

MTP Financial Plan

Introduction

The MTP 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 MPO 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. Revenues and costs identified here are summarized and applied to recommended projects in the implementation chapter starting with section 7.1.2

This financial element, or plan, is a critical component of the overall plan. By requiring the plan to remain firmly grounded in reality, it prevents it from becoming little more than a flight of fancy, and a wish-list of absolutely every possible notion. It fosters careful consideration of how competing values and goals will be incorporated into the region's future.

Federal regulations establish the requirement for the financial plan in 23 CFR 450.322(f)(10). The operative requirements of that regulation are summarized here. The adopted MTP shall include:

(10) 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.”

Based on these requirements, the financial plan is intended to be in direct support of the MTP as a whole. It is not intended to cover every dollar spent for transportation at any level of government or by any entity. The MTP itself is intended to guide the transportation investments managed and directed by the MPO, i.e. the capital investments in the transportation system that are supported by federal funds. The financial element addresses the availability of these and directly associated funds (i.e. those in support of MTP projects and improvements), and their allocation.

Although the CFR requires assessment of system “operating and maintenance” needs, these are intended to reflect, effectively, “capital maintenance,” also sometimes described as “system preservation” expenditures. They do not include such maintenance activities as (e.g.) street sweeping, snow plowing, lighting, etc, however important to transportation system operations.

An important variation on this basic criterion is a need to identify operating funds for transit, which, in addition to capital funds, requires operating funds to function. Although these funds are not subject directly to the limitations of the MTP fiscal constraint (i.e. they originate from

different sources), their ultimate availability is a critical ingredient in the ability to actually put transit capital assets to work.

This financial plan/element is developed and presented in three parts:

1. The overall level of fiscal constraint including projection of future funds and factors that are anticipated to affect this,
2. a base level of investment required for system preservation as called for under 23 CFR 450.322(f)(10)(i)
3. an estimate and analysis of the cost/financial implications of plan recommended improvements themselves.

This memo is intended to address the first two of these components.

Financial Plan Part 1. Overall Constraint

As has been indicated, MPO funds (i.e. those intended to be guided by the contents of the MTP) are, effectively limited to the federal funds allocated to the Chittenden County metropolitan area under the aegis of the various federal transportation acts, the current incarnation of which is SAFETEA-LU. To the extent that state and/or local funds are allocated by the MTP, these have been exclusively as matching funds for the federal funds, almost always on an 80/20 basis, with the state/local share of the 20% match varying based on the nature of the project(s). Generally, it has been relatively straightforward to simply count on the availability of the required state/local match, so that the only direct limitation on funds availability is the federal funding stream.

The one important exception to this has been transit funding. While the highway based transportation system receives a portion of its operating expenses through public funding, the majority of its expenses are shouldered by its private users, who must purchase, maintain, and operate their own transportation vehicles. The transit system, on the other hand must generate public funds for the purchase, maintenance and operation of its own fleet. The availability of these funds becomes a limiting factor on the ability of the region to absorb and effectively implement transit capital funds for improvements. This issue will be discussed in greater detail in subsequent sections.

The MPO and metro area access no other funds such as tolls or private contributions. Therefore, the anticipated funding level for transportation projects in the metro area is effectively the federal funds plus state and local match.

The single most critical issue for establishing how much funding will be available over the years covered by the MTP is therefore the future availability of federal funds. FHWA has issued guidance on projecting federal funds that may be reasonably anticipated to be available in future years. Under this guidance, the planning agencies may assume an annual percentage increase based on average annual increase for previous ten (10) years¹. For purposes of this analysis,

¹ “States and MPOs may assume Federal funding based on a straight-lined extrapolation of historic increases in Federal authorizations for that State or MPO. Thus, if Federal authorizations for the State of Muldoon have increased, on average, 6 percent annually over the period FY 1999-2009, then the State of Muldoon may assume that its Federal funding in FY 2010 will be 6 percent higher than is authorized in SAFETEA-LU for FY 2009. Similarly, Muldoon may assume an additional 6 percent

constant (2008) dollars have been used.

