

**ITEM 11 - Information**  
September 17, 2014

Briefing on the Draft Financial Analysis for the 2014 CLRP

**Staff Recommendation:** Receive briefing on the draft financial analysis report for the 2014 CLRP. The report documents the financial plan for the 2014 CLRP which the TPB will be asked to approve at its October 15 meeting.

**Issues:** None

**Background:** Federal planning regulations require the CLRP and TIP to have a financial plan that demonstrates how they can be implemented and the sources of funding reasonably expected to be made available to carry them out.





Financially Constrained  
**Long-Range  
Transportation Plan**  
For the National Capital Region

# CLRP 2014

## FINANCIAL ANALYSIS

Analysis of Financial Resources for the 2014 Financially  
Constrained Long-Range Transportation Plan (CLRP)



## **Acknowledgements**

*National Capital Region Transportation Planning Board (TPB)*

Kanti Srikanth, Director, Department of Transportation Planning (DTP)

Gerald Miller, Director of Program Coordination, DTP

John Swanson, DTP

Andrew Austin, DTP

*Author:*

Eric Randall, DTP

*Contributing Participants:*

Sam Zimbabwe, Eric Stults, and Steve Strauss; District of Columbia Department of Transportation (DDOT)

Lyn Erickson and Heather Murphy; Maryland Department of Transportation (MDOT)

Norman Whitaker; Virginia Department of Transportation (VDOT)

Wendy Jia, Jonathan Parker, and Danielle Wesolek; Washington Metropolitan Area Transit Authority (WMATA)

Special thanks to the many other regional staff who provided input and comments for this analysis. Special thanks also to Arlee Reno for his advice and assistance throughout the process.



## Table of Contents

### Contents

Section 1: Introduction and Analysis Purpose .....	1
Section 2: Summary of the Results of the Regional Forecasts.....	4
Forecast Revenues .....	4
Observations about Forecasted Revenues .....	7
New Revenue Sources Since 2010 .....	8
WMATA’s Momentum Strategic Plan and Metro 2025 .....	9
Transit Ridership Capacity Constraint.....	10
Forecast Expenditures .....	11
Observations about Forecasted Expenditures.....	11
Section 3: How Revenues and Expenditures are Forecast.....	15
Period of Analysis and Summary of Approach.....	15
Methodologies .....	15
District of Columbia Forecast .....	15
Suburban Maryland Forecast .....	17
Northern Virginia Forecast .....	18
Washington Metropolitan Area Transit Authority Forecast.....	19
Section 4: Comparison to the 2010 CLRP Update.....	22
Section 5: Transportation Revenues: Recent Trends and Future Options.....	24
Actions Needed to Achieve New or Enhanced Revenue Sources.....	25
Public Support for Additional Transportation Revenues .....	25
Private Section Funding Options .....	26

### List of Tables

1. Revenues – Financially Constrained Long-Range Plan (2015-2040 .....	5
2. Expenditures – Financially Constrained Long-Range Plan (2015-2040).....	12

### List of Figures

1. Revenues by Funding Source .....	7
2. Revenues by Funding Source and State.....	8
3. Expenditures by Mode and Type.....	14
4. 2010 to 2014 CLRP Expenditures Comparison.....	23





## **Section 1: Introduction and Summary**

### ***Introduction***

The National Capital Region Transportation Planning Board (TPB) is the federally designated Metropolitan Planning Organization (MPO) for the National Capital Region as per 23 USC Part 450 and 49 USC Part 613 and plays an important role as the regional forum for transportation planning. The TPB prepares plans and programs that the federal government must approve in order for federal-aid transportation funds to flow to the Washington region.

Members of the TPB include representatives of local governments; state transportation agencies; the Maryland and Virginia General Assemblies; the Washington Metropolitan Area Transit Authority; and non-voting members from the Metropolitan Washington Airports Authority and federal agencies. The TPB has an extensive public involvement process, and provides a 30-day public comment period before taking action on plans and programs. The TPB's planning area covers the District of Columbia and surrounding jurisdictions. In Maryland these jurisdictions include Charles County, Frederick County, Montgomery County, and Prince George's County, plus the cities of Bowie, College Park, Frederick, Gaithersburg, Greenbelt, Rockville, and Takoma Park. In Virginia, the planning area includes Alexandria, Arlington County, the City of Fairfax, Fairfax County, Falls Church, Loudoun County, The Cities of Manassas and Manassas Park, Prince William County and a portion of Fauquier County.

The TPB is responsible for conducting the 3C planning process as outlined in 23 USC 450 and 49 USC 613. The primary products of the 3C Planning process the TPB is required to develop are the Constrained Long Range Plan (CLRP) and the Transportation Improvement Program (TIP). The CLRP documents the MPO's transportation planning policy together with the planned transportation projects intended to be implemented over the next 20 years. Per federal regulations 23 USC 450.322, the Long Range Plan shall include a financial plan that outlines the amount and source of funding needed and is reasonably expected to be available to implement the transportation projects included in the CLRP. In this manner the scope and contents of the Long Range Plan is financially constrained and thus the term Constrained Long Range Plan (CLRP).

The 2014 CLRP covers the period of 26 years, between 2015 and 2040 and represents its major update to the previous 2010 CLRP. The update of the CLRP has been developed over the past year collectively by the representatives of the TPB's member jurisdictions and agencies. Throughout the process the TPB has engaged and received comments and input from the region's citizens and interest groups via its Citizens Advisory Committee process, the Board's 30 day open public comment period preceding updates to the projects and the TIP, and its on-line publications and outreach activities.

The update to the projects in the CLRP was done as part of the TPB's Call for Projects for the Air Quality Conformity Analysis of the 2014 Update to the Financially Constrained Long-Range Transportation Plan (CLRP) and the FY 2015-2020 Transportation Improvement

Program (TIP) that started in November of 2013 and ended with the TPB's approval, after a 30 day public comment period, of the project updates for use in regional air quality conformity analysis on April 16, 2014. The updates to the projects were provided by the TPB member jurisdictions and agencies working with the TPB staff. The TPB Policy element, the Vision, together with the US DOT's focus areas for regional planning guided the project updates. It is worth noting that during this period the TPB was in the process of finalizing a Regional Transportation Priorities Plan (RTPP) but was yet to officially adopt the Plan. The member jurisdictions and its staffs were involved in the development of the RTPP and as such it is reasonable to acknowledge that the project updates provided by the member jurisdictions and agencies were in some part informed by the RTPP.

The update of the financial plan element of the CLRP, specifically the project cost estimates and the revenue amounts reasonably expected to be available to implement the projects as well as operate and maintain the existing transportation system, was prepared by the TPB member jurisdiction and agency staffs, working with the TPB staff and its financial plan consultant, Mr. Arlee Reno. The forecasts and the assumptions they are based on were reviewed by a working committee and subsequently reported to and reviewed by the TPB's Technical Committee. The financial plan includes revenue and expenditure estimates for the regional rail and bus transit system operated by WMATA and funded by member jurisdictions. The expenditure and revenue estimates for the WMATA transit system were developed, reviewed and agreed upon jointly between WMATA and its members. Similarly the financial plan includes commuter rail services, VRE and MARC, whose expenditure and revenue estimates were developed, reviewed and agreed to by its respective members.

### *Executive Summary*

This analysis demonstrates that the updated 2014 CLRP, covering the period 2015 through 2040, is financially constrained. The plan is fiscally realistic, balancing all proposed new project investments and system maintenance and operating costs with reasonable revenue expectations, as agreed upon by the MPO and its implementation agency partners in the metropolitan planning process. The plan demonstrates that the forecast revenues reasonably expected to be available cover the estimated costs of expanding and adequately maintaining and operating the highway and transit system in the region.

A total of \$244 billion in transportation expenditures is projected for the Washington Metropolitan Region for the 26-year period of 2015 to 2040. WMATA expenditures constitute 41 percent and local transit 18 percent of the total for the 2014 CLRP and highways constitute 41 percent. Because Federal planning regulations require that the financial analysis show reasonably anticipated revenues and expenditures in year of expenditure (YOE) dollars, this report provides estimates in year of expenditure dollars. Year of expenditure dollars include inflation rates in the future years<sup>1</sup>.

The majority of future transportation revenues will be devoted to the operations and maintenance of the current transit and highway systems. However, funding is identified for

---

<sup>1</sup> Previous financial analyses for the updated CLRPs through 2006 were reported in constant dollars and so are not directly comparable.

significant capital projects, including the Streetcar Projects and the South Capitol Street Corridor project in the District of Columbia; I-270 widening, reconstruction of the Nice Bridge, the Purple Line, the Corridor Cities Transitway, and the MARC Growth and Investment Plan for commuter rail in Maryland; and the I-95 HOT Lanes, phase two of the Silver Line, the Columbia Pike streetcar, and the VRE System Expansion Plan in Virginia. Most importantly, the plan also demonstrates full funding for WMATA's forecast needs for both Operations and State of Good Repair through 2040.

