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Analysis of Resources for the Financially Constrained Long-Range Transportation Plan for the Washington, D.C. Region

■ **1.0 Introduction**

This document summarizes forecasts of transportation revenues and expenditures for the Washington Metropolitan Region for the 24-year period of 2007 to 2030. The forecasts have been prepared by the region's transportation agencies and jurisdictions, with coordination provided by the Transportation Planning Board (TPB) agencies and the consultants Cambridge Systematics, Inc. and K.T. Analytics. The Virginia Department of Transportation (VDOT), the Maryland Department of Transportation (MDOT), the District of Columbia Department of Transportation (DDOT), and the Washington Metropolitan Area Transit Authority (WMATA) also coordinated forecasts between jurisdictions and agencies. All agencies have updated their anticipated revenues from the currently available sources. All of the forecasts and assumptions were reviewed extensively by a working group of the Transportation Planning Board Technical Committee.

During the conduct of this study, the DOTs and WMATA have also reviewed and updated all of the 2005 Constrained Long-Range Transportation Plan (CLRP) and Transportation Improvement Program (TIP) project cost data that are in the current TPB database. Because project costs and other information in the CLRP and TIP are accessible to the public and interest groups, greater efforts by TPB and DOT staff will be necessary in the future to make sure that the project cost data is fully documented and updated, even at intermediate points between the CLRP updates. The products of this financial analysis of the plan include:

- Projections in constant 2006 dollars (uninflated dollars) of revenues and expenditures through 2030 for the total region, Suburban Maryland, Northern Virginia, and the District of Columbia by mode and category;
- A discussion of issues faced by agencies in terms of the timing of revenues;
- Detailed appendices which document all forecasts by year and by agency, to be posted on the region's web site.

Potential new sources of revenue are discussed in a companion document "Progress Report on the National Capital Region's Short Term Transportation capital Funding Needs."

■ 2.0 Summary of Results

Revenues

Table 1 shows the anticipated revenues for this 2006 Update of the CLRP. The estimates are shown in constant 2006 dollars for the years 2007-2030. Revenues are shown in five columns: District of Columbia, Suburban Maryland, Northern Virginia, Regional, and Total. The forecasts of regional revenues are WMATA fares and federal formula assistance that comes directly to WMATA as a designated recipient. Revenues are also shown for the categories of federal, state, local, and private/tolls. The overall category of private/tolls are a variety of sources that include anticipated developer contributions. Transit fares are forecasted for WMATA and for the local transit systems. Local transit fares are shown for suburban Maryland and Northern Virginia.

Special federal, state, and local revenues are shown for some specific projects and other potential new sources of revenues (e.g., the possible new toll/HOT lane facilities in Maryland and Virginia, and other revenue sources under consideration at DDOT). The revenues shown in Table 1 exclude the proposed Davis Bill implications, which are actively being pursued and which may come to fruition. If enacted, the Davis Bill would identify an additional \$3 billion (approximately \$2.3 billion in constant year 2006 dollars during the period of expenditure) for WMATA capital over the 10 years between 2007 through 2016. Under the bill, federal funds of \$1.5 billion (approximately \$1.1 billion in year 2006 dollars) and matching funds of another \$1.5 billion (\$1.1 billion in 2006 dollars) would come from dedicated funding sources in Maryland, Virginia, and District of Columbia.

If the Davis Bill is not enacted, the region will be short by that amount for needed capital investment in WMATA's system. The implications will be either that an alternative source must be found or there will be future deterioration in the system, including a lack of capacity. This is reflected in terms of planning for the region as a capacity constraint on transit, which will shift trips onto the region's already congested highways. Such a capacity constraint has been applied in past CLRPs. This capacity constraint is discussed in more detail below.

Table 1. Revenues – Financially Constrained Long-Range Plan (2007-2030)
(Millions of Constant 2006 Dollars)

	District of Columbia	Suburban Maryland	Northern Virginia (1)	Regional	TOTAL
State (2)	\$10,939	\$16,024	\$16,110		\$43,073
Federal	\$3,771	\$12,654	included above		\$16,425
Local Jurisdictions	---	\$7,013	\$5,937		\$12,950
Private/Tolls	\$0	\$201	\$1,879		\$2,080
Subtotal	\$14,710	\$35,892	\$23,926	\$0	\$74,528
<u>Transit Operating Revenues</u>					
Local Transit Fares		\$370	\$1,383		\$1,753
WMATA Fares/Others				\$15,814	\$15,814
Subtotal	\$0	\$370	\$1,383	\$15,814	\$17,567
<u>Other Special</u>					
Special Federal					
WMATA IRP (Non-Juris) (2)				\$5,468	\$5,468
Dulles Corridor			\$1,405		\$1,405
Woodrow Wilson Bridge (3)		\$400	Check w. VDOT		\$400
DC Specific Transit	\$122				\$122
<u>Special Other</u>					
Inter County Connector (4)		\$1,674			\$1,674
Beltway HOT Lanes			\$733		\$733
Subtotal	\$122	\$2,074	\$2,138	\$5,468	\$9,8028
GRAND TOTAL	\$14,832	\$38,336	\$27,447	\$21,282	\$101,897