Table 1. Historical MPO Funding - Year End Obligations (\$M)

FY	99	00	01	02	03	04	05	06	07	08	Ann Avg
Total	20.91	34.76	30.50	38.68	40.12	54.53	54.03	33.51	26.93	27.96	36.2
Increase	-17.2%	66.3%	-12.3%	26.9%	3.7%	35.9%	-0.9%	-38.0%	-19.6%	3.8%	4.9%

Note: Constant (2008) Dollars

This analysis has been based on the historical funding for the ten year period, FY 1999 - 2008. It finds that:

1. actual annual obligations have averaged 36.2 million over the 10 year period
2. the average annual increase in obligated funds over this period has been 4.9%

Based on the FHWA guidance, an estimate of funding has been developed for future years using a straight line extrapolation based on the current 4.9% increase (i.e. a slope of \$1.77M/yr). This results in an annual expenditure level of just over \$73M in 2030 in constant (2008) dollars. However, the regulations require that these be inflated to current (i.e. year of expenditure) dollars. This is based on projected future year inflation rates derived from historical inflation.

Table 2. Annual Inflation Rate: Historical Data

Year	99	00	01	02	03	04	05	06	07	08
CPI-U	166.6	172.2	177.1	179.9	184.0	188.9	195.3	201.6	207.3	215.3
Rate	2.2%	3.4%	2.8%	1.6%	2.3%	2.7%	3.4%	3.2%	2.8%	3.8%

Based on historical data, annual inflation during this ten year period has varied from a low of 1.6% to a high of 3.8%. The 3.8% figure has been the most recent year and inflation figures have tended to be a little higher in more recent years than in previous years.

However, other factors argue for the selection of a higher inflation rate, more in the neighborhood of 5.0% per year.

- this is the inflation rate used by CCTA in estimating its future operating expenses in the near term (to 2015, reducing in steps to 3% after that),
- once current economic recovery efforts have run their course, current high federal deficits will likely result in higher inflation for at least some of the planning period, and
- inflation rates for transportation and construction have tended to be higher than overall inflation

increase between FY 2010 and FY 2011, and so forth. While Muldoon may assume a lower rate of increase, it may not assume a higher rate of increase in Federal authorizations. FHWA and FTA recognize that Federal funding after FY 2009 is very uncertain, so we also encourage States and MPOs to consider more conservative estimates of future Federal funding when they develop metropolitan long-range transportation plans, TIPs, and STIPs.” (Source: email from Gloria Shepherd to FHWA Division Office staff dated 8/22/06)

The results of applying each rate to the future constant dollar projection are shown in Table 3. Because of the high numbers and consequent scaling problem, Fig 1 shows the inflated results for only the 3% rate.

Table 3. Projected Annual Funding in 10 Year Intervals

FY	2010	2020	2030
Constant \$	38.0	55.5	73.1
YoE \$ @ 3%	39.1	76.9	136.0
YoE \$ @ 5%	39.9	95.0	203.7

Note: Constant dollars v inflation at 3% and 5%

Because of the extreme value of the projection at 5% inflation in the out years, only the 3% inflation has been illustrated here (blue bars). The green bars represent constant dollar expenditures and the black bars represent the historical actual expenditures FY 99 - 08.

Potential Adjustments to Projected Funding

There are a number of factors that may result in adjustments to this projected level of funding. These include:

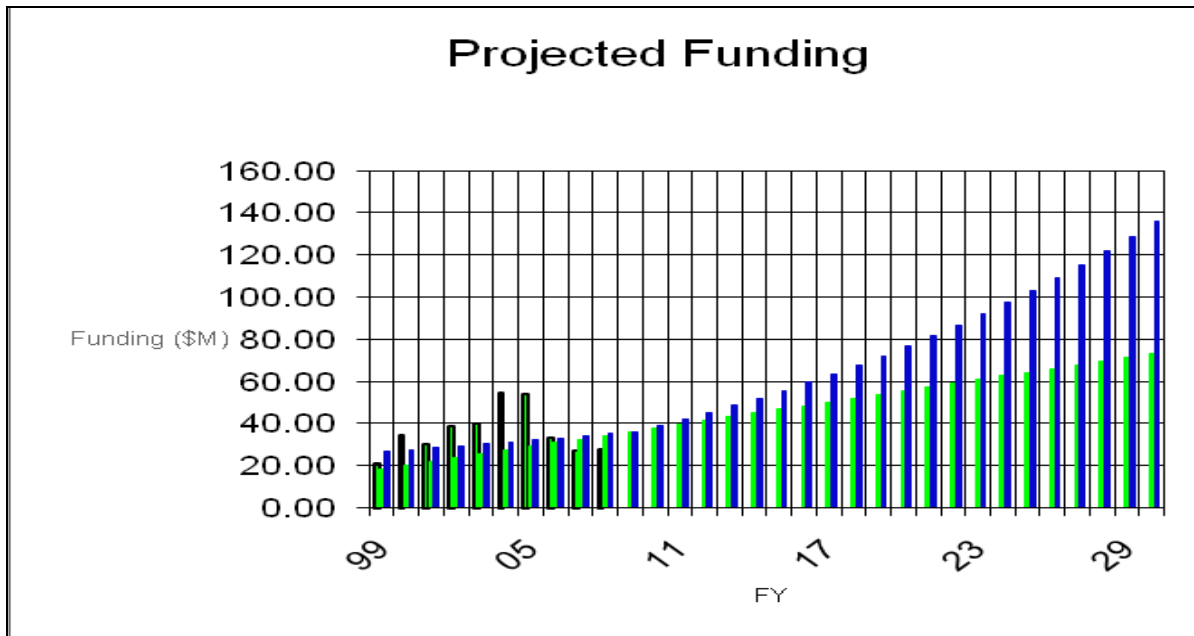


Fig. 1 Future funding based on constant 2008, (green) v inflated (@ 3%, (blue) dollars

Potential increase:

- Alternative/innovative funding
- Bonding plan as envisioned by Legislature based on future revenue stream

Potential decrease:

- Decreasing federal support; depletion of transportation trust fund

- Uncertain effect, likely increase if any:
- Stimulus funds

Except for the bonding proposal, these factors are deemed to be either too uncertain or too short lived (e.g. “stimulus” funds) to have significant quantitative effects on future estimates. They are included qualitatively to temper consideration of the actual future funding stream.

Alternative/Innovative Funding

The MPO “Blue Ribbon Commission” (BRC) was established to:

“Provide recommendations by December 1, 2008 regarding viable innovative finance strategies to advance the region’s transportation needs, including all modes as well as the necessary connections with our land use, economic, environmental and quality of life needs.”

Ultimately, there was only a limited recommendation to seek additional financing without any specific indication as to the specific sources or methods that should be used:

“Recommendation 3: A sustainable source of additional funding should be developed for regional transportation needs”

This recommendation is seen as being implemented by a future transportation management entity envisioned beyond the current MPO structure.

A far more realistic and imminent consideration is existing transportation bonding legislation. Although the ostensible purpose of this legislation is bonding, the important operative quality is the implementation of an additional revenue stream to support it. Based on published accounts, this consists of a 2% tax on both gasoline and diesel at the wholesale level plus additional fees. Based on those accounts, this is estimated to generate a total of very nearly \$22M in additional revenue in FY2010. Whether this is used to amortize bond(s) or simply in the ongoing funding process, this will increase overall level of fiscal constraint.

Based on historical data, the Chittenden County share of statewide transportation funds has varied between about 20% and 25% of statewide funds, and it seems reasonable that this would apply to the bonding funds as well. If 20 - 25% of this is available in Chittenden County, this would result in a total increase in perpetuity of \$4.5M - \$5.5M per year in transportation funds.