Contents of the analysis report include:

- Section 2 summarizes the results of the regional forecasts for revenues and expenditures. Observations are made about the forecasts for both and the new revenue sources since 2010 are described. The transit ridership capacity constraint on the travel demand model is described in relation to WMATA's Metro 2025 plan of capital projects, for which funding has not yet been identified. In addition, there is a review of the 2013 legislative actions regarding new transportation funding in Maryland and the Commonwealth of Virginia. Both jurisdictions passed significant transportation revenue legislation that increased the state and local funding available for future transportation investments.
- Section 3 provides information on the methodologies used in developing the forecast of revenues and expenditures for each state and for WMATA.
- Section 4 provides a comparison of the 2014 financial analysis results to those of the 2010 CLRP.
- Section 5 provides an overview of recent trends and future options for additional transportation revenues for the region. Recent projects and proposals that make use of innovative financing are also discussed. In regard to additional potential finance resources and innovative financing techniques, an extensive review was conducted for the 2010 CLRP financial analysis, which includes information still applicable.

## Section 2: Summary of the Results of the Regional Forecasts

This analysis demonstrates that the projects and programs contained in the long-range plan for the years 2015-2040 can be funded with the reasonably expected revenues and that the 2014 CLRP conforms to Federal guidelines requiring metropolitan areas to develop a financially constrained long-range transportation plan. The revenue and expenditure estimates were developed cooperatively by the states, local jurisdictions, and transit agencies of the Washington Metropolitan Region with TPB staff assistance. Revenue projections do not include projections of new sources but assume a continuation of current sources.

As per federal regulations, the revenue and expenditure estimates are shown in year of expenditure dollars. Year of expenditure dollars were arrived at by applying an inflation factor to estimates in 2014 dollars. However, these future year dollars are not the same as current year dollars in terms of their buying power. For the near-term years, agencies already have estimated inflation rates and have converted their estimates of revenues and expenditures to year of expenditure dollars, as part of their work to update their respective capital improvements plans. The conversions between year of expenditure dollars and constant dollars were accomplished by utilizing existing year of expenditure estimates for each revenue and expenditure category, and for (the near term) years for which agencies already have estimated inflation, using the existing inflation estimates of those agencies. For the longer term, the conversions between year of expenditure dollars and constant dollars typically use a long-term inflation rate of 2.5 percent, which is the inflation rate included in the long-term forecasts of the Congressional Budget Office<sup>2</sup>.

### Forecast Revenues

The anticipated revenues for the 2014 update of the CLRP are shown in Table 1. Revenues are broken down into five source categories (Federal, state, local, private/other, and fares/tolls) and grouped under the three major “state”-level jurisdictions (District of Columbia, Suburban Maryland, and Northern Virginia) and a fourth “non-jurisdictional regional” level. The overall category of private/other is comprised of a variety of sources and includes anticipated developer contributions. The regional “non-jurisdictional” revenues listed in the table are WMATA fares, Federal grants, and other non-jurisdictional funds. Transit fare revenues for WMATA and the local transit systems include revenues from planned services. For convenience, total aggregate revenues for WMATA which combines all non-jurisdictional funds with the jurisdictional funding is provided in Table 1A (which already are included in prior rows of the table) categorized by the five funding source columns. Special Federal, state, and local revenues (already included in the summary above) also are shown separately for some specific projects of regional significance.

---

<sup>2</sup> Congressional Budget Office, 2014 Long Term Budget Outlook (Table A-1, page 104).  
<http://www.cbo.gov/sites/default/files/cbofiles/attachments/45471-Long-TermBudgetOutlook.pdf>.

**Table 1. Revenues – Financially Constrained Long-Range Plan (2015-2040)**  
*Millions of Year of Expenditure Dollars*

	Federal	State	Local <sup>a</sup>	Private/ Other	Fares <sup>b</sup> / Tolls	Total
<b>District of Columbia</b>						
Highway	\$5,624	\$2,128		\$1,956		\$9,708
Local Transit	\$282	\$5,210			\$879	\$6,371
Commuter Rail						\$0
WMATA Support		\$17,042				\$17,042
<b>Subtotal</b>	<b>\$5,906</b>	<b>\$24,380</b>	<b>\$0</b>	<b>\$1,956</b>	<b>\$879</b>	<b>\$33,121</b>
<b>Suburban Maryland</b>						
Highway	\$11,494	\$26,622	\$10,023	\$824		\$48,964
Local Transit	\$1,791	\$5,126	\$6,380		\$2,422	\$15,718
Commuter Rail		\$4,951			\$791	\$5,742
WMATA Support		\$16,902				\$16,902
<b>Subtotal</b>	<b>\$13,285</b>	<b>\$53,600</b>	<b>\$16,403</b>	<b>\$824</b>	<b>\$3,213</b>	<b>\$87,325</b>
<b>Northern Virginia</b>						
Highway	\$3,767	\$12,036	\$13,880	\$2,745	\$8,080	\$40,509
Local Transit	\$294	\$1,794	\$4,909	\$1,573	\$3,268	\$11,838
Commuter Rail	\$1,125	\$602	\$583	\$8	\$1,430	\$3,749
WMATA Support		\$5,860	\$6,525			\$12,385
<b>Subtotal</b>	<b>\$5,186</b>	<b>\$20,292</b>	<b>\$25,897</b>	<b>\$4,327</b>	<b>\$12,779</b>	<b>\$68,480</b>
<b>WMATA Fares, Grants and Other Non-jurisdictional (Regional) Funds</b>						
<b>Subtotal</b>	<b>\$13,382</b>			<b>\$647</b>	<b>\$41,132</b>	<b>\$55,160</b>
<b>Total</b>	<b>\$37,759</b>	<b>\$98,272</b>	<b>\$42,300</b>	<b>\$7,754</b>	<b>\$58,002</b>	<b>\$244,086</b>

<sup>a</sup> For Virginia, Local funds include both county and city jurisdictions as well as the funds allocated to the Northern Virginia Transportation Authority (NVTA), which receives the revenues from a dedicated regional sales tax.

<sup>b</sup> Fares also includes other transit operating revenues.

**Table 1A. Revenues – Financially Constrained Long-Range Plan (2015-2040)**  
*Millions of Year of Expenditure Dollars (continued)*

	Federal	State	Local	Private/ Other	Fares/ Tolls	Total
<b>Regional Significant Capital Project Revenues (included above)</b>						
<b>District of Columbia</b>						
St. Elizabeth Access	\$123	\$35				\$158
South Capitol Street Bridge and Corridor	\$642	\$181				\$823
Streetcar Projects		\$822				\$822
<b>Subtotal</b>	<b>\$765</b>	<b>\$1,038</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,803</b>
<b>Suburban Maryland</b>						
Nice Bridge Replacement		\$961				\$961
Purple Line <sup>c</sup>	\$900	\$1,234	\$237			\$2,371
Corridor Cities Transitway <sup>c</sup>	\$207	\$725	\$104			\$1,036
I-270/US 15 Corridor	\$4,378	\$1,094				\$5,472
MARC Growth and Investment Plan		\$1,295				\$1,295
<b>Subtotal</b>	<b>\$5,485</b>	<b>\$5,310</b>	<b>\$341</b>	<b>\$0</b>	<b>\$0</b>	<b>\$11,135</b>
<b>Northern Virginia</b>						
I-95/I-395 HOV/Bus/HOT Lanes		\$71		\$911		\$982
Silver Line, Phase II		\$323	\$788	\$233	\$1,434	\$2,778
Columbia Pike Streetcar		\$136	\$222			\$358
VRE System Expansion Plan	\$267	\$267	\$275			\$810
<b>Subtotal</b>	<b>\$267</b>	<b>\$726</b>	<b>\$1,286</b>	<b>\$1,144</b>	<b>\$1,434</b>	<b>\$4,928</b>
<b>Subtotal (DC-MD-VA)</b>	<b>\$6,517</b>	<b>\$7,145</b>	<b>\$1,626</b>	<b>\$1,144</b>	<b>\$1,434</b>	<b>\$17,866</b>
<b>WMATA</b>						
Expansion		\$418	\$149			\$567
State of Good Repair	\$13,382	\$9,461	\$2,908			\$25,751
<b>Subtotal</b>	<b>\$13,382</b>	<b>\$9,879</b>	<b>\$3,057</b>	<b>\$0</b>	<b>\$0</b>	<b>\$26,318</b>
<b>Total Regional Significant Capital Projects</b>	<b>\$19,899</b>	<b>\$16,953</b>	<b>\$4,683</b>	<b>\$1,215</b>	<b>\$1,434</b>	<b>\$44,184</b>
<b>WMATA Summary: Jurisdictional Support Plus Other Non-jurisdictional Funds (included above)</b>						
Capital <sup>d</sup>	\$13,382	\$10,163	\$2,127	\$647		\$26,318
Operating <sup>e</sup>		\$29,642	\$4,398		\$41,132	\$75,172
<b>Subtotal WMATA</b>	<b>\$13,382</b>	<b>\$39,805</b>	<b>\$6,525</b>	<b>\$647</b>	<b>\$41,132</b>	<b>\$101,490</b>

<sup>c</sup> As this project develops, the sharing of the project cost between local, state, federal and private are anticipated to change.

