CHAPTER 8

FINANCIALLY CONSTRAINED TRANSIT/TRANSPORTATION DEMAND MANAGEMENT PLAN

8.1 INTRODUCTION

As demonstrated by the population and employment growth that is projected for the Region need for public transportation will continue to grow into the future. As outlined in this chapter, projected revenues for public transportation are held at current levels, per guidance from the Virginia Department of Rail and Public Transportation (VDRPT). As discussed in Chapter 4, providing economical public transportation in the George Washington Region will remain a challenge due to the limited funding and the current dispersed land use pattern that prevalent throughout the Region.

8.2 FORECASTED TRANSIT/TDM REVENUES

In the George Washington area, funding for transportation operating and capital expenses is provided through a variety of funding streams and programs, including Federal, state and local sources. This chapter presents projections of the amount of funding that will be available through 2040.

While future funding levels are always speculative, the Virginia Department of Rail and Public Transit has directed MPOs to assume that future federal and state funding levels, and costs, will remain at today's levels. These financial projections are consistent with DRPT's directive.

This constrained plan was developed based on direction provided by DRPT that costs and revenues would remain stable, or in effect, be projected in FY2012 dollars. As a result, all costs for the continued operation of existing service and funding requirements are presented as remaining level over time. In addition:

In nearly all cases, this plan projects funding availability using DRPT projections, as presented in their FY2012 – 2015 Rail and Public Transportation Plan and the six year projections present in the Commonwealth Transportation Board's FY2012 Rail and Public Transportation Improvement Program. Based on DRPT's direction to assume current level funding over the life of the plan, these amounts were carried through to 2040.

The only exceptions are:

Changes reflect the recent passage of MAP-21, which is the federal legislation that reauthorized transportation funding. FRED, as a small transit operator in a small urban area, can currently use 100% of its FTA 5307 funding for operating costs. However, under MAP-21, once the FAMPO area exceeds 200,000 in population in a decennial census, which is expected to occur following the 2020 census, FRED will only

be able to use 75% of its FTA 5307 funds for operations, with the remaining 25% available for capital. This will increase the local operating subsidy costs for local jurisdictions, but will provide additional capital funding. (This change is described below in more detail.)

New FTA Section 5307 Urbanized Area Formula funds will be generated through the Vanpool National Transit Database (NTD) Program. Through this program, GWRC/FAMPO, NVTC, PRTC, and VDRPT will provide incentives to vanpools to track and report their operating statistics, which will, in turn, be reported to the Federal Transit Administration (FTA). Because FTA allocates Section 5307 funding based on vehicle miles and passenger miles (as well as other factors), the tracking and reporting of this data will increase the amount of funding available in the FAMPO, PRTC, and NVTC regions.

8.2.1 FREDericksburg Regional Transit Operating Funding

Operating funding for FRED services is largely drawn from five sources:

- FTA Section 5307 (Urbanized Area Formula Program)
- FTA Section 5311 (Rural Formula) for services provided in Caroline County
- State Operating Assistance
- Local Funds, including a 2.1% Motor Vehicle Fuel Tax
- Operating Revenues (fares)

As summarized above, due to regional population growth, it is likely that there will be a change in the eligible uses of Section 5307 funds in the lifetime of this Long Range Transportation Plan. For small urbanized areas under a population of 200,000 – as is currently the case in the Fredericksburg region – available funds are apportioned based on a combination of population and population density, and are administered and allocated by the State (in Virginia, by VDRPT). In small urbanized areas, Section 5307 funds can be used for operating expenses or capital expenses. Urban areas exceeding a threshold of 200,000 residents, as recorded during a decennial Census, receive Federal funding through different streams. As of the 2010 Census, the Fredericksburg urban area had a population of fewer than 200,000 residents.

However, projected regional growth rates indicate that the region will exceed 200,000 residents after the 2020 Census, which will mean that the area will become a medium-sized urbanized area for funding transit formula funding apportionment purposes. In this case, Section 5307 funds will be apportioned using a formula that considers the types of services provided (i.e. fixed-guideway and bus), the magnitude of service provided (i.e. revenue miles), the utilization of the service provided (i.e. passenger miles), and demographic statistics (i.e. population and population density). As a result, the amount of service provided within the Region will become a major determinant in how much Section 5307 funding will be available.

Also, under the current Federal Transportation Bill (MAP-21), becoming a medium-sized urbanized area places restrictions on the amount of Section 5307 funding that can be used for operations. Under MAP-21,

transit systems with fewer than 75 buses (which include FRED) would be able to use Section 5307 funds to cover 75% of operating expenses. For the purposes of creating long-range funding estimates, this document assumes that that FRED will continue to operate with fewer than 75 vehicles, and that the region's population will exceed 200,000 residents in 2020. On this basis, the use of FTA 5307 funds will shift from 100% operations to 75% operations/25% capital following completion of the 2020 census.

At the present time, FRED receives $1.0 million per year in FTA 5307 funds, all of which are used for operations. At current levels, once the FAMPO region becomes a medium-sized urban area, the amount that could be used for operations will decline to $752,000, with the remaining $251,000 available for capital.