Table 4 illustrates the effect of an additional \$5M per year available to the MPO funding stream above that in Table 3. For this analysis, the gas tax has been included prior to the inflation factors. Although the actual bill has not been indexed to inflation, it seems unlikely that the Legislature will allow the value of this revenue stream to become vanishingly contributory over the next 20 years. Table 4a shows annual funding while Table 4b shows cumulative funding.

Table 4a. Projected Annual Funding in 10 Year Intervals

FY	2010	2020	2030
Constant \$	43.0	60.5	78.1
YoE \$ (3%)	44.2	83.8	145.3

Table 4b. Cumulative Projected Funding in 10 Year Intervals

FY	2010	2020	2030
Constant \$	43	569	1,271
YoE (3%)	44	689	1,844

Conclusion

Funding for CCMPO transportation is presently entirely dependent on federal funding, which is matched 80/20 at the state and local levels. This is projected to increase by about 5% (4.9%) per year in real dollars over the course of the current plan to a total of about \$73M in 2030. Some additional funds in the form of a wholesale gas and diesel sales tax plus additional fees which is intended for bonding support is anticipated to bring in an additional \$4.5 - 5.5M/year. Additional funding sources, especially for transit operating funds will be critical for the expansion and even preservation of transit services in the region. This issue will be discussed more fully in subsequent sections of the financial plan.

Financial Plan Part 2: System Preservation Element

The system preservation element, sometimes referred to as system “maintenance”, has repeatedly been identified as a fundamental component of the MTP financial plan. As a practical matter, funds available to implement new plan initiatives have been considered to be constrained to those left over after the funds necessary to maintain, and even restore, the existing investment in transportation infrastructure to some acceptable standard of service have been appropriated. The issue of defining this acceptable standard and the appropriate program to restore underperforming facilities and services is the crux of this element of the financial plan.

Historically, the systematic effort to maintain and restore the existing transportation infrastructure reached the high level of emphasis that it exhibits currently with the advent of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). (Although, obviously, the maintenance of the existing transportation infrastructure has always been a component of state and metropolitan planning, it only became quite so rigorous with the advent of ISTEA.) ISTEA initiated the approach of addressing critical elements of the transportation infrastructure using formal “management systems”. As conceived in ISTEA, there were six of these: highway pavement, bridge, highway safety, traffic congestion, public transportation facilities and equipment, and intermodal transportation facilities and systems. These were more often considered in a shorthand fashion to be: pavement (PMS), bridge (BMS), safety (SMS), congestion (CMS), public transportation (PTMS), and intermodal (IMS).

Of the original six, three are essentially asset management categories directly concerned with the preservation of existing the existing system (PMS, BMS, and PTMS), while the remaining three (SMS, CMS and IMS) are more properly outputs of the plan itself, representing improvements intended to address the specific issues and opportunities for safety enhancements, congestion management, and intermodal connectivity identified in the plan.

Despite the genesis of these asset management systems now almost two decades ago (and often despite significant attempts to implement them) none is fully operational in the metropolitan area.

At the outset of this effort, it had been anticipated that the MPO system preservation program would be based on well developed VTrans management systems for pavement (highways) and bridges (structures). In past years, VTrans has developed both performance criteria/targets and well defined programs that both progressed toward achieving these targets and projected that progress into the future under alternative budgetary strategies. However, these systems were found not to fully realize the goals of the Agency, and they have been set aside, and, for now, their successors have not yet been implemented.

Although VTrans does not have in place the full management systems to evaluate and prioritize individual facilities, it has adopted performance goals/targets for bridges and pavement. It seems reasonable to expect that these will also apply to Chittenden County when the full management systems are implemented. These goals are:

For pavement (highways): Goal is based on a "condition index" that rates each roadway on a scale of 1 to 100 based on rutting, cracking, and roughness. The VTrans goal for this performance measure is 70 on all state maintained highways statewide.