<sup>d</sup> WMATA Capital funding also includes \$647 million of bonds, shown under Other funding.

<sup>e</sup> WMATA Operating funding does not include \$798 of capital funding for preventative maintenance which would be transferred from the capital budget to the operating budget.

Revenues are identified in Table 1A for significant capital projects for both highways and public transportation, including the Streetcar Projects and the South Capitol Street Corridor project in the District of Columbia; I-270 widening, reconstruction of the Nice Bridge, the Purple Line, the Corridor Cities Transitway, and the MARC Growth and Investment Plan for commuter rail in Maryland; and the I-95 HOT Lanes, phase two of the Silver Line (the Metrorail extension to Dulles International Airport), the Columbia Pike streetcar, and the VRE System Expansion Plan in Virginia.

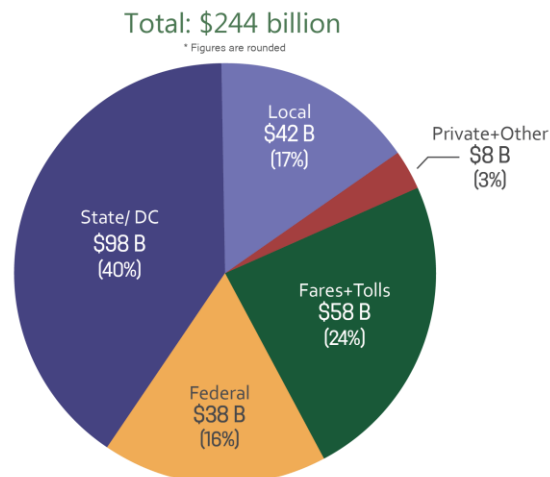
**Observations about Forecasted Revenues**

As in previous financial analyses, much of future transportation revenues will be devoted to maintenance and operations of the current transit and highway systems in the region. New for the 2014 analysis, agencies have worked to discretely identify state of good repair expenditures for highway and transit systems, previously divided between annual system preservation costs or included in the total capital expenditures for system expansion (i.e., investment). The proportion of revenues devoted to operations and annual maintenance is forecast to be about 51 percent; the expenditures for capital projects to maintain the highway and transit systems in a state of good repair are forecasted at about 32 percent while the expenditures devoted to system expansion are around 17 percent. Together, the state of good repair and expansion investments are about 49%, significantly higher than the total of 30% for capital expenditures reported in the 2010 analysis. This change in definition and reporting better demonstrates the significant needs and costs of investment to keep the existing highway and transit systems functional.

Public transportation is expected to consume 59 percent of the revenues with highways taking up 41 percent. Of the total revenues, WMATA will absorb about 41 percent of the region’s revenue for transportation.

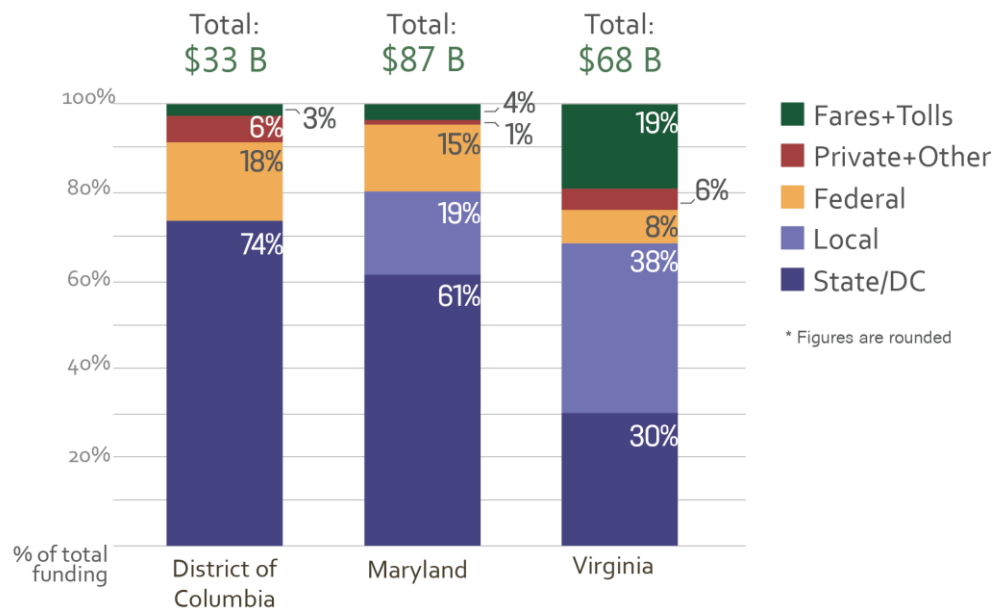
Overall, Federal revenue as a proportion of total revenue has declined (from the percentages in the 2010 CLRP) to 16 percent. State (including the District of Columbia) sources and transit fares are now playing an increasing role (40 percent and 16 percent of the total revenues, respectively). Bonds and private or other sources account for 3 percent of total revenues.

**Figure 1 – Revenues by Funding Source**



Regarding revenue projections for each jurisdiction, the summary shows that in D.C., Federal revenues constitute 18 percent of its revenues with D.C. contributing the remaining 82 percent. For Maryland the revenue contributions are Federal – 15 percent, state – 61 percent, local – 19 percent, private/other – 1 percent and tolls/fares – 4 percent. In Virginia, the contributions are 8 percent Federal, 30 percent state sources, locals – 38 percent, private/other – 6 percent, and tolls/fares - 19 percent.

**Figure 2 – Revenues by Funding Sources by State**



### *New Revenue Sources Since 2010*

Significant new revenue sources since the 2010 CLRP include the revenues raised by legislation in 2013, by both the State of Maryland and the Commonwealth of Virginia. This substantially increases the state and local funding available for transportation investments in the region. Additionally, all three major jurisdictions included provisions by which at least part of fuel taxes are now collected based on a percentage of price. This means that fuel tax revenues will increase if there is inflation or if there are significant increases in the price of fuel, as opposed to the previous method in which a fixed tax per gallon over time did not adjust tax collection to account for inflation.

While fuel taxes are only a modest source of revenues for the District of Columbia, the District switched to a wholesale tax rate of 8.0% on fuel. This is equivalent to the previous 23.5 cents/gallon rate for a wholesale price of \$2.94, which value is also set as a minimum rate for tax calculations.



Maryland passed the Transportation Infrastructure Investment Act of 2013, which phases in a variety of increases in revenues. When fully implemented, it is anticipated this act will provide \$4.4 billion in new transportation funding statewide over the next six years. The act added a 1% sales tax to the state's fuel tax of 27.5 cents/gallon (an increase of about 3.5 - 4 cents/gallon). Additional increases are also programmed: another 1 percent on Jan. 1, 2015, and another 1 percent on July 1, 2015. If federal legislation allowing states to collect a sales tax on Internet sales does not pass, the sales tax is scheduled to rise another 1 percent in January 2016. Maryland's previous fuel tax increase was in 1992.

Virginia passed the Road to the Future (HB 2313) bill. The primary change was to replace the previous 17.5 cents/gallon tax rate with a 3.5 percent sales tax rate on the wholesale price of fuel (about 11.1 cents/gal based on then current fuel prices). In addition, the Commonwealth provided for additional funding by dedicating to transportation a statewide sales tax increase of 0.3% (to 5.3%). For Northern Virginia, there was an additional sales tax rate increase of 0.7% (for a new total rate of 6%) to collect dedicated local revenues for transportation. It is anticipated this act will add approximately \$3.4 billion in additional statewide transportation funding, as well \$300 - \$350 million per year by 2018 for local transportation funding in the Northern Virginia region or more than \$1.5 billion over the next five years. The law is also counting on federal revenue that would be paid to Virginia if Congress enacts the federal Marketplace Equity Act, which would allow states to collect out-of-state sales (i.e., Internet sales) taxes. If that measure doesn't become law by January 2015, Virginia's wholesale gas tax rate will increase from 3.5 percent to 5.1 percent. Virginia's previous fuel tax increase was in 1987.

In regard to Federal revenues, no significant increases are expected, though program funds are anticipated to increase with inflation in the long-term. Additionally, an extension is assumed of the Passenger Rail Investment and Improvement Act of 2008 (PRIIA) for WMATA rehabilitation beyond 2019, for which federal funds are matched with local funds. The revenues shown in Table 1 include contributions by the District of Columbia, Maryland, and Virginia, with each of the three jurisdictions contributing \$50 million annually as match for \$150 million of annual federal funds through 2040.

It is reasonable to assume that the current commitment by the states through 2019 will be continued if PRIIA is extended by Congress. The region and local jurisdictions, the three states, WMATA, and the business community are committed to working to extend this federal legislation. In the 2018 Update of this financial analysis, this assumption will be revisited and if necessary new sources will be identified for these federal funds.