However, as described above, FAMPO is working with PRTC, NVTD, and VDRPT to develop the Vanpool NTD Program. Through this program, vanpool operating statistics will be reported to FTA, which will increase Northern Virginia's formula allocations of FTA Section 5307 funds. FAMPO, PRTC, and NVTC will begin receiving additional funds from this program in FY 2015, and the FAMPO region will receive 25% of net program revenue (with the split between FAMPO, PRTC, and NVTD based on vanpool miles in each area). First year new revenues are projected at $250,000, increasing to $775,000 in FY 2016, and then increasing by 10% per year until program maturity at the end of year five as new vanpools join the program. After that time, revenues are projected to increase by 3% per year based on continued growth in the number of vanpools (see Table 8.1 on the following page). These new funds will be used to continue to provide FTA 5307 operating funding to FRED at current levels (in effect, to offset the decline from 100% for operations to 75% for operations following the reclassification of the FAMPO region to a medium-sized urban area), and to fund park and ride expansion to support continued growth in vanpools as described in the I-95 Corridor Park and Ride section.

Table 8.1

FTA Section 5307 Revenue Projections 2012-2040 (in $1,000)

					Future Projections Average Annual		Total Funding Projections	
Projected Revenue								
	2012	**2013**	**2014**	**2015**	**2016-2020**	**2021-2040**	**2012-2020**	**2021-2040**
Existing Formula Allocations	$1,002	$1,002	$1,002	$1,002	$1,002	$1,002	$9,018	$15,030
Vanpool NTD Program	$0	$0	$0	$247	$961	$1,295	$5,050	$30,930
Total	**$1,002**	**$1,002**	**$1,002**	**$1,249**	**$1,963**	**$2,795**	**$14,068**	**$45,960**
Projected Allocations								
FRED Operating	$1,002	$1,002	$1,002	$1,002	$1,002	$1,002	$9,018	$15,030
FRED Capital	$0	$0	$0	$0	$0	$0	$0	$5,010
P&R Capital	$0	$0	$0	$247	$961	$1,295	$5,050	$30,930
Total	**$1,002**	**$1,002**	**$1,002**	**$1,249**	**$1,963**	**$2,795**	**$14,068**	**$45,960**

On the basis of the above, FRED operating costs and revenues will be as shown in Tables 8.2 and 8.3 on the following page.

8.2.2 FREDericksburg Regional Transit Capital Funding

To determine capital funding projections, the average annual amount of funding over the three-year DRPT projections is used and assumed to remain constant through the 2040 horizon, with the exception of increased capital funding through Section 5307 as previously described (see Table 8.1, above).

Table 8.2

FRED Operating Costs 2012-2040 (in $1,000)

	DRPT Projections				Future Projections Average Annual		Total Funding Projections	
Operating Costs*								
	2012	**2013**	**2014**	**2015**	**2016-2020**	**2021-2040**	**2012-2020**	**2021-2040**
Fredericksburg	$3,813	$3,813	$3,813	$3,813	$3,813	$3,813	$34,317	$76,260
Caroline County	$206	$206	$206	$206	$206	$206	$1,858	$4,128
King George County	TBD	TBD	TBD	TBD	TBD	TBD		
Total	**$4,019**	**$4,019**	**$4,019**	**$4,019**	**$4,019**	**$4,019**	**$36,175**	**$80,388**

Table 8.3

FRED Revenue Projections 2012-2040 (in $1,000)

	DRPT Projections				Future Projections - Average Annual		Total Funding Projection	
	2012	**2013**	**2014**	**2015**	**2016-2020**	**2021-2040**	**2012-2020**	**2020-2040**
Operating Revenue								
Federal Funds								
FTA Sec 5307 (Fredericksburg)	$1,002	$1,002	$1,002	$1,002	$1,002	$1,002	$9,018	$20,040
FTA Sec 5311 (Caroline)	$103	$103	$103	$103	$103	$103	$929	$2,064
FTA Sec 5311 (King George)	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Total	$1,105	$1,105	$1,105	$1,105	$1,105	$855	$9,947	$22,104
State Operating Assistance								
Fredericksburg	$506	$506	$506	$506	$506	$506	$4,554	$10,120
Caroline	$32	$32	$32	$32	$32	$32	$285	$634
Total	$538	$538	$538	$538	$538	$538	$4,839	$10,754

Local Funds								
Fredericksburg	$1,923	$1,923	$1,923	$1,923	$1,923	$1,923	$17,307	$38,460
Caroline	$72	$72	$72	$72	$72	$72	$644	$1,430
Total	$1,995	$1,995	$1,995	$1,995	$1,995	$1,995	$17,951	$39.680
Operating Revenues								
Fredericksburg	$382	$382	$382	$382	$382	$382	$3,438	$7,640
Caroline	$0	$0	$0	$0	$0	$0	$0	$0
Total	$382	$382	$382	$382	$382	$382	$3,438	$7,640
Total								
FTA Section 5307	$1,002	$1,002	$1,002	$1,002	$1,002	$752	$9,018	$20,040
FTA Section 5311	$103	$103	$103	$103	$103	$103	$929	$2,064
State Operating Assistance	$538	$538	$538	$538	$538	$538	$4,839	$10,754
Local Funds	$1,995	$1,995	$1,995	$1,995	$1,995	$1,995	$17,951	$39,890
Operating Revenues	$382	$382	$382	$382	$382	$382	$3,438	$7,640
Total	**$4,019**	**$4,019**	**$4,019**	**$4,019**	**$4,019**	**$3,769**	**$36,175**	**$80,388**

