes from a variety of sources depending on the type of facility. Interstate highways and bridges receive federal funds through special programs, state highways receive funding through both federal and state programs, and local highways and bridges on the federal aid system receive maintenance funding through local, state, and federal programs. Transit purchases of new and replacement rolling stock are often supported with federal funds through the Federal Transit Administration (FTA) and FHWA Congestion Mitigation & Air Quality (CMAQ) funds and, in past years, earmarks. Municipal contributions and farebox revenues are also important sources of ongoing transit operations and maintenance costs.

The next calculation in Part 2 of the financial plan is determining funds available for new projects, after accounting for system maintenance and operations. This subtracts the estimated \$28.74 million in annual operations and maintenance costs from the funds available to Chittenden County established earlier - \$41.05 million. This results in an estimated \$12.32 million per year. The total funding available for new (as well as already committed TIP – see next section) projects is shown in 5-year increments below. The forecast funding resources available for planned improvements in the MTP is estimated at \$431 million in 2016 constant dollars.

Projected Annual Funding for New or Committed Chittenden County Projects (millions)

FY		2015	2020	2025	2030	2035	2040	2045	2050
Annual	Constant 2016 \$	\$12.32	\$12.32	\$12.32	\$12.32	\$12.32	\$12.32	\$12.32	\$12.32
	Year of Expenditure \$	\$12.32	\$14.28	\$16.55	\$19.19	\$22.24	\$25.79	\$29.89	\$34.65
Cumulative	Constant 2016 \$	\$12.32	\$61.58	\$123.16	\$184.73	\$246.31	\$307.89	\$369.47	\$431.05
	Year of Expenditure \$	\$12.32	\$67.35	\$145.42	\$235.93	\$340.85	\$462.49	\$603.50	\$766.97

Notes: Inflation based on 3% annual and system preservation requirements are estimated at \$28.7 million annually in 2016\$.

CONCLUSION

This financial plan concludes that Chittenden County has \$12.32 million per year for new transportation investments and for projects already committed to as identified in our TIP (see more on this below). This level of funding is expected to remain fairly stable in terms of buying power to 2050. By the plan horizon year in 2050 CCRPC expects to have \$431 million (2016 \$) in cumulative funding available for new projects. When factoring inflation into the calculation of the cumulative funding available, the total amount of funds increases to \$767 million in year of expenditure dollars.

There is, however, one more factor to take into account before finalizing the level of funds available for new projects. Maintenance and operations needs have been well documented but the CCRPC has other funds committed to projects not accounted for here, namely those non-preservation projects identified in our Transportation Improvement Program (TIP). The table below summarizes all anticipated revenues and costs out to 2050, including the new factor of already committed TIP funds.

NOTE: All of the calculations above only included funds from the federal government. As stated earlier however, these represent only 80% of total costs. The non-federal match of 20% is added into the table below and all subsequent financial plan content. The total committed to TIP projects is calculated at \$120.49 million in 2016 constant dollars.

Estimated Federal Funding for Chittenden County: 2016 - 2050
Comparison of Maintenance Funding Options

Future Funding Estimates (Includes State and Local Match)	70 Percent to System Preservation* Millions (2016\$)	55 Percent to System Preservation* Millions (2016\$)
Total Funding for Transportation System	\$1,796.03	\$1,796.03
Funding to Paving, Bridge and Transit Operations and Maintenance	\$1,257.22	\$987.82
Cost of 2017 Transportation Improvement Program (TIP) Construction Projects	\$120.49	\$120.49
Total Available New Funding to address new transportation needs excluding TIP	\$418.32	\$687.72

Maintaining and operating the existing transportation system is a critically important task and it has been estimated that \$1,257.22 million will be required to accomplish this – nearly three quarters of the total (see the pie chart below) The plan also identifies \$120.49 million for projects listed in the current Transportation Improvement Program (TIP). The remaining funding available for new transportation needs is estimated at a little over \$418 million. Shares for each category are illustrated in the chart below.