### ***WMATA's Momentum Strategic Plan and Metro 2025***

In response to the 2014 CLRP call for projects, WMATA submitted a budget for capacity expansion initiatives totaling \$6 billion. Funding all or part of these Metro 2025 initiatives was considered for the 2014 CLRP; however no jurisdiction or funding agency was able to include funding for the capacity expansion initiatives in their individual CLRP submissions.

In June 2013, the Washington Metropolitan Area Transit Authority (WMATA) Board adopted the Momentum strategic plan to ensure the transit system meets the needs of the region now, in 2025, and beyond. Momentum provides a road map to achieve the goals and guides

WMATA's annual business plan over the next ten years, including ongoing operations, infrastructure renewal and upkeep, and potential capacity expansion.

Metro 2025 is a package of seven initiatives for capacity expansion identified in Momentum that will serve to keep pace with travel demand and to continue the support of the region's economic competitiveness and quality of life by expanding capacity. Metro 2025 capital initiatives include: 100% Eight-car Trains, Station Capacity Improvements, Metrobus Priority Corridor Network, Metrobus Fleet Expansion, Next Generation Customer Communications, and special track infrastructure to provide operational flexibility, and a New Blue Line Connection at Rosslyn. Metro 2025 would require an additional \$500 million, on average, in annual capital funding through 2025. As part of the 2014 CLRP, WMATA formally submitted all seven Metro 2025 initiatives, with detailed expenditures itemized by initiative and year; however, funding for the initiatives could not be identified within the timeline for the development of the 2014 CLRP.

Among the Metro 2025 initiatives, the 100% eight-car train and core station programs directly target Metrorail capacity expansion and congestion relief across the system, especially within the system's core. The 100% eight-car trains program will enable Metro to maximize the existing line infrastructure and operations efficiency, with additional railcar procurement and the necessary infrastructure upgrades in support of the eight-car train operations - traction power, train control system, storage tracks and maintenance bays in the rail yards. The core station program will provide improvements and expansion at high ridership stations, the majority of which are located within the core. Once revenues are identified to fund the Metro 2025 initiatives, together these two programs will collectively expand capacity from lines to stations and support removing the ridership constraint within the core. Programming funding for these projects in the future will enable to removal of the transit capacity constraint.

Beyond Metro 2025, WMATA has also sketched out longer-term capacity investments needed by 2040 to meet travel demand, including a new rail tunnel in downtown DC and a third rail line in Virginia. Without increased capacity in the downtown core, no further Metrorail extensions in Maryland or Virginia can be contemplated.

### ***Transit Ridership Capacity Constraint***

For the purposes of the 2014 CLRP air quality conformity determination, a transit ridership constraint will be imposed post 2020, as has occurred in past plans where there were capital funding shortfalls for expansion of the Metrorail's core capacity. Because funding has not yet been identified to accommodate all of the projected Metrorail ridership growth, a method that has been applied since the 2000 CLRP is used to limit the projected ridership to reflect the limits of the current service levels and core station capacity. Congestion on the Metrorail system beyond 2020 is explicitly accounted for by constraining transit ridership to or through the core area to 2020 levels.

The transit constraint method is applied during the travel demand modeling process as part of the air quality conformity analysis of the CLRP. First, unconstrained origin and destination trip tables are produced for the years 2020, 2030, and 2040. Constrained transit trip tables are then created for 2030 and 2040 by inserting 2020 totals for the transit trip patterns that correspond to

trips into or through the core area containing the maximum load points in the rail system. The transit person trips that cannot be accommodated are then allocated back to the auto person trip tables, resulting in increased daily automobile trips and vehicle emissions.

## **Forecast Expenditures**

The forecast expenditures for the 2014 update of the CLRP are shown in Table 2. The total estimated expenditures are summarized in year of expenditure dollars for the 26-year period from 2015 through 2040. The totals can be compared with those in Table 1 to show that expenditures and revenues match for each major jurisdiction, mode, and the region overall, and thus the TPB's 2014 CLRP is financially constrained as required.

For the 2014 analysis, expenditures are now separated into three major categories, adding a state of good repair category to the previous categories of operations and system expansion. Expenditures are further divided among four modal categories: highway, local transit, commuter rail, and WMATA support. The rows in the table show expenditures by the three jurisdictions (the District of Columbia, Suburban Maryland, Northern Virginia), the regional nonjurisdictional expenditures, and the aggregate total. The regional "non-jurisdictional" expenditures are those covered by WMATA fares, grants, and other non-jurisdictional funds for regional services. Within each jurisdictional category, Table 2 shows the expenditure breakdown by the principal modes (highway, local transit, commuter rail, and WMATA).

Table 2 also shows a summary of total aggregate revenues for WMATA (already included in prior rows of the table) categorized by the two expenditure columns. The total expenditures shown in Table 2 are \$244.1 billion and match the revenues shown in Table 1.

The expenditures (already included in the summary above) for the significant new expansion projects in the CLRP for both highways and public transportation are identified in Table 2A. These projects include the Streetcar Projects and the South Capitol Street Corridor project in the District of Columbia; I-270 widening, reconstruction of the Nice Bridge, the Purple Line, the Corridor Cities Transitway, and the MARC Growth and Investment Plan for commuter rail in Maryland; and the I-95 HOT Lanes, phase two of the Silver Line, the Columbia Pike streetcar, and the VRE System Expansion Plan in Virginia.

### ***Observations about Forecasted Expenditures***

The majority of future transportation revenues will be devoted to the operations and state of good repair of the current transit and highway systems. For highways, two-thirds of expenditures are anticipated on operations and state of good repair projects. Under local transit, commuter rail, and WMATA, operations is 68 percent of the forecast expenditures, with another 21 percent devoted to state of good repair.

Over the 26-year period, public transportation is projected to absorb 59 percent of the total expenditures of \$244.1 billion. WMATA expenditures requests are estimated to be \$101.5 billion (42 percent of the total) and match the available revenues. Highway expenditures and revenues total \$99.2 billion (41 percent).

**Table 2. Expenditures – Financially Constrained Long-Range Plan (2015-2040)**  
*Millions of Year of Expenditure Dollars*

	Operations	State of Good Repair	Expansion	Total
<b>District of Columbia</b>				
Highway	\$1,297	\$6,332	\$2,079	<b>\$9,708</b>
Local Transit	\$3,710	\$159	\$2,502	<b>\$6,371</b>
Commuter Rail				<b>\$0</b>
WMATA Support	\$12,768	\$4,073	\$201	<b>\$17,042</b>
<b>Subtotal</b>	<b>\$17,775</b>	<b>\$10,564</b>	<b>\$4,782</b>	<b>\$33,121</b>
<b>Suburban Maryland</b>				
Highway	\$10,582	\$21,437	\$16,945	<b>\$48,964</b>
Local Transit	\$7,788	\$2,136	\$5,795	<b>\$15,718</b>
Commuter Rail	\$2,882	\$565	\$2,295	<b>\$5,742</b>
WMATA Support	\$12,764	\$3,946	\$192	<b>\$16,902</b>
<b>Subtotal</b>	<b>\$34,016</b>	<b>\$28,083</b>	<b>\$25,227</b>	<b>\$87,325</b>
<b>Northern Virginia <sup>3</sup></b>				
Highway	\$12,050	\$20,434	\$8,024	<b>\$40,508</b>
Local Transit	\$6,482	\$1,839	\$3,517	<b>\$11,837</b>
Commuter Rail	\$2,723	\$216	\$810	<b>\$3,749</b>
WMATA Support	\$8,508	\$3,704	\$174	<b>\$12,386</b>
<b>Subtotal</b>	<b>\$29,763</b>	<b>\$26,192</b>	<b>\$12,525</b>	<b>\$68,480</b>
<b>WMATA Expenses Covered by Fares, Grants, and Other Non-jurisdictional Funds</b>				
<b>Subtotal</b>	<b>\$41,132</b>	<b>\$14,028</b>		<b>\$55,160</b>
<b>Total</b>	<b>\$122,685</b>	<b>\$78,867</b>	<b>\$42,534</b>	<b>\$244,086</b>

<sup>3</sup> Northern Virginia expenditures include the regional revenues newly allocated to the NVTA. NVTA is still in the process of assigning its new revenues to specific projects. Forecast expenditures were developed through projections for the type of projects that will be funded.