Table 8.4

FRED Capital Costs and Revenue Projections 2012-2040 (in $1,000)

	DRPT Projections				Future Projections - Average Annual		Total Funding Projections	
	2012	2013	2014	2015	2016-2020	2021-2040	2012-2020	2021-2040
Capital Costs								
Replacement Rolling Stock	$600	$1,200	$300	$0	$525	$525	$4,725	$10,500
Real-Time Info	$351	$0	$0	$0	$88	$88	$789	$1,753
Facility Improvements	$0	$0	$10	$0	$3	$254	$23	$5,005
Expansion Rolling Stock	$0	$300	$0	$300	$150	$150	$1,350	$3,000
Total	**$951**	**$1,500**	**$310**	**$300**	**$765**	**$1,015**	**$6,886**	**$20,308**
Capital Funding								
Federal STP	$480	$1,200	$248	$240	$542	$542	$4,878	$10,840
Federal 5307	$0	$0	$0	$0	$0	$251	$0	$5,010
State Capital Assistance	$96	$150	$31	$30	$77	$77	$691	$1,535
State Demonstration	$333	$0	$0	$0	$83	$83	$749	$1,660
Local Funds	$42	$150	$31	$30	$63	$63	$568	$1,263
Total	**$951**	**$1,500**	**$310**	**$300**	**$765**	**$1,015**	**$6,886**	**$20,308**

Sources: The Virginia Transportation Improvement Plan, Rail and Public Transportation, FY2012-2015; Commonwealth Transportation Board, FY2012 Rail and Public Transportation Improvement Program.

8.2.3 Virginia Railway Express (VRE) Funding

The Virginia Railway Express (VRE) is funded by its member communities, which include Fredericksburg, Stafford County, and Spotsylvania County, based on the ridership in each jurisdiction. Member communities' financial contributions to VRE services cover a portion of total VRE costs, including both capital and operating expenses. VRE is also funded by additional sources, including State and Federal sources, which cover the balance of VRE's overall operating and capital costs.

Spotsylvania County became a new member community to VRE in FY2010. To allow the County to accrue enough Motor Vehicle Tax funds to pay for its share of VRE services without tapping its general funds, the County was permitted to defer its contributions in FY2010 and 2011 completely, and defer 50% of its contributions for FY2012. In FY2013, the County will begin to provide 100% of its required funding contribution. The funding increase from Spotsylvania County (beginning in FY2012) will be offset by funding decreases from all other member jurisdictions, including both FAMPO region jurisdictions as well as non-FAMPO jurisdictions.

For fiscal year FY2014 and beyond, the anticipated annual local subsidy contribution from FAMPO region communities will be approximately $3,953,000 (see Table 8.5 below). The total VRE operating costs are expected to increase over time, but based on VDRPT direction, VRE local subsidy contributions are projected to remain steady.

Table 8.5

VRE Local Subsidy Contributions (in $1,000)

	VRE Projections						Average Annual	Total	
	2012	**2013***	**2014**	**2015**	**2016**	**2017**	**2018-2040**	**2012-2020**	**2021-2040**
Fredericksburg	$421	$422	$422	$422	$422	$422	$422	$3,797	$8,440
Stafford County	$2,506	$2,348	$2,348	$2,348	$2,348	$2,348	$2,348	$21,290	$46,960
Spotsylvania County	$577	$1,183	$1,183	$1,183	$1,183	$1,183	$1,183	$10,647	$23,660
Total	**$3,503**	**$3,953**	**$3,953**	**$3,953**	**$3,953**	**$3,953**	**$3,953**	**$35,733**	**$79,060**

Source: VRE 2013 Operating Budget

In addition to the regular local assessments, Spotsylvania County will fund construction of Crossroads Station at the end of the Spotsylvania extension. This station will be funded through County bond proceeds.

Motor Vehicle Fuel Tax - PRTC levies a sales tax on motor vehicle fuel. The current rate is 2.1%; the rate was increased on January 1, 2010 from a previous rate of 2.0% to accommodate a shift in the point at which the tax is levied from fuel retailers to fuel distributors. This sales tax is collected by the Virginia Department of Taxation, and is remitted to PRTC (after deducting administrative expenses) for the benefit of PRTC's member communities, which include Fredericksburg, Spotsylvania County, and Stafford County. These funds are used by PRTC to pay PRTC's administrative costs and to fund transportation projects for the member jurisdictions. Any funds collected from the sales tax must first be used to cover the member

jurisdictions' respective obligations to fund VRE service. After each jurisdiction's local funding obligation is met, the jurisdiction may use excess revenues to fund other transportation projects, including both public transportation projects and roadway projects. For example, Fredericksburg uses this funding source to pay for the operation of FRED, as well as miscellaneous transportation projects.

The revenues generated by the Motor Vehicle Fuel Tax are included in revenue projections for VRE, FRED and other projects as a component of "Local Funds" line items. PRTC projects that gasoline tax revenues will remain relatively level over the short-term. Aside from slight fluctuations in revenues between 2012 and 2018, Motor Vehicle Fuel Tax revenues are projected as shown in Table 8.6. Annually, Fredericksburg is projected to receive approximately $1.7 million, Stafford County will receive $5.3 million, and Spotsylvania County will receive $3.5 million. This revenue allows all three jurisdictions to fully cover their VRE contributions (see Table 8.5).