For bridges: based on percent structurally deficient on each highway system statewide, these goals are:

Interstate system: 7% (= 21 bridges)

State Highway system: 16% (= 122 bridges)

Town Highway systems: 16% (= 257 bridges)

Culverts: 12% (= 155 culverts)

Asset Management for MTP System Preservation: General Methods

The ideal basis for an MPO asset management program is the VTrans management systems. These incorporate extensive data collection relative to facility condition and sophisticated analyses and strategies for optimizing facility maintenance and rehabilitation. However, these are not available at this time. Therefore, a more generalized system has been relied on in order to estimate broad basic needs for financial purposes. CCTA, however, has been able to develop detailed projections of its capital and operating needs over the life of the planning horizon.

The approach taken has been to estimate annualized asset maintenance requirements based on generalized life-cycle requirements for each type of facility (highways, bridges, and transit). However, for highways and bridges, this has been done without regard to current condition. This estimate has been based on the inventory of transportation facilities of each type for the county (ie, bridges, roadways by functional class). The transit estimate uses the current condition of existing vehicles and facilities as its basis.

This is similar to the analyses done for the 2025 plan, with a few refinements. The specifics of each will be addressed under the individual management systems.

This approach has a number of disadvantages relative to the highly sophisticated management systems being developed at VTrans:

1. It does not reflect actual condition of existing facilities. However, by projecting preservation costs over 50 years, pretty much all facilities will require major maintenance work at some point within this planning horizon. However, because of existing poor condition of existing system, this may not fully reflect budgeting needs over time. Bringing systems up to standard will likely require a fair degree of front loading of maintenance activities.
2. It is not based on any specific goal/performance target and does not track progress toward any performance goal/target.
3. It does not offer alternative budgeting strategies (although without tracking progress toward achieving an accepted performance standard, there is no basis for evaluating these, anyway.)

That said, by extending estimated preservation costs out over 50 years, such an approach does represent a reasonable planning level estimate of system preservation requirements, although it does not fully reflect the needs to return a deteriorated system to full serviceability with early year investments.

The requirements for system preservation have been evaluated initially in constant (2008) dollars for purposes of comparison. These have been inflated to current (“year of expenditure”) dollars at a later stage when combined and projected over the plan horizon.

Also, it is highly recommended that future MPO system preservation planning be based on VTrans pavement and bridge management systems as soon as fully implemented and available.

Pavement Management System (PMS)

Costs for highway pavement management have been based on Joint Fiscal Office estimate of life cycle costs statewide for all 3200 mi of state highway, statewide.

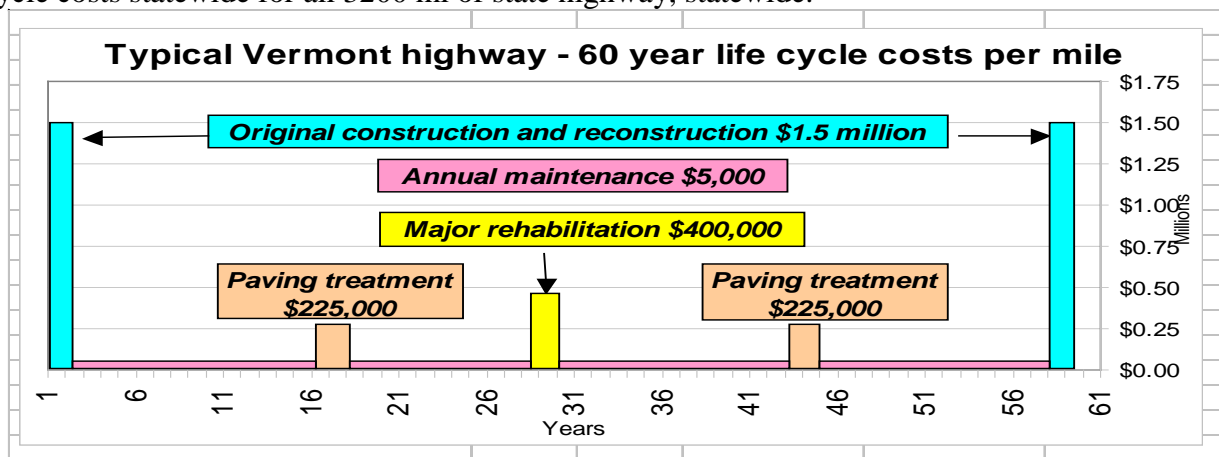


Fig. 2. Vermont Highway Life Cycle Costs, Source: N. Schikner, JFO highwaylifecycle2004.xls