(1) VDOT and Northern Virginia agencies are in the process of revising the 2006 data. NoVA numbers are based on adjustments to the 2003 CLRP data.

(2) Revenues exclude the Davis Bill amounts (\$2,269 million)

(3) Awaiting information from VDOT.

(4) \$112 million of the total cost of \$1,786 million is included under the "State" revenue category

Several key high profile highway and transit projects are identified separately in Table 1, including: the two major bridge/corridor rehabilitation/expansion projects in DC, the ICC in MD, the Beltway HOT lanes in Virginia, the Dulles Rail extension in Virginia, and specific transit projects in DC.

The WMATA request, including the Davis Bill amounts is shown at the bottom of Table 2 along with the unfunded amounts. The entire Davis Bill amount (\$2,269 million) is allocated among the three jurisdictions in Table 2.

Expenditures

Table 2 summarizes the estimated expenditures in constant year 2006 dollars for the years 2007-2030. The columns are also shown for the District of Columbia, Suburban Maryland, Northern Virginia, Regional, and Total. The majority of future transportation revenues will be devoted to the maintenance and operations of the current transit and highway systems. As shown for the highway portion, more expenditures are anticipated on operations and preservation than on expansion or special projects. For both local transit and commuter rail and for WMATA, operations and preservation constitute the vast majority of expenditures.

Special funding expenditures include federal aid and other sources. The state and local contributions to capital and operations for WMATA are also shown. Please note that Table 2 WMATA expenditures include the full WMATA program capital needs, including the unfunded Davis Bill expenditures of \$2,269 million. In Table 2, all of the Davis amount (is allocated to the three jurisdictions (\$762 million, \$829 million and \$678 million to DC, MD and VA, respectively). If enacted, the Davis Bill would cover half of these amounts with federal funding.

The bottom portion of Table 2 shows the differences between the WMATA request, which includes the full amounts in the Davis Bill, and the current estimated funding commitment. Over the long term, the funding commitment is \$3 billion less than the approximately \$45 billion requested by WMATA. Special funding is shown for major projects in the highway and transit categories. The highway projects include highway bridges and corridors in the District of Columbia, the Inter-county Connector (ICC) in Maryland, the proposed beltway HOT lanes in Virginia, and the Woodrow Wilson Bridge. Transit projects include the Dulles Corridor and selected transit projects in Maryland and Virginia.

Table 2. Expenditures – Financially Constrained Long-Range Plan (2007-2030)
(Millions of Constant 2006 Dollars)

	District of Columbia	Suburban Maryland	Northern Virginia(1)	Regional	TOTAL
Highway					
Operations/Preservation	\$5,983	\$10,724	\$7,738		\$24,445
Expansion		\$8,954	\$4,479		\$13,433
Other		\$82	\$1,071		\$1,153
Special Funding					
Bridges & Corridors (DC)	\$1,002				\$1,002
Inter County Connector (MD)		\$1,786			\$1,786
Beltway HOT Lanes (VA)			\$733		\$733
Woodrow Wilson Bridge		\$400	Check w. VDOT		\$400
Subtotal Highway	\$6,985	\$21,946	\$14,021	\$0	\$42,952
Transit					
Local/Commuter Rail					
Operations & Preservation		\$4,878	\$3,833		\$8,711
Expansion		\$1,366	\$1,184		\$2,550
Subtotal Local/Commuter Rail		\$6,244	\$5,017		\$11,261
WMATA					
Operating	\$6,081	\$7,129	\$4,243	\$15,814	\$33,267
Capital (2)	\$2,225	\$2,407	\$1,968	\$5,468	\$12,068
Subtotal WMATA	\$8,306	\$9,536	\$6,211	\$21,282	\$45,335
New Starts and Other Projects					
Dulles Corridor (VA)			\$2,792		\$2,792
Selected New Starts (MD)		\$1,439			\$1,439
DC Specific Projects (DC)	\$1,120				\$1,120
Subtotal New Starts	\$1,120	\$1,439	\$2,792	\$0	\$5,351

Table 2. Expenditures – Financially Constrained Long-Range Plan (2007-2030)
(Millions of Constant 2006 Dollars) continued.