Note, however, that the shift in sales tax collection from fuel retailers to fuel distributors has resulted in the unintended consequence of obscuring the jurisdiction that is entitled to the tax revenue benefit. This is because many fuel distributors are based outside of Virginia, and are not as closely in touch with retailer locations, especially since many retailers use post office addresses. This may result in some jurisdictions receiving more tax revenue than due, while others receive less. It is likely the case that Spotsylvania County's revenues are artificially low, while those of Fredericksburg and Stafford County are high. Regional agencies are currently working to correct these issues, and figures presented in Table 8.6, below, represent the most recent estimates.

Table 8.6

Motor Vehicle Fuel Tax revenues (Average Annual 2012-2018, in $1,000)

	Total Proceeds	VRE Assessment	Difference (Available for other projects)
Fredericksburg	$1,737	$405	$1,332
Stafford County	$5,345	$2,412	$2,934
Spotsylvania County	$3,474	$1,154	$2,320

8.2.4 GWRideConnect Funding

GWRideConnect is funded by a combination of local matching funds, state grant funds, and Federal Congestion Mitigation and Air Quality Improvement (CMAQ) funds (see Table 8.7 on the following). Given the DRPT direction that funding streams will remain level over time, future projected GWRideConnect funding is also level.

Table 8.7

GWRideConnect Funding

	Budget	FAMPO Projections				Future Projections - Average Annual		Total Funding Projections	
	2013	**2014**	**2015**	**2016**	**2017**	**2018-2020**	**2021-2040**	**2018-2020**	**2021-2040**
Operating Expenses	$584,978	$579,920	$579,920	$585,504	$614,346	$569,754	$569,754	$5,238,907	$11,395,080
Operating Revenue									
State Grant	$355,803	$355,803	$355,803	$355,803	$355,803	$355,803	$355,803	$3,202,227	$7,116,060
Local Funds	$88,951	$88,951	$88,951	$88,951	$88,951	$88,951	$88,951	$800,559	$1,779,020
CMAQ	$140,224	$135,166	$135,166	$140,750	$169,592	$125,000	$125,000	$1,236,121	$2,500,000
Total	**$584,978**	**$579,920**	**$579,920**	**$585,504**	**$614,346**	**$569,754**	**$569,754**	**$5,238,907**	**$11,395,080**

8.2.5 I-95 Corridor Park and Ride Expansions

Funding has been committed for the construction of two of the park and ride lots identified as regional needs in the 2012-2020 timeframe: The Gordon Road lot and the Staffordboro/Garrisonville Road lot. Funds allocated for these projects include a combination of Federal, state and local funds. Additionally, funding has also been allocated to begin construction on a Fredericksburg Central Business District (CBD) lot in 2018 (identified within Table 8.8 as a 2040 horizon need).

In addition, and as described in the FRED section above, the Region will begin to generate additional FTA Section 5307 funds in FY2015 through the Northern Virginia Vanpool Incentive Program. Most of these funds will be used to expand park and ride spaces in the I-95 corridor (as also described in the FRED section, some will also be used to maintain FRED FTA Section 5307 operating funding at current levels). The total transit-derived funds that will be available for park and ride expansion are shown in Table 8.8, on the following page. However, as noted earlier, the main source for funding for park and ride lot funding will continue to come from highway sources, such as RSTP and CMAQ.

Table 8.8

Park and Ride Funding (in $1,000)

	Budget						Average Annual		Total	
	2013	**2014**	**2015**	**2016**	**2017**	**2018**	**2019- 2020**	**2021- 2040**	**2013- 2020**	**2021-2040**
Capital Costs										
Gordon Road Lot	$5,530	$0	$120	$0	$2,666	$2,923	$0	$0	$0	$11,239
Staffordboro Blvd Lot	$4,253	$0	$1,249	$933	$0	$0	$0	$	$	$6,435
CBD Lot	$0	$0	$0	$0	$0	$100	$0	$0	$0	$100
Add'l Expansion	$0	$0	$247	$767	$861	$972	$1,101	$1,295	$5,050	$30,930
Total	**$9,783**	**$0**	**$1,616**	**$1,679**	**$3,527**	**$3,995**	**$1,101**	**$1,295**	**$5,050**	**$48,704**
Capital Funding										
FTA Section 5307	$0	$0	$247	$767	$861	$972	$1,101	$1,793	$5,050	$30,930
CMAQ	$1,981	$0	$1,095	$746	$2,133	$2,439				$8,394
Federal STP	$2,443	$0	$0	$0	$0	$0				$2,443
State Capital Assistance	$495	$0	$274	$187	$533	$584				$2,073
Local Soft Match	$611	$0	$0	$0	$0	$0				$611
Bond Proceeds: CPR Bonds	$503	$0	$0	$0	$0	$0				$503
Revenue Sharing Funds: Local Match	$1,875	$0	$0	$0	$0	$0				$1,875
Revenue Sharing Funds: State Match	$1,875	$0	$0	$0	$0	$0				$1,875
Total	**$9,783**	**$0**	**$1,616**	**$1,679**	**$3,527**	**$3,995**	**$1,101**	**$1,295**	**$5,050**	**$48,704**

8.2.6 Total Available Funding

It is estimated that, between 2013 and 2020, the revenue sources described above will provide $8.6 million per year in transit and TDM operating funding, and $2.8 to $3.5 million per year in capital funding (see Table 8.9 on the following page). In addition, Spotsylvania County will provide one-time funding of $3.4 million to construct the VRE Crossroads station.