Based on this, an estimate of annual cost per lane mile for the entire system has been developed:

Table 5. 60 year life cycle system wide costs for 3,200 miles of state highways

Work	System coverage / cost (2004 costs)	Annual Cost
1) Annual routine maintenance	\$5,000 / mile x 3,200 miles =	\$16,000,000
2) Paving treatments at years 18 and 45	\$225,000 / mile x 107 miles per year =	24,075,000
3) Major rehabilitation at 30 years	\$400,000 / mile x 53 miles per year =	21,200,000
4) Reconstruction after 60 years	\$1,500,000 / mile x 53 miles per year =	79,500,000
Total annual life cycle costs		\$140,775,000
Inflated to 2008\$ (7% per year)		\$184,527,000
Annual cost per lane mile	Total / 3200 mi / 2 lanes (avg)	\$28,832

- Notes: 1. Original table modified to include cost of routine maintenance in annual total. Routine annual maintenance includes such items as crack and pothole filling but not plowing, lighting, etc
 2. Original table modified from 5% annual inflation to 7% to reflect more recent 2004-08 data

This statewide unit cost per lane mile to maintain highways has been applied to Chittenden County. In addition, depending generally on functional classification (interstate/freeway v other arterials) and urban v rural roadway location, these costs will not be distributed entirely evenly, but will vary reflecting different levels and mixes of traffic. Therefore, this single unit cost has been further broken down to reflect these conditions based on unit cost ratios developed for the 2025 MTP, which were themselves based on earlier ratios developed for CUTS (FTA, Characteristics of Urban Transportation Systems (CUTS), 1989). These unit costs have been applied to CCMPO roadways based on the total inventory or lane-miles of roadway by class as detailed in the VGIS GIS coverage: TransRoad_RDS

Table 6. Annual Cost to Maintain Chittenden County Highways (2008\$)

FUNCL	Functional Class	Lane Miles	Unit Cost (\$/lami/yr)	Annual Cost (\$/yr)
1	Rural Interstate	49.65	27,035	1,342,330
2	Rural Princ Art	13.10	21,966	287,707
6	Rural Minor Arterial	48.36	21,966	1,062,219
7	Rural Major Collector	47.99	21,966	1,054,092
11	Urban Interstate	117.32	29,358	3,444,317
12	Urban Freeway	50.17	29,358	1,472,894
14	Urban Princ Art	132.28	23,867	3,157,100
16	Urban Minor Arterial	135.81	23,867	3,241,374
17	Urban Collector	8.51	23,867	203,105
	Total			15,265,137

Although under Federal funding regulations, all rural minor collectors and all urban collectors

are eligible for funding support, it has been the VTrans practice to fund only those roadways of these designated functional classes if they are state numbered routes, and the foregoing analysis has been based on this practice. If all roadways eligible for funding for pavement maintenance activities were in fact supported, the annual cost would jump to \$21.17M.

Bridge Management System (BMS)

Bridge management costs have been based on an inventory of county bridges that has been extracted from the GIS coverage: TransStructures_TRANSTRUC. This inventory has been includes long ($\geq 20'$) bridges in Chittenden County regardless of state or town ownership. Maintenance/preservation costs have been simpler to evaluate than for roadways since the estimated cost to repair or replace each bridge in the inventory has been entered in the GIS database for each bridge as a result of the inspection process.

The GIS database includes estimates to either repair or replace each bridge. The criteria for selecting between these alternative cost estimates for this analysis were:

- if the general 70 year peak lifespan for bridges is currently exceeded, assume that replacement is required, otherwise
- apply estimated repair cost at 50 yr life (ie, once during planning time horizon)

As in the case of highway/pavement, total costs for all bridges were annualized over 50 years.