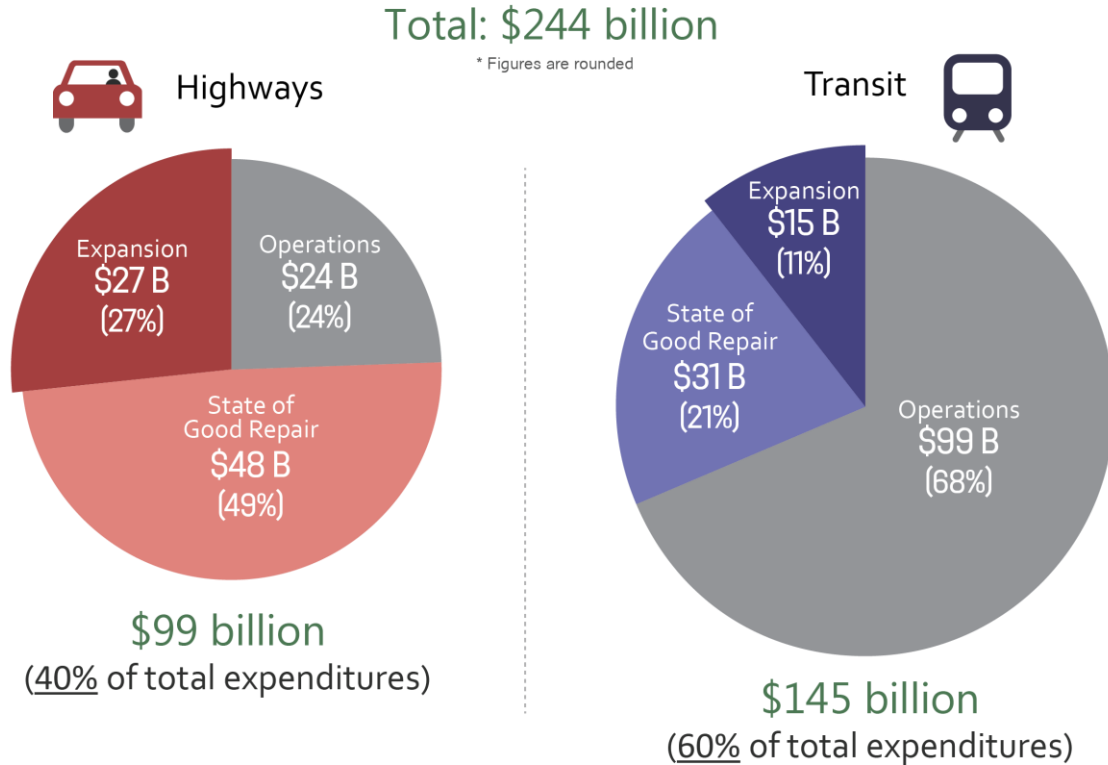
**Table 2A. Expenditures – Financially Constrained Long-Range Plan (2015-2040)**  
*Millions of Year of Expenditure Dollars (continued)*

<b>Regional Significant Capital Project Expenditures (included above)</b>	<b>Total</b>
<b>District of Columbia</b>	
St. Elizabeth Access	\$158
South Capitol Street Bridge and Corridor	\$823
D.C. Streetcar Projects	\$822
<b>Subtotal</b>	<b>\$1,803</b>
<b>Suburban Maryland</b>	
Nice Bridge Replacement	\$961
Purple Line	\$2,371
Corridor Cities Transitway	\$1,036
I-270/US 15 Corridor	\$5,472
MARC Growth and Investment Plan	\$1,295
<b>Subtotal</b>	<b>\$11,135</b>
<b>Northern Virginia</b>	
I-95/I-395 HOV/Bus/HOT Lanes	\$982
Silver Line, Phase II	\$2,778
Columbia Pike Streetcar	\$358
VRE System Expansion Plan	\$810
<b>Subtotal</b>	<b>\$4,118</b>
<b>Subtotal (DC-MD-VA)</b>	<b>\$17,506</b>
<b>WMATA</b>	
Expansion	\$567
State of Good Repair	\$25,751
<b>Subtotal</b>	<b>\$26,318</b>
<b>Total Regional Significant Projects</b>	<b>\$43,374</b>

**WMATA Summary: Jurisdictional Support Plus Other Non-jurisdictional Funds (included above)**

	<b>Operations</b>	<b>State of Good Repair</b>	<b>Expansion</b>	<b>Total</b>
D.C.	\$12,908	\$3,856	\$201	<b>\$16,965</b>
Maryland	\$12,764	\$3,946	\$192	<b>\$16,902</b>
Virginia	\$8,508	\$3,704	\$174	<b>\$12,386</b>
WMATA Expenses Paid by Fares, Grants, and Other Non-jurisdictional Funds	\$41,132	\$14,028	\$0	<b>\$55,160</b>
<b>Subtotal WMATA</b>	<b>\$75,312</b>	<b>\$25,534</b>	<b>\$567</b>	<b>\$101,413</b>

**Figure 3 – Expenditures by Mode and Type**



The expenditures shown in Table 2 include contributions by the District of Columbia, Maryland, and Virginia through 2040 as match for an extension of the Passenger Rail Investment and Improvement Act of 2008 (PRIIA) for WMATA rehabilitation beyond 2019. Each of the three jurisdictions contributes \$50 million annually, to match \$150 million of annual federal funds, all of which is expended on state of good repair capital projects.

As noted under the section on revenues, WMATA’s Metro 2025 plan for capacity expansion is not currently funded and therefore not included in the 2014 CLRP or this analysis. However, WMATA’s forecast needs for both Operations and State of Good Repair through 2040 were fully met by the funding agencies. This is a departure from the 2010 analysis, when WMATA’s long-term needs could not be met with the available projected revenues at that time. At that time, the region could not identify matching funds for a continuation of PRIIA past 2019. Additionally, the District could not fund its projected share of WMATA’s operating costs; instead the District proposed a set of alternative service delivery methods for Metrobus and MetroAccess to reduce costs by approximately \$2.7 billion over the thirty-year analysis period. For the 2014 CLRP financial analysis, neither of these 2010 exceptions is applicable.

## **Section 3: How Revenues and Expenditures are Forecast**

### *Period of Analysis and Summary of Approach*

The CLRP financial analysis covers both expenditures and revenues for a 26-year period for 2015 to 2040. Agencies used the 2010 CLRP and the existing TIP as a starting point for expenditures and made appropriate adjustments to extend their forecasts for the 26-year period while revenues were forecast based on historic funding trends and changes in federal and state revenues. Spreadsheets were distributed to each agency and jurisdiction for their use in preparing the estimates of revenues and expenditures. Agencies that wished to utilize their own existing spreadsheets or models could do so and reported the information back using the common spreadsheet format.

### *Methodologies*

Revenue and expenditure data were developed and synthesized by the states of Maryland and Virginia and the District of Columbia, by WMATA and other transit agencies, and by the local jurisdictions. The District DOT provided all District of Columbia estimates. MDOT coordinated all of the local jurisdiction and state inputs in Maryland and VDOT coordinated all the local jurisdiction and transit agency inputs in Virginia. WMATA provided forecasts of capital and operating expenditures for its regional Metrobus, Metrorail, and MetroAccess services, which were coordinated with the jurisdictions and agencies that fund those services.

Highway expenditures in Maryland are made by both MDOT and by the local jurisdictions. Transit in Maryland is funded and operated either directly by MDOT, which provides WMATA's funding and which operates the commuter rail and bus service, or by the local jurisdictions themselves. Charles, Frederick, Montgomery and Prince Georges Counties fund and operate their own local bus services.

Highways in Virginia are mostly owned and funded by VDOT, with some local jurisdiction and private funding. Transit in Virginia is provided by WMATA, by the local jurisdictions themselves and by specific Northern Virginia transit agencies, with the Virginia DRPT providing state funding support.

A methodology similar to that used to forecast revenues and expenditures in the 2010 Update was adopted in this study. Each agency and jurisdiction was requested to provide year-by-year forecasts of their transportation revenues and expenditures through 2040. TPB staff converted back and forth between constant and future year of expenditure dollar estimates for all forecasts that were not converted by the agencies themselves.

### *District of Columbia Forecast*

Over the near term, D.C.'s revenues forecasts rely on budget projections. For revenue forecast beyond 2015, the District assumes future escalations at the rate of general inflation.

The revenue numbers for highways (\$9.8 billion in year of expenditure dollars) in the summary tables (Table 1) has been derived from yearly revenue projections provided by the District Department of Transportation (DDOT) in spreadsheet format. The District forecasts that \$5.6

billion of this would be covered by Federal aid and \$4.2 billion from various local D.C. sources used to fund highways. The total highway expenditure forecast is also based on DDOT's highway expenditure spreadsheet.

Projected federal revenues are based on the existing Federal program. Revenues are projected as flat through 2018, and increasing at a 2.5% annual rate beginning in 2019. As the District builds out a local transit network, the revenue forecasts also project formula funds for State of Good Repair and Urbanized Area program grants through the Federal Transit Administration.

Projected state revenues include highway, local transit, and WMATA needs, both capital and operating. The District's Highway Trust Fund revenue projections are anticipated to remain available to match available Federal funds; these projected revenues have been projected as minimum of 22% of Federal Highway funds. Local revenues for the District's 22-mile priority streetcar system come from a new funding mechanism whereby part of the incremental growth in the District's revenues will be dedicated to the streetcar program until the 22-mile system is substantially complete. The revenue projections for the streetcar program also include bond revenues programmed in the FY 2015-2020 proposed budget.