Table 8.9

Operating and Capital Revenue Summary (in $1,000)

	Average Annual		Total	
	2012-2020	**2021-2040**	**2012-2020**	**2021-2040**
Operating Revenues				
Federal				
FTA Section 5307 (FRED)	$1,002	$1,002	$9,018	$20,040
FTA Section 5311 (FRED)	$103	$103	$929	$2,064
CMAQ (GWRideConnect)	$125	$125	$1,236	$2,500
Subtotal	**$1,230**	**$980**	**$11,183**	**$19,594**
State				
State Operating Assistance (FRED)	$538	$538	$4,839	$10,754
State TDM Funding (GWRideConnect)	$356	$356	$3,202	$7,116
Subtotal	**$894**	**$894**	**$8,041**	**$17,870**
Local Operating Assistance (FRED)				
FRED	$1,995	$2,245	$17,951	$44,900
VRE	$3,971	$3,971	$35,733	$79,060
GWRideConnect	$89	$89	$801	$1,779
Subtotal	**$6,055**	**$6,305**	**$54,485**	**$125,739**
Operating Revenues (FRED)	**$382**	**$382**	**$3,438**	**$7,640**
Total	**$8,561**	**$8,561**	**$77,147**	**$170,843**
Capital Funding				
Federal FTA Section 5307 (FRED)		$250	$0	$5,010
Federal FTA Section 5307 (P&R)	$561	$1,793	$5,050	$30,930
Federal STP	$845	$542	$8,394	$0
Federal CMAQ	$1,049	$0	$7,321	$10,840
State Capital Assistance	$336	$77	$2,764	$1,535
State Demonstration Program	$83	$83	$749	$1,660
Local Soft Match	$76	$0	$611	$0
Bond Proceeds: CPR Bonds	$63	$0	$503	$0
Revenue Sharing Funds: Local Match	$234	$0	$1,875	$0
Revenue Sharing Funds: State Match	$234	$0	$1,875	$0
Local Funds	$63	$63	$568	$1,263
Total	**$3,544**	**$2,808**	**$29,710**	**$51,238**

8.3 FINANCIALLY CONSTRAINED TRANSIT/TDM PLAN

8.3.1 Introduction

Costs for the transit needs described in Chapter 6, the Regional Needs Plan, significantly exceed the amount of funding that is projected to be available. This chapter presents a financially constrained transit plan that would use the funding that is projected to be available largely to maintain existing services and for limited improvements:

FRED Service - FRED service will be maintained at current service levels. Any future expansion would need to be locally funded, and at this time, no locally funded expansion is planned.

VRE Service - Service would be extended to Spotsylvania, but otherwise, will continue to provide the same level of service.

GWRideConnect - TDM programs provided by GWRideConnect will be maintained at current levels.

I-95/I-395 Corridor Park and Ride Expansion - Funding has been allocated for the Gordon Road, Staffordboro Boulevard, and CBD park and ride lots. New FTA Section 5307 funding that will be leveraged through the Northern Virginia Vanpool Incentive will provide the ability to continue to expand park and ride spaces beyond currently allocated funding.

Most of the projects identified in the Needs Plan are not included in the Financially Constrained Plan, as funding has not yet been identified. These include:

- FRED Service Expansion
- VRE Service Expansion
- GWRideConnect Program Expansion
- I-95 Expanded Commuter Bus Service
- I-95 HOT Lanes Commuter Bus Start Up Subsidy Program
- Caroline County Regional Transit Service
- Regional Transportation Centers
- Route 1 Corridor Improvements
- Route 3 Corridor Improvements
- Lafayette Boulevard Corridor Improvements
- Human service transportation programs, including a volunteer driver program

The services, programs, and projects included in the Constrained Transit Plan fall far short of meeting the needs identified in the Transit Needs Plan. However, as illustrated in Maps 18 and 19 on pages 174 and 175, they will meet many of the needs in the more densely developed areas of the George Washington

Region, including those where transit demand is greatest. The Transit Composite Index shown in these figures was developed based on synthesis of a variety of research and other documents that identify the supportable level of transit frequency for various levels of population and employment density. Examples include TCRP Report 102: Transit-Oriented Development in the United States: Experiences, Challenges, and Prospect (2004), Boris Pushkarev and Jeffrey Zupan, Public Transportation and Land Use Policy (1977), and L.D. Frank and Gary Pivo, The Relationship between Land Use and Travel Behavior in the Puget Sound Region, Washington State DOT (1994). The Transit Composite Index blends population and employment by traffic analysis zone (TAZ), based on an indexed ranking of each.