<i>Subtotal Transit</i>	\$9,426	\$17,219	\$14,020	\$21,282	\$61,947
GRAND TOTAL	\$16,411	\$39,165	\$28,041	\$21,282	\$104,899
<i>Revenues – Expenditures</i>	<i>-\$1,579</i>	<i>-\$829</i>	<i>-\$594</i>	<i>\$0</i>	<i>-3,002</i>

WMATA Request (including the Davis Bill Amounts)

	District of Columbia	Suburban Maryland	Northern Virginia	Regional	TOTAL
Operating	\$6,081	\$7,129	\$4,243	\$15,814	\$33,267
Capital (3)	\$2,225	\$2,407	\$1,968	\$5,468	\$12,068
TOTAL REQUEST	\$8,306	\$9,536	\$6,211	\$21,282	\$45,335

Current Estimated Funding Commitment

Operating	\$5,428	\$7,129	\$4,243	\$15,814	\$32,614
Capital	\$1,299	\$1,578	\$1,290	\$5,468	\$9,635
TOTAL FUNDING COMMITMENT	\$6,727	\$8,707	\$5,533	\$21,282	\$42,249

WMATA Funding Shortfall (Rev-Exp) (4), (5)

<i>Revenues – Expenditures</i>	<i>-\$1,579</i>	<i>-\$829</i>	<i>-\$678</i>	<i>\$0</i>	<i>-\$3,086</i>
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(1) Awaiting information from VDOT. The numbers shown are based on adjustments to the 2003 CLRP data.

(2) Includes full WMATA program request, inclusive of Davis Bill amounts (\$2,269 million).

Suburban jurisdictions have not committed funding for Davis Bill allocations. Federal money is also not legislated.

(3) WMATA capital expenditures include the Davis Bill projects (\$2,269 million).

(4) Shortfall attributed to DC includes \$762 million for the Davis Bill allocation and \$817 million in other WMATA requests.

(5) If enacted, the Davis Bill would provide an additional \$381 million for DC, \$339 million for VA, and \$415 million for MD.

■ 3.0 Analysis Process

Key Assumptions in the CLRP Financial Analysis

- Revenue forecasts by the jurisdictions are reasonable and represent the best judgments, based on the conditions and status of the available information as of the April 19, 2006 TPB meeting.
- Cost estimates have been reviewed and updated by the agencies, in consideration of recent cost increases. Recent increases in construction costs have been dramatic. The Bureau of Labor Statistics street and highway construction cost index increased by 24.8 percent between 2002 and 2005.

Revenues and Expenditures

For both expenditures and revenues, the analysis covers a twenty-four (24) year period for 2007 to 2030. Agencies used the 2003 CLRP as a starting point and made appropriate adjustments to reflect the new revenue sources and expenditure estimates made since the 2003 CLRP Update. New identified revenues since 2003 include adjusted registration fees in Maryland, and additional federal aid resulting from the recent federal SAFETEA-LU reauthorization legislation, each of which produced additional revenues. Costs were also adjusted over the three-year period.

Methodology

Revenue and expenditure data were developed and synthesized by Maryland, Virginia, the District of Columbia, and by the local jurisdictions. VDOT coordinated local inputs in Virginia and the consultant team coordinated local inputs in Maryland. A methodology similar to that used to forecast revenues and expenditures in 2003 was adopted for the 2006 Update. Each agency and jurisdiction was requested to provide year-by-year forecasts of their transportation revenues and expenditures through 2030. The consultant team converted all future-year dollar estimates to constant year dollars for forecasts that were not already converted by the agencies themselves.

The overall methodology is summarized below. Further details and assumptions can be found in Appendix A.

Suburban Maryland

The revenue numbers in Table 1 for Suburban Maryland include estimates for MDOT funding and from the four suburban jurisdictions (Montgomery, Prince George's, and Frederick counties, and the city of Rockville). MDOT's figures show MDOT's funding projections and expenditure projections for the future. The highway funding includes the

implications of SAFETEA-LU. The total state and federal funding figures shown (\$ 16,024 million and \$12,654 million in 2006 dollars, respectively) include both highway and transit funding. The \$400 million funding for the Woodrow Wilson Bridge is shown separately under special federal category. The state funding number also includes \$112 million for the Inter County Connector (ICC) Project (out of the total funding of \$1,786 million). The remaining \$1,674 million for the ICC is shown as a separate item under “Special Other” category.