State revenues for WMATA and non-streetcar local transit include funds programmed for WMATA State of Good Repair capital investments and local bus transit. These are anticipated to remain as local transit capital revenues. The average revenues are projected into the future with a 3.0% annual growth rate due to the costs of upgrading aging systems and District policy statements that commit to funding transit capital projects and transit State of Good Repair. For transit operations, recent historic growth rates in WMATA transit subsidies are carried forward through 2022, at a higher than the general rate of inflation since new services are coming on line. Beginning in 2023, the projections assume a reduced rate of increase for these revenues in line with the overall inflation rate assumed and consistent with the level of transit expansion planned in the later years of the CLRP.

For user fee revenues from fares and tolls, revenues from District transit fares (streetcar and DC Circulator) are assumed in keeping with planned transit expansions. These are anticipated to increase at a 3.0% rate throughout the CLRP financial plan period due to the anticipated growth in ridership projected during the financial plan period. For private and other revenues, DDOT assumes a large proceed from a GARVEE bond issuance for the South Capitol Street Bridge. There are also assumptions of private spending for several projects in the CLRP that will result in improved regional transportation infrastructure. There are no revenue assumptions beyond known projects in the CLRP.

For expenditures, DDOT project highway spending on CLRP-type capital projects from planned spending on major projects in the FY2015-2020 budget with ongoing expenditures projected for CLRP-type projects based on past trends. These expenditures also include the District's planned GARVEE Bond repayments for CLRP-type projects. Projected spending on operations and maintenance is assumed to follow past trends, and is roughly 20% of non-CLRP-type highway expenditures, while spending on state of good repair capital is assumed to follow past trends at roughly 80% of non-CLRP-type highway expenditures.

Tables 1 and 2 include \$6.4 billion in revenue and expenditures for local transit that mainly consists of the D.C. Streetcar and the D.C. Circulator Bus. Operating and capital costs for local



transit (DC Circulator and DC Streetcar) are taken from existing financial plans for both systems, with a long-term operating cost increase assumed of 2.5% past 2023.

The District's forecasts for WMATA transit expenditures are based on estimates provided by WMATA through the CLRP financial plan process. WMATA's request from the District was for \$12.7 billion (in year of expenditure dollars) for operations and \$4.3 billion in year of expenditure dollars to meet capital allocation for state of good repair and system expansion. This included \$1,306 million in match from District for the extension of PRIIA through 2040.

### *Suburban Maryland Forecast*

The revenue numbers in Table 1 for Suburban Maryland includes estimates for MDOT funding and from the suburban jurisdictions (Charles County, Frederick County, Montgomery County, Prince George's County, the City of Frederick, and the City of Rockville). Suburban Maryland's figures show MDOT's and the jurisdictions' funding projections and expenditure projections for the future. As opposed to previous years, the forecast commuter rail (MARC) figures are presented separately from the total local transit figures.

MDOT bases its overall revenue projections on the state's Consolidate Transportation Plan (CTP) budget for the next few years, extrapolation of past trends, and assumptions about future increases for out years (approximately 2019-2040). For years 2019-2040, the numbers from MDOT imply an annual increase of approximately 3.89 percent in real terms for state funds, while federal fund projections are based on an average growth rate of 2.75% for highway and 4.7% growth for transit program funds. The long-term federal contribution is a decrease from past financial assumptions, mainly due to the current federal funding uncertainties. MDOT projections commit matching funds for continuation of funding of the Passenger Rail Investment and Improvement Act of 2008 for WMATA Metrorail state of good repair types of expenditures through 2040.

Maryland jurisdictions also base their overall revenue projections on the budget estimates over the next few years, extrapolation of past trends, and assumptions about future increases for out years (approximately 2019-2040). For years 2019-2040, while each jurisdiction makes slightly different assumptions about future escalations, the aggregate numbers imply an overall annual increase of approximately 2.1 percent in funding for highway and transit by the Maryland jurisdictions.

Table 1 revenue breakdown in year of expenditure dollars by source for Maryland shows \$13 billion from Federal, \$54 billion from state, \$16.4 billion from local, \$0.8 billion from tolls/private, and \$3.2 billion from non-WMATA transit fares.

On the expenditure side (Table 2), the figures again include MDOT data and data from the five suburban Maryland jurisdictions. MDOT and jurisdictions typically match their expenditures to the forecasted revenues available for each year. Table 2 includes \$34 billion for operations and annual system preservation, \$28 billion for capital state of good repair projects and \$25 billion for expansion. The WMATA expenditure items include the \$1.306 billion Maryland share for continuation of funding of Passenger Rail Investment and Improvement Act of 2008 (PRIIA) type expenditures through 2040.

## *Northern Virginia Forecast*

Northern Virginia estimates of revenues and expenditures were developed cooperatively by VDOT, local jurisdictions, and transit agencies. VDOT developed estimates of Federal and state revenues that would be available both statewide and to the Northern Virginia region. VDOT worked with local jurisdictions to identify their additional highway and transit funding needs, taking into account the state revenues available for highways and transit. VDOT and the jurisdictions reviewed the WMATA requests and WMATA funding.

VDOT coordinated the effort and provided revenue and expenditure information for the state, Federal, and local jurisdiction data. Six different categories of projects and programs were evaluated, including Highways, Local Transit, Silver Line Phase 2, Local Transit, VRE, and WMATA Virginia Allocations, both operating and capital. In each, the revenues by source (state, Federal, local, tolls, other) and expenditures by category (operating, maintenance, administrative, and capital) have been identified. These disaggregated data have been used to build the summary table categories.

Northern Virginia CLRP revenues are derived from multiple Federal, state, local, toll, private and transit user sources, and future forecasts are based on a complex set of assumptions regarding expected escalations of each source. State revenues are expected to grow by 5% to 2019, with a growth rate of 2.1% for years 2020 and beyond. No growth is anticipated for federal revenues.

The six-year estimate of state revenues used for the fiscal annual Budget and the Six-Year Program is extracted the official forecast of state revenues prepared by the Department of Taxation. The state revenues include: Motor Vehicle Sales and Use Tax, Motor Vehicle Fuels Tax, Licenses Fees, International Registration Plan, and State Sales and Use Tax. For the Constrained Long-Range Plan (CLRP), the estimate of state revenues beyond FY 2020 reflects the same growth pattern of the current six-year implementation program.

The total Federal, state, and local funding figures that are shown in Table 1 include both highway and transit funding – \$5.2 billion, \$20.3 billion, and \$25.9 billion, respectively. User charge revenues of \$8 billion from tolls on state toll roads and \$4.7 billion from local transit and commuter rail fares are shown separately. Private/other funds are \$4.3 billion, including funding from the I-95 Express Lanes private consortium.

The local funding amount has increased significantly since the 2010 analysis, due to the legislation enacted in 2013. Regional and local revenues include the new dedicated Northern Virginia Transportation Authority (NVTA) funds. The NVTA funds are made up of a portion of the sales tax in Northern Virginia, a transit occupancy tax, and a grantors tax. A portion of the NVTA funds (30%) is distributed to the Northern Virginia localities and are treated as local funds in the financial analysis. The remaining portion of the NVTA funds (70%) is allocated by the NVTA and is treated as regional funds.<sup>4</sup>

---

<sup>4</sup> NVTA is in the process of assigning its new revenues to specific projects. Forecast expenditures were developed through projections for the type of projects that will be funded.

Expenditures (Table 2) include data from VDOT and the Northern Virginia jurisdictions. The expenditure data for the near term are derived from the latest annual budget and the six-year program data along with estimates in the TIP. Table 2 shows \$29.8 billion for operations, \$26.2 billion for state of good repair projects, and \$12.5 billion for expansion, including both highways and transit. The amount for expansion has decreased considerably from the 2010 analysis, due to the completion of the I-495 Express Lanes, Silver Line Phase 1, and I-95 Express Lanes mega-projects.

Dulles Rail Phase 2 expenditures of \$2.8 billion were included as part of local transit figures; these are capital costs only based on project budgets and preliminary cost estimates. VRE costs are based on the approved state improvement program through 2020, with assumed growth of 2.5% growth in later years, while fares are expected to grow by 3% annually. WMATA expenditure items in Table 2 include WMATA's request of \$1,306 million in match from Northern Virginia for the extension of PRIIA through 2040.

### ***Washington Metropolitan Area Transit Authority Forecast***

WMATA numbers have been derived from WMATA's latest estimates for CLRP submission. Fare inflation rates for all modes (Metrobus, Metrorail, and MetroAccess) include a 2.5% compounded increase every odd year, consistent with CBO inflation forecasts, Board policy and recent budget practice. At the request of funding agencies, WMATA developed capital expenditure forecasts using a 2% long term inflation rate, below the CBO forecast rate, to incorporate future productivity and efficiency improvements.