GEORGE WASHINGTON

2040 Long Range Transportation Plan

MAP 18: Constrained Transit Plan (2010 Densities)

Legend:

- Park and Ride Lots
- Rail Stations
- Active Rail Lines
- FREDericksburg Regional Transit Routes

Supportable Transit Service Frequency

- > 60 min
- 60 min
- 30 min
- 15 min
- 10 min
- 5 min +

FAUQUIER COUNTY
PRINCE WILLIAM COUNTY
MARYLAND
MCB Quantico
CULPEPER COUNTY
STAFFORD COUNTY
Potomac River
NSWC Dahlgren
KING GEORGE COUNTY
ORANGE COUNTY
SPOTSYLVANIA COUNTY
Fort A.P. Hill
WESTMORELAND COUNTY
Rappahannock River
ESSEX COUNTY
LOUISA COUNTY
CAROLINE COUNTY
KING & QUEEN COUNTY
HANOVER COUNTY
KING WILLIAM COUNTY

Miles
0 5 10 20

CITY OF FREDERICKSBURG

Miles
0 3 6 12

GEORGE WASHINGTON

2040 Long Range Transportation Plan

MAP 19: Constrained Transit Plan (2040 Densities)

Legend:

- Park and Ride Lots
- Rail Stations
- FREDericksburg Regional Transit Routes

Supportable Transit Service Frequency

- > 60 min
- 60 min
- 30 min
- 15 min
- 10 min
- 5 min +

PRINCE WILLIAM COUNTY
FAUQUIER COUNTY
MCB Quantico
MARYLAND
CULPEPER COUNTY
STAFFORD COUNTY
Potomac River
NSWC Dahlgren
KING GEORGE COUNTY
SPOTSYLVANIA COUNTY
ORANGE COUNTY
Fort A.P. Hill
WESTMORELAND COUNTY
Rappahannock River
ESSEX COUNTY
LOUISA COUNTY
CAROLINE COUNTY
KING & QUEEN COUNTY
HANOVER COUNTY
KING WILLIAM COUNTY

Miles
0 5 10 20

CITY OF FREDERICKSBURG

Miles
0 3 6 12

8.3.2 Constrained Transit Plan

As described above, the Constrained Transit Plan includes funding for FRED and VRE operations and capital, and GWRideConnect TDM programs.

FRED - Over the life of this plan, as a result of funding constraints, it is projected that FRED service levels will remain at their current levels. For the entire period between FY2012 and 2040, both operating costs and revenue sources are projected to remain stable (see Table 8.10 on the following page).

For capital, the constrained plan largely provides funding for replacement buses and additional buses for service expansion, plus limited facility upgrades for items such as real-time passenger information, bus stop improvements, bicycle racks, and other similar types of projects. It should be noted that while the constrained plan includes funding for buses for expanded service, it does not include any Federal, State, or Regional funding for expanded service. However, local jurisdictions do have the ability to provide local funding for service expansion beyond the constraints of this plan, and in that case, funding will be available to purchase the buses that would be required. If service is not expanded, then additional capital funds would be available for other projects.

Finally, as described above, as a result of MAP-21 and the projection that the Fredericksburg urban area will exceed 200,000 residents, $250,000 of FTA Section 5307 funds that are now used for FRED operations will instead need to be used for capital. Given that MAP-21 legislation just passed, the specific uses of these funds have not yet been determined. For the purposes of this constrained plan, they have been programmed as “Facility Upgrades.”

VRE - Through 2040, VRE will extend service to Spotsylvania County. Since trains currently operate to and from the location of the new Crossroads Station in Spotsylvania County, there will be no operating cost increases for the extended service, and assessment levels for FAMPO area jurisdiction would continue at present levels (see Table 8.11 on page 178).

Table 8.10

FRED Costs and Funding through 2040 (in $1,000)

	Average Annual Cost		Total Cost	
	2012-2020	**2021-2040**	**2012-2020**	**2021-2040**
Operating Costs and Revenues				
Operating Costs	$4,019	$4,019	$36,175	$80,388
Operating Revenues				
FTA Section 5307	$1,002	$1,002	$9,018	$20,040
FTA Section 5311	$103	$103	$929	$2,064
State Operating Assistance	$538	$538	$4,839	$10,754
Local Operating Assistance	$1,995	$1,995	$17,951	$39,900
Operating Revenues	$382	$382	$3,438	$7,640
Total	**$4,019**	**$4,019**	**$36,175**	**$80,388**
Capital Costs and Funding Sources				
Project				
Replacement Rolling Stock	$525	$525	$4,725	$10,500
Facility Upgrades	$91	$340	$811	$6,808
Expansion Rolling Stock	$150	$150	$1,350	$3,000
Total	**$765**	**$1,015**	**$6,886**	**$20,308**
Capital Funding				
Federal STP	$542	$542	$4,878	$10,840
Federal 5311	$0	$251	$0	$5,010
State Capital Assistance	$77	$77	$691	$1,535
State Demonstration Program	$83	$83	$749	$1,660
Local Funds	$63	$63	$568	$1,263
Total	**$765**	**$1,015**	**$6,886**	**$20,308**

Table 8.11

FAMPO AREA VRE Operating Costs and Funding (in $1,000)