MDOT bases its overall revenue projections on the budget estimates over the next few years, and extrapolations of past trends as well as assumptions about future increases for out years (approximately 2012-2030). For the years 2012-2030, the numbers forecast by MDOT imply an annual increase of approximately 0.4 percent in real terms (over and above inflation) in funding for highway expansion, about a 1.5 percent increase in real terms for operations and about a -0.5 percent annual decrease in real terms for system preservation.

On the expenditure side (Table 2), the figures again include MDOT data and data from the four suburban Maryland jurisdictions. The WMATA expenditure items show the full WMATA request including the Davis Bill Maryland subsidy allocation of \$829 million. If the Davis Bill is enacted, half of this amount will be funded by the federal government.

Northern Virginia

This section will be replaced once we receive updated information.

Northern Virginia estimates of revenues and expenditures were developed cooperatively by VDOT and the local jurisdictions. 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 with and without the Davis Bill. The Virginia local jurisdictions identified their highway and transit revenues in consultation with VDOT.

(Previous) Northern Virginia is still in the process of estimating, reconciling, and approving the revenue and expenditure data for the 2006 CLRP. As a result, the numbers in the summary Tables 1 and 2 are consultant team estimates derived from the 2003 CLRP data. Adjustments have been made for fewer years included in the 2006 CLRP (2007-2030), inflation (to bring the 2003 values to 2006 dollar values) and the implications of the SAFETEA-LU legislation. The figures estimated in Tables 1 and 2 are derived from the available data and should be seen as approximations, pending actions by Virginia’s State budget.

For the revenues (Table 1), the first step was to take out the years 2003-2005 from 2003 CLRP. The ratio of highway revenues for the 24-year (2007-2030) to the revenues for the 27-year period (2004-2030) was used to truncate all the 2003 revenue numbers. The second step was to adjust NOVA highway funding numbers based on SAFETEA-LU. The federal highway funding for years 2007-2009 increased 31.86 percent (the percent increase in

federal apportionment to VA compared to TEA-21) as per new FHWA apportionment estimates. Finally, the revenue numbers were converted from 2003 dollar values to 2006 dollar values using estimates of CPI change from 2003 to 2006.

For expenditures (Table 2), the ratios between the three components of the highway expenditures for the 24-year (2007-2030) to those for the 27-year (2004-2030) were used to truncate 2003 highway expenditure numbers. The transit expenditure numbers were adjusted using a simple ratio of the years in each period (24 year to 27 year). In the second step, the highway operations/preservation and expansion numbers were increased for the effect of SAFETEA-LU with the total increase split 50:50 between these two categories. Finally, all the numbers were converted from 2003 dollar values to 2006 dollar values using the CPI escalator.

As for Maryland, the WMATA expenditure shows the full WMATA request including the Davis Bill Virginia subsidy allocation of \$678 million. The Davis Bill federal funds would cover half of this amount.

District of Columbia

The revenue numbers for highways (\$3,771 million from federal sources shown in Table 1 and \$3,214 in local sources which is included under the “State” category total of \$10,939 million -- for a total of \$6,985 million for highways in 2006 dollars) in the summary table (Table 1) have been derived from yearly revenue projections provided by DDOT. DDOT’s estimates include the increase in federal funding due to the enactment of SAFETEA-LU. DDOT revenue estimates assume that federal funding estimated under SAFETEA-LU will continue at the current rate with a nominal inflation level beyond 2009. The DDOT year-of-expenditure data have been converted to constant 2006 dollar values by taking out the inflation increase implicit in DDOT data.

The total highway expenditure forecast is \$6,985 million is based on DDOT highway expenditure spreadsheet. The year of expenditure dollars from DDOT’s submission have been converted to constant 2006 dollar values, as was done for the revenues.

WMATA’s request from the District is for \$6,081 million for operations and \$1,463 million to meet capital allocation. The most recent DDOT estimates of revenues for transit include \$6,727 million for WMATA from “local” sources and \$1,120 million (\$998 million in “local” and \$122 million from special federal sources) for DC specific transit projects.

As for Maryland and Virginia, the WMATA expenditure items shown represent the full WMATA request including the Davis Bill District of Columbia subsidy allocation of \$762 million, half of which would be covered by federal funds if the Davis Bill is enacted. In addition to the Davis allocation, the WMATA expenditures for DC include \$817 million in outlays for which DC funding has not been identified.

Washington Metropolitan Area Transit Authority

WMATA's regional operating and capital numbers are shown in summary Table 2. These have been derived from WMATA's latest submission for the CLRP