Based on this analysis, total cost (2008\$) over 20 years to maintain 187 long bridges in Chittenden County is \$122,711,000, or an annualized cost of \$6,135,575 per year.

Public Transportation System (PTMS)

Public transportation is unique as an asset management system in significant measure because of the issue of what might be described as “parity” with the other, highway based, modes. Three factors influence the transit parity issue: coverage of each system, the role of operating costs, and historical funding patterns.

System Coverage

All of the asset management systems are based on some notion of achieving some acceptable standard of performance. For the highway/pavement management system, these are based on a number of serviceability factors such as roughness, rutting, and structural integrity. These are the factors that we perceive as characterizing the serviceability of the highway system. However, there is also a built in assumption that is rarely expressly considered. That is, that the highway system actually serves all of the region’s uses that it should. There is no question that roadways go everywhere. In fact, numerous regulations including both subdivision and zoning effectively require that no uses are developed that are not served by roads, or, failing that, that roads are constructed to serve them. And while this is so pervasive as to be a fundamental assumption for roadways, it is far from reality for transit.

Few would argue that transit serves the entire region with anything like the completeness of coverage of the roadway system (although the limitations on the service provided by a private auto/highway based system have often been raised with respect to significant segments of the population, e.g. the young, old, and poor, there is little doubt that it is accessible from every door

in the county). Although the state supports only the most significant portion of the total highway system, it benefits from, indeed could not function without, the vast network of local access roadways constructed and maintained by the over 200 cities and towns. This universality of highway coverage is effectively assumed even before the maintenance of the system is considered. However, the need for proper paving and bridges in effect acts to bring these components of the total system up to an accepted standard of service. Deficiencies in transit coverage effectively reduce its performance with respect to any service standard that includes the notion of fundamental availability of this service.

Operating funding

Transit is unique with respect to its operating funding for at least two reasons:

1. While almost all transit operations must be supported by the transit provider, the highway based modes solve this by shifting those costs onto private motorists who must bear the entire burden of purchasing, operating, and maintaining the fleet of transportation vehicles.
2. While the vast majority of transit operations costs are effectively internal to the provider, most highway oriented operating costs are either separated from the capital costs, or outside this process altogether. For example, VTrans maintains a separate division that handles the plowing, mowing, and other maintenance activities, and both the state and localities handle support such as street lighting, signal maintenance and operations, etc separately from roadway capital improvements. Many activities that provided needed support to highway based transport such as police/enforcement; fire/rescue, courts, and corrections are all budgeted and supported separately from the basic highway system. The state based, Federally supported highway network that is subject to this plan is also heavily dependent on the massive network of roadways supported by the cities and towns of the state to provide the crucial access from individual residences and businesses to that network for its functionality, an additional system cost that is not recognized in existing highway budgeting.

Unlike private auto/highway based systems, operating funding is as essential to transit service as are the capital facilities. Ultimately, the issue of operating funding must be addressed before full transit parity can be achieved.

Annual operating costs for the existing public transportation system are expected to be about \$6.5M and for an expanded system offering meaningful service to the region's discretionary riders, about \$17.4M (including costs for the existing service) (2008\$).

Historic funding

Finally, the historic funding pattern has placed transit at a disadvantage. While in recent years there has been some reawakening to the importance of a more balanced approach to transport, for many years transit was neglected, even deliberately disinvested, in favor of the more "modern" interstate highway system and its adjuncts. This has led to a serious lag in the available level of services in the transit sector. Thus, even a balanced approach effectively freezes this major discrepancy in place.

For this reason, when considering transit, two scenarios have been considered.

1. The level of investment required to simply maintain the existing system (routes, service frequencies, etc) in place over the next 50 years, and
2. In recognition of the need to make some level of improvements to the existing system to achieve even a basic standard of service, the investment required to bring the system up to a standard of service as outlined in the CCTA Transit Development Plan (TDP). This, of course, leaves open the question of if even the system envisioned by the TDP will fully satisfy an appropriate service standard for the county in the future.

Capital expenses for these two scenarios as developed by CCTA are included in Table 7.