	Average Annual Cost		Total Cost	
	2012-2020	**2021-2040**	**2012-2020**	**2021-2040**
Operating Costs and Revenues				
VRE FAMPO Area Costs	$3,953	$3,953		
Fredericksburg	$422	$422	$3,797	$8,440
Spotsylvania County	$1,183	$1,183	$10,041	$23,660
Stafford County	$2,348	$2,348	$21,290	$46,960
Total	**$3,953**	**$3,953**	**$35,733**	**$79,060**
Operating Revenues (Motor Fuel Excise Tax)				
Fredericksburg	$422	$422	$3,797	$8,440
Spotsylvania County	$1,183	$1,183	$10,041	$23,660
Stafford County	$2,348	$2,348	$21,290	$46,960
Total	**$3,953**	**$3,953**	**$35,733**	**$79,060**

Capital costs for the Spotsylvania extension will be $15.9 million, which includes $3.4 million for the new station and facilities, and $12.5 million to construct crossover tracks between the CSX mainline and the new station.

The extension will be funded through a combination of County, Federal, and State funds. Spotsylvania County will fund the station and recently sold bonds for a number of transportation projects, including the station (see Table 8.12 on the following page). VDRPT will use Federal and State funds under its control to fund the construction of crossover tracks.

Table 8.12

FAMPO Area VRE Direct Costs and Funding (in $1,000)

	2012-2020
Project	$3,400
Crossroads Station (Spotsylvania Extension)	
Capital Funding	$3,400
Spotsylvania County Bond Funds	

GWRideConnect - GWRideConnect Programs will be funded at the same levels as at present, and the programs that will be provided will continue to be the same or similar as at present:

- Free Rideshare Matching Program
- Carpool assistance
- GWRideConnect Website
- Commuter Bus Promotion
- Program Participant Follow-up
- Advertising Campaigns
- Vanpool services
- Commuter Lots Leasing
- ADVANTAGE Self-insurance Pool Program
- Employer/Realtor Outreach
- Van Start Program
- TDM
- Van Save Program
- Guaranteed Ride Home (GRH)
- NTD Vanpool Incentive Program

Average annual operating costs and revenues for GWRideConnect will be as shown in Table 8.13, below.

Table 8.13

GWRideConnect Operating Costs and Funding (in $1,000)

	Average Annual Cost		Total Cost	
	2012-2020	2021-2040	2012-2020	2021-2040
Operating Costs and Revenues				
Operating Costs	$570	$570	$5,239	$11,395
Operating Revenues				
State TDM Funds	$356	$356	$3,202	$7,116
Local Funds	$89	$89	$801	$1,779
CMAQ	$125	$125	$1,236	$2,500
Total	$570	$570	$5,239	$11,395

I-95 Corridor Park and Ride - Park and Ride facilities in the Constrained Plan include the Gordon Road lot and the Staffordboro/Garrisonville Road lot. Funds allocated for these projects include a combination of Federal, state and local funds (see Table 8.14 on the following page). Additionally, funding has been allocated beginning in FY2018 of a Fredericksburg CBD lot, using CMAQ funds. At this time, funding has not yet been allocated for any of the other identified park and ride lot needs.

In addition, new funds leveraged through the Northern Virginia Vanpool Incentive Program will be used for park and ride expansion. These funds will become available in FY2015 and will be used to fund park and ride expansion at lots described in the Transit Needs Plan.

Table 8.14

Park and Ride Direct Capital Costs and Funding (in $1,000)

	Budget						Average Annual			Total
	2013	**2014**	**2015**	**2016**	**2017**	**2018**	**2019- 2020**	**2021- 2040**	**2013- 2020**	**2021-2040**
Capital Costs										
Gordon Road Lot	$5,530	$0	$120	$0	$2,666	$2,923	$0	$0	$0	$11,239
Staffordboro Blvd. Lot	$4,253	$0	$1,249	$933	$0	$0	$0	$0	$0	$6,435
CBD Lot	$0	$0	$0	$0	$0	$100	$0	$0	$0	$100
Add'l Expansion	$0	$0	$247	$767	$861	$972	$1,170	$1,793	$5,050	$30,930
Total	**$9,783**	**$0**	**$1,616**	**$1,679**	**$3,527**	**$3,995**	**$1,170**	**$1,793**	**$5,050**	**$48,704**
Capital Funding										
FTA Section 5307	$0	$0	$247	$767	$861	$972	$1,170	$1,793	$5,050	$30,930
CMAQ	$1,981	$0	$1,095	$746	$2,133	$2,439				$8,394
Federal STP	$2,443	$0	$0	$0	$0	$0				$2,443
State Capital Assistance	$495	$0	$274	$187	$533	$584				$2,073
Local Soft Match	$611	$0	$0	$0	$0	$0				$611
Bond Proceeds: CPR Bonds	$503	$0	$0	$0	$0	$0				$503
Revenue Sharing Funds: Local Match	$1,875	$0	$0	$0	$0	$0				$1,875
Revenue Sharing Funds: State Match	$1,875	$0	$0	$0	$0	$0				$1,875
Total	**$9,783**	**$0**	**$1,616**	**$1,679**	**$3,527**	**$3,995**	**$1,170**	**$1,793**	**$5,050**	**$48,704**

8.3.3 Summary

Through 2040, operating costs for FRED, VRE, and GWRideConnect services are projected at $8.6 million per year. Capital costs are projected to average $3.5 million per year through 2020, plus an additional $3.4 million for the Spotsylvania VRE extension, and $2.8 million per year between 2021 and 2040.