#### *Metrobus*

The Metrobus fleet is projected to increase by 20 buses per year between FY2015 and FY2040, which is generally consistent with WMATA's Capital Improvement Program. Service growth is expected to grow at a modest rate, perhaps a few tenths of a percent per year. Metrobus expenses are expected to grow by between 4 to 5% in the early years of the plan, reaching the projected long term inflation rate of 2.5% by 2023. The short term rates are informed by recent cost growth rates, while the long term rate was derived from a recent Congressional Budget Office Long Term Outlook rate of 2.5%. Metrobus subsidies are allocated to the local jurisdictions based on policies adopted by the WMATA Board of Directors.

#### *Metrorail*

Service and fleet assumptions include operating support and fares for the Silver Line, Phases 1 and 2, with the expectation that revenue service for the latter will begin in FY2019.. A portion of the projected operating and maintenance support needed for Silver Line Phase 2 were assigned to FY 2018 to account for preparations needed in advance of revenue service including testing, staffing of facilities, training, and the like. After the Silver Line, no rail service growth was assumed in the period FY2020-2040. Facilities costs were added for the planned Potomac Yard Metrorail Station sponsored by the City of Alexandria in FY2018, consistent with the current CLRP.

Metrorail expenses are expected to grow by between 4 to 5% in the early years of the plan, reaching the projected long term inflation rate of 2.5% by 2023. The short term rates are informed by recent cost growth rates, while the long term rate was derived from a recent

Congressional Budget Office Long Term Outlook rate of 2.5%. Subsidy Allocation: For the period FY2014-2017, the 2014 budgeted subsidy allocation formula was applied which includes Phase 1 of the Silver Line, while an updated 2019 formula was projected and used for the period FY2018-2040. FY 2018 was selected as the first year for the adjusted rail subsidy allocation formula because many of the costs for operation are expected to begin well in advance of the beginning of revenue service projected in FY 2019, consistent with experience on Silver Line, Phase 1.

#### *MetroAccess*

As MetroAccess expenses are a function of ridership, the plan incorporates recent forecasts which range from 2.2 million annual trips to 3.6 million trips by 2040. Costs were then assigned based on the rider's jurisdiction of residence. As WMATA's service is purchased rather than directly operated, the plan uses cost inflation growth rates directly from WMATA's contract rates through 2023. After 2023, a long term cost inflation rate of 2.5% was applied. Subsidy Allocation: For the period FY2015-2017, a short term ridership forecast was used to apply the subsidy to each jurisdiction. For the period FY2018-2040, a long term 2040 ridership forecast (3.6 million annual trips) and interpolated jurisdictional forecasts were used to assign subsidies in intermediate years.

#### *WMATA Capital Expenditures*

Committed (CIP) Expansion. The FY2015-FY2020 CIP was approved by the WMATA Board of Directors, and therefore, no additional assumptions to federal formula grants, federal PRIIA, or other federal grants are made in these years. The FY2015-FY2020 CIP was developed based on the infrastructure reinvestment and expansion needs identified in the 2010 Capital Needs Inventory (CNI).

For 2020 and beyond, SGR facility and infrastructure expenditures are based on the average SGR expenditures for FY2015-FY2020. FY21-FY29 are inflated at a 2.5% inflation rate, with a reduction in the inflation rate for the later years (FY-30-FY40) to 2.0%. SGR facility and infrastructure projections increase in FY2021 to account for additional assets added to the SGR inventory as a result of Silver Line Phase I and increase again in FY2026 for Silver Line Phase II. Assets are assumed to enter SGR inventories seven years after the initiation of operations. Vehicle SGR expenditures are developed based on actual fleet age compositions and schedules for fleet rehabilitation and replacement.

#### *WMATA Capital Revenues*

The capital revenues project current and anticipated funding sources from the federal, state and local governments including: Federal formula grants and local match, PRIIA and local match for Metrorail SGR.

Federal Funds: For FY21-40, Federal formula grants are inflated each year by a 2.5% inflation factor. Federal PRIIA funds are maintained at \$150M each year, with no inflation assumed.

Revenue allocations for SGR needs are split among the Compact jurisdictions in accordance with the current Capital Funding Agreement (CFA) for FY14-16 and are projected through to

FY2019 consistent with the proposed FY2015-2020 CIP. For FY21-FY40 the local match to Federal formula funds is maintained with a 2.5% inflation factor per year.

System Performance funds are determined as the difference between the SGR expenditures and those federal and state/local revenues generated by Federal Formula grants, Federal PRIIA funds, and the local match to each. State and local match to Federal PRIIA funding is split among the states equally (33.33% each).

#### *WMATA Capital Subsidy*

The following assumptions are made in reconciling the capital revenues and expenditures. All PRIIA funds (both the federal funds and the local match) are assumed to support Metrorail projects only. All available non-PRIIA federal funding is applied proportionally across the modes in any given year. With federal funding being applied proportionally, the required federal match and system performance funds are also proportional by mode. Using the jurisdictional operating subsidy shares by mode, the required federal match and system performance funding for each year by mode is allocated to each jurisdiction and summed up.

WMATA regional operating and capital numbers (covered by operating revenues, grants, and other non-jurisdictional funds) are shown in a separate row below the rows summarizing the three jurisdictions in summary Tables 1 and 2. WMATA's request from each jurisdiction is shown under each jurisdiction summary section as well as separately at the end of expenditure Table 2. As mentioned earlier, the expenditures in Table 2 include extension of PRIIA through 2040.

## Section 4: Comparison to the 2010 CLRP Update

Initial comparisons between average annual revenues by jurisdiction and type for the 2024 Draft versus the 2010 Update concludes that more revenues are needed on an annual basis than in previous CLRP estimates. All conclusions are of course tempered by the switch to making the forecasts in year of expenditure dollars and including additional years in the forecasts.

The revenues and expenditures for the 2014 and 2010 Updates were developed using the same general methods, however there are now 26 years in the forecasts (2015-2040) in comparison to the 30 years in the earlier forecasts (2011-2040).

The proportion of revenues and expenditures devoted to public transportation has decreased to approximately 58 percent, from slightly below 64 percent in the 2010 CLRP. Revenues for WMATA constitute 41 percent of the total versus 51 percent in 2010 (but were 43 percent of the total in 2006). WMATA revenues largely come from fares (41 percent) and state sources (46 percent). These proportions were 42 percent and 40 percent respectively in 2010.

Federal revenues as a proportion of the total is unchanged since 2010 at 16 percent as are state revenues at 40%. Local revenues are up slightly, now 17% as compared to 13% in 2010. Other sources of revenue, including private and other sources and user fees from tolls and fares, are down slightly, now 24% as compared to 32 percent in 2010. With respect to revenues for individual modes, for highways the Federal government and the states provide 63 percent of the revenues (down from 74 percent contribution in 2010), while local share as a proportion of highway revenues has increased to 24 percent (compared to 11 percent in 2010). This would reflect the change in Virginia funding, with more local funds coming from the NVTA fund. Local transit and commuter rail are largely funded from state and local revenue sources (52 percent) with fares contributing 35 percent and Federal aid 12 percent.

Key observations on changes in expenditures for the 2014 CLRP Financial Analysis include:

### Total Expenditures in Billions of YOE Dollars Increased since the 2010 CLRP:

	Total	D.C.	Maryland	Virginia	WMATA (Nonjurisdictional)
<b>(2010 CLRP)</b>	222.8	28.0	74.5	58.0	62
<b>(2014 CLRP)</b>	244.1	33.1	87.3	68.5	55.2
<b>Percent Increase</b>	10%	18%	17%	18%	(11%)

Total expenditures increased by 10 percent from 2010 to 2014 CLRP, due to additional new revenues in Maryland, Virginia, and the District of Columbia. These revenues more than made up for projections of reduced federal funds, as well as other factors including a shorter analysis period (twenty-six years instead of thirty years) and the completion of several mega-projects such as the Inter-County Connector, Woodrow Wilson Bridge, and Silver Line Phase 1

**The Percentage of Total Expenditures in Billions of YOE Dollars by Mode**

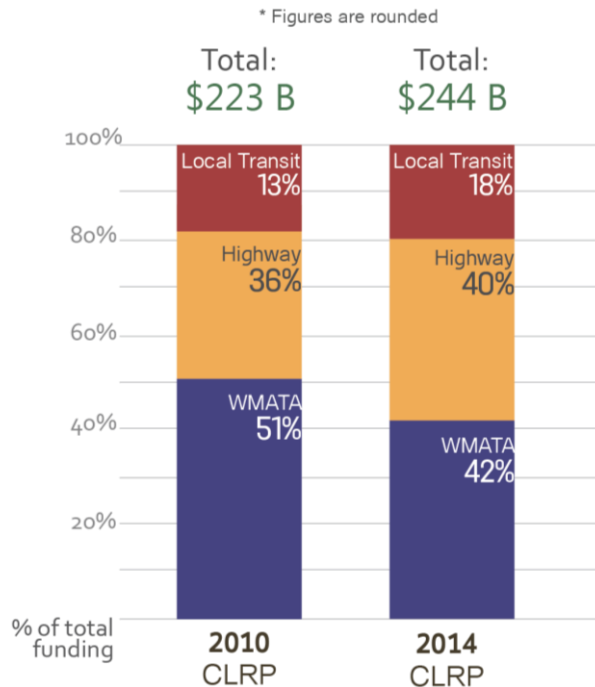
CLRP	Highway	Other Transit	WMATA	Total
2006	68 (43%)	22 (14%)	69 (43%)	159
2010	81 (36%)	28 (13%)	113.8 (51%)	222.8
2014	99 (41%)	43 (18%)	101 (41%)	244.1

WMATA expenditures constitute 41 percent of the total for the 2014 CLRP and highways constitute 41 percent and local transit 18 percent. In the 2010 CLRP, the proportion of funding for WMATA was higher, over half the total expenditures. However, the 2014 proportions are closer to the 2006 percentages of expenditures by mode, with more funding planned for local transit, including light rail and street car projects. An overall comparison since 2000 shows that the 2014 proportions are closer to the longer-term trend.

**The Total Public Transportation Percentage versus Highways since 2000:**

	Public Transportation	Highways
2000 CLRP	50	50
2003	60	40
2006	57	43
2010	64	36
2014 CLRP	59	41

*Figure 4 - 2010 to 2014 CLRP Expenditures Comparison*



## Section 5: Transportation Revenues: Recent Trends and Future Options

There have been positive actions taken by agencies since 2010 in terms of seeking adequate revenues to maintain the existing highway and transit systems in a state of good repair. However, major challenges remain if surface transportation capacity is to grow to meet forecast population and economic growth, or if congestion on the entire transportation system leads to costly delay and a negatively impacted quality of life. The region must examine new sources of possible future funding and must identify the critical steps needed to achieve more adequate funding for the unfunded expansion needs of the transportation system. In addition, the region is still recovering from the economic recession. It is important that long-term forecasts be understood in terms of long-term trends, so information is presented here about trends prior to the recession.

While the recent increases in state funding in Maryland, Virginia, and the District of Columbia have been significant, the long-term forecast for federal revenues is dismal. Absent an increase in federal transportation programs to keep up with the population and economy, states and local jurisdictions will have to find more sources of transportation funding, even while under immense pressure to constrain their own revenue exaction. About 43 percent of recent national highway capital and just a slightly smaller percentage of recent national transit capital funding have come from the Federal government, yet as the financial analysis shows, the region forecasts only 16% of overall revenues will come from federal programs through 2040.

The shift to user fees for highway expansion, particularly for specific project-based funding agreements such as for HOT lanes and toll lanes, has been an important step in the direction of increased revenues as well as project implementation. The 2010 opening of the tolled Inter-County Connector in Maryland, built by the State Highway Administration and operated by the Maryland Transportation Authority is one example. More innovatively, nationally recognized private-public partnerships in Virginia have funded the construction of additional capacity in the shape of tolled lanes added to congested highways. The Capital Beltway I-495 Express Lanes opened in 2012, with a connecting project, the I-95 Express Lanes, due to open in 2015. For the express lane projects, Virginia solicited private partners to build and partly finance the construction of new capacity; in exchange the private partners have a long-term contract to collect tolls on the express lanes.

There may be opportunities for future capacity expansion through tolling, including a role for public-private partnerships. In addition, the State of Maryland plans to construct the light rail Purple Line system using a public-private partnership in which the private partner will finance a considerable portion of the costs of construction. However, these limited opportunities are not substitutes for enhanced broad-based funding sources such as fuel taxes, vehicle fees, sales taxes, or other major dedicated sources that can support the operation, preservation, maintenance, and long-term state of good repair replacement and rehabilitation needs for major components of the surface the transportation system. Also, although increases to traditional motor fuel taxes and other current user fees are feasible short- and mid-term sources, they may not necessarily be the best long-term solution given improved vehicle fuel efficiency and



alternative fuelled vehicles. In support of the 2010 CLRP financial analysis, an exhaustive review of potential revenue sources, innovate financing techniques, and relevant factors was conducted and is still very relevant. This report is available at: <http://www.mwcog.org/uploads/pub-documents/pV5fWls20101201121202.pdf>

### ***Actions Needed to Achieve New or Enhanced Revenue Sources***

The National Capital Region still needs additional revenues and new revenue sources in order to support critical needs for expansion of the surface transportation network. As in previous analyses, the vast majority of available future transportation revenues are already dedicated to the maintenance and operations of the current transit and highway systems. Many unfunded but desirable projects are proposed that cannot be included in the CLRP under the funding constraints.

The greatest challenge to the region is the existence of multiple jurisdictions at several levels, each with its own tax base, tax structure, and tax policy. This leads to challenges in funding for regional or inter-jurisdictional coordination, connections, and interoperability, particularly for public transportation services and bicycle/pedestrian facilities. There are opportunities in each jurisdiction to develop new or enhanced revenue sources that can be part of an overall regional solution. There also is the potential for developing metropolitan-level funding sources for planning and implementing regional transportation projects.

Recent analyses have indicated that fuel taxes will remain a viable base for funding in the near term, both for the region and the nation. The recent indexing of state motor fuels taxes to inflation, and the automatic adjustment of dedicated sales taxes, is the most promising development in ensuring that at least a basic level of funding continues to flow to the region's highway and transit systems in the future. The next step would be for federal motor fuel taxes to also be indexed to inflation, along with a rise to incorporate inflation since last adjusted in 1993. In addition to the indexing of revenue sources, recent developments in the region with regard to tolling and pricing mechanisms suggest that their application could be expanded in the shorter term.

### ***Public Support for Additional Transportation Revenues***

In the region and across the nation, there is considerable political and popular resistance to increased tolling and to the introduction of additional pricing mechanisms. *What Do People Think About Congestion Pricing? A Study of the Public Acceptability of Congestion Pricing Through a Deliberative Dialogue with Residents of Metropolitan Washington*<sup>5</sup> was completed by the TPB in 2013. The study found that participants agreed that congestion resonates as a critical problem facing the region, with significant personal impacts. However, participants who said they wanted more transportation alternatives rarely connected the lack of those options to the lack of funding. Some expressed doubts about the reality or extent of funding problems while many lacked confidence in the government's ability to solve transportation problems even if enough funding were available. An additional finding was that participants were generally unaware of

---

<sup>5</sup> [http://www.mwcog.org/store/item.asp?PUBLICATION\\_ID=470](http://www.mwcog.org/store/item.asp?PUBLICATION_ID=470)

the details of how transportation is currently funded, including the fact that the federal gas tax has not been raised in nearly two decades and is not indexed to inflation. Participants seemed to doubt inherently that congestion pricing would be effective in improving the region's transportation system. Therefore, framing pricing as an effective tool for addressing congestion problems and funding shortfalls does not seem to resonate with the public, despite the opportunity for facility tolling and congestion pricing in cordon or area-specific settings, including the use of variable and dynamic schemes.

However, if congestion pricing can effectively create specific and useful transportation alternatives, people showed more interest during the study discussion. Participants suggested that congestion pricing could play a role in the future, but proposals would need to clearly indicate how revenues raised through congestion pricing will be used, and ensure transparency and accountability in the allocation of these funds.

### ***Private Section Funding Options***

The I-495 and I-95 Express Lanes projects in Virginia have received national recognition for their innovative use of private-public partnerships. There have been both strongly negative and strongly positive reactions to the role of private firms in building and managing tolled highway networks, even if only new capacity is provided. Even when tolling is done by the public sector, as in the case of the Inter County Connector and the Dulles Toll Road, there is opposition to tolling. This is additionally the case where highway toll revenues are being used to invest in transit capacity expansion, as is the case for the Silver Line . The conversion of free lanes to toll lanes would likely face much greater public opposition, and be much more difficult than the leasing of current toll facilities or the implementation of new toll facilities on HOV lanes. Implications from these current experiences suggest that pricing and PPPs (those that involve tolling) will not be enough to fund significant surface transportation capacity, and that other sources of revenue will be needed.

The 2014 CLRP includes studies of managed lane feasibility by the District of Columbia on its Interstate roads, though no new tolled or managed projects are specified in the CLRP. Managed lanes with tolling may create an opportunity for private sector involvement in financing of any potential project. In addition, the State of Maryland plans to construct the light rail Purple Line system using a public-private partnership in which the private partner will finance a considerable portion of the costs of construction.

In the long term, new financing mechanisms are important in view of the anticipated shift away from petroleum-based fuels toward new, broad-based user fees that are not dependent on fuel consumption but on the use of the system, e.g., mileage-based or VMT fees. For both political and technological reasons, their actual implementation lies well into the future although significant efforts already are underway to develop technological solutions.

Phasing in of new transportation revenue exaction will be dependent on a variety of factors, including the needs for revenues, and the availability and attributes of the various revenue options, including the roles and required actions of various levels of government. However, if new revenues are ever to be developed, progress will need to be made in developing public and political support for such strategies.