Table 7. Transit Capital Expenses 2030 Projections (2008\$)

Capital Expense	Current System	TDP System
Buses	\$33,298,715	\$81,130,618
Paratransit and E&D Vehicles	\$12,727,361	\$13,986,992
Facilities	\$20,504,823	\$28,215,650
Total Capital Expenses	\$66,530,900	\$123,333,260
per year @ 20 yrs	\$3,326,545	\$6,166,663

Note: TDP system includes Current System Expenses

System Preservation

The total annual expenditures required for system preservation (ie to perform the necessary capital maintenance activities necessary to maintain the overall transportation system in an acceptable state of functionality) consists of the sum of those expenditures required for each of the three individual management systems (i.e., PMS, BMS and PTMS). Since it is recognized that the transit system has been permitted to languish relative to the other highway oriented systems, the transit system recognizes two possible approaches to maintaining a fully functional system: 1. maintaining only the existing transit system and level of service (not truly fully functional), or 2. bringing this transit system up to a standard which includes elements in the *CCTA Transit Development Plan (TDP)*. The total annualized costs for system preservation are shown in Table 8:

Table 8. Annualized Budget for All System Preservation (\$M)

System	Existing Roads, Bridges, and Transit	With TDP Transit
PMS	15.27	15.27
BMS	6.14	6.14
PTMS	3.33	6.17
Sub-Total	24.73	27.57
Contingency (10%)	2.47	2.76
TOTAL	27.20	30.32

Note: constant (2008) dollars

Thus, depending on the posture taken by the plan with respect to “maintaining” a fully functional transit service standard, base level “maintenance” expenditures should be between roughly \$27M and \$30M (2008\$) annually to maintain the existing transportation system.

This base level system preservation expenditure has been expressed in year of expenditure dollars in ten year increments in Table 9. This table presents these expenditures both annually, in ten year increments, and, in those same increments, cumulatively.

Table 9. Annualized Budget for System Preservation (\$M YoE)

Year		2010	2020	2030
Annual	Existing Roads, Bridges, and Transit	29.99	40.30	54.16
	With TDP Transit	33.43	44.93	60.38
Cumulative	Existing Roads, Bridges, and Transit	29.99	384.1	859.9
	With TDP Transit	33.43	428.2	958.7

NOTE: Inflation based on 3% annual

Besides the obvious purpose of programming adequate funds to maintain the existing transportation investment in a fully functional condition in the coming years, another important reason for projecting these needs is to establish the level of funding remaining for system improvement and expansion. In essence, this is simply the remaining funds after the base line funds for system preservation have been subtracted from the available funds discussed above. Other non-federal sources of funds could also be used to improve and expand the system beyond the estimated available federal funding in the future as opportunities arise. These funds are shown in 10 year increments in table 10. Table 10a projects the annual funds available and table 10b the cumulative funding. Both tables include projections in both constant (2008) dollars, and in year of expenditure dollars. Both tables also continue to carry through the separate lines for the two alternative approaches to transit system preservation.

Table 10a. Projected Annual Funding Available for Planned Improvements in 10 Year Intervals (\$M)

	FY	2010	2020	2030
Constant (2008) \$	Existing Roads, Bridges, and Transit	15.8	33.3	50.9
	With TDP Transit	12.6	30.2	47.8
YoE \$ (3%)	Existing Roads, Bridges, and Transit	14.2	43.5	91.1
	With TDP Transit	10.8	38.9	84.9

Table 10b. Projected Cumulative Funding Available for Planned Improvements in 10 Year Intervals (\$M)

	FY	2010	2020	2030
Constant (2008) \$	Existing Roads, Bridges, and Transit	15.8	270.0	700.2
	With TDP Transit	12.6	235.7	634.6
YoE \$ (3%)	Existing Roads, Bridges, and Transit	14.2	305.4	984.2
	With TDP Transit	10.8	261.3	885.4

Notes: Existing vs improved transit in accordance with CCTA TDP
Inflation based on 3% annual