Operating Costs - Through 2040, operating costs are projected at $8.6 million per year (see Table 8.15). These costs will be funded through the same mix of funding sources as at present, and at the same or similar levels. The only exceptions will be that through 2020, FTA Section 5307 funds will be used 100% for FRED operations. After completion of the 2020 census, based on recent MAP-21 legislation, these funds will be used for both operations and capital. However, because additional funds will be leveraged through the Northern Virginia Vanpool Incentive Program, FRED operating funding will be maintained at existing levels, and new capital funding will become available for FRED capital purposes and to expand park and ride lots. These costs and revenues are summarized in Table 8.15, below.

Table 8.15

Total Operating Costs and Revenue Summary (in $1,000)

	Average Annual Cost		Total Cost	
	2012-2020	**2021-2040**	**2012-2020**	**2021-2040**
Operating Costs and Revenues				
Operating Costs				
FRED	$4,019	$4,019	$36,175	$80,388
VRE	$3,971	$3,971	$35,733	$79,060
GWRideConnect	$570	$570	$5,239	$11,395
Total	**$8,560**	**$8,560**	**$77,147**	**$170,843**
Operating Revenues				
Federal				
FTA Section 5307 (FRED)	$1,002	$1,002	$9,018	$20,040
FTA Section 5311 (FRED)	$103	$103	$929	$2,064
CMAQ (GWRideConnect)	$125	$125	$1,236	$2,500
Subtotal	**$1,230**	**$1,230**	**$11,183**	**$24,604**
State Operating Assistance				
State Operating Assistance (FRED)	$538	$538	$4,839	$10,754
State TDM Funding (GWRideConnect)	$356	$356	$3,202	$7,116
Subtotal	**$894**	**$894**	**$8,041**	**$17,870**
Local Operating Assistance				
FRED	$1,995	$1,995	$17,951	$39,990
VRE	$3,971	$3,971	$35,733	$79,060

GWRideConnect	$89	$89	$801	$1,779
Subtotal	**$6,055**	**$6,305**	**$54,485**	**$120,739**
Operating Revenues (FRED)	**$382**	**$382**	**$3,438**	**$7,640**
Total	**$8,560**	**$8,560**	**$77,147**	**$170,843**

Capital Costs - Programmed capital costs are to fund FRED fleet replacement and expansion, and facility upgrades, for construction of the VRE Crossroads Station for the Spotsylvania Station, and for park and ride expansion. These costs and revenues are summarized in Table 8.16, on the following page.

In addition, Spotsylvania County will provide $3.4 million in bond funds to fund construction of Crossroads Station at the end of the Spotsylvania extension. Design of this station is underway, with expenditure of all funds expected by the projected opening of the extension in 2016.

Table 8.16

Capital Costs and Funding Summary (in $1,000)

	Average Annual Cost/Funding		Total Cost/Funding	
	2012-2020	**2021-2040**	**2012-2020**	**2021-2040**
Projects				
Replacement Rolling Stock (FRED)	$525	$525	$4,725	$10,500
Facility Upgrades (FRED)	$91	$340	$811	$6,808
Expansion Rolling Stock (FRED)	$150	$150	$1,350	$3,000
Gordon Road P&R Expansion	$1,405	$0	$11,239	
Staffordborough Blvd P&R Expansion	$804	$0	$6,435	$0
CBD P&R Lot Expansion	$11	$0	$100	$0
Additional Park & Ride Expansion	$561	$1,793	$5,050	$30,930
Total	**$3,547**	**$2,808**	**$29,710**	**$51,238**
Capital Funding				
FTA Section 5307	$561	$2,043	$5,050	$35,940
Federal CMAQ	$1,049	$0	$8,394	$0
Federal STP	$845	$542	$7,321	$10,840
State Capital Assistance	$336	$77	$2,764	$1,535
State Demonstration Program	$83	$83	$749	$1,660
Local Soft Match	$76	$0	$611	$0
Bond Proceeds: CPR Bonds	$63	$0	$503	$0
Revenue Sharing Funds: Local Match	$234	$0	$1,875	$0
Revenue Sharing Funds: State Match	$234	$0	$1,875	$0
Local Funds	$63	$63	$568	$1,263
Total	**$3,544**	**$2,808**	**$29,710**	**$56,238**

Table 8.17, on the following page, indicates the total transportation needs in the FAMPO region from 2012-2040, and the total of funded projects. In total, the FAMPO region is expected to have at least $484.4 million in unfunded capital projects between 2012 and 2020, and $321.6 million between 2021 and 2040. Additionally, the region will be unable to fund $50.9 million in operating funding between 2012 and 2020, and $309.9 million between 2021 and 2040.

Table 8.17

Total FAMPO Region Transportation Needs Versus Total Funded Projects (in millions)

	2012-2020			2021-2040		
	Total Need	**Total Funding**	**Unfunded Needs**	**Total Need**	**Total Funding**	**Unfunded Needs**
Capital Projects	$514.1+	$29.7	**$484.4+**	$382.8	$51.2	**$321.6**
Operating	$128.1	$77.1	**$50.9**	$480.7	$170.8	**$309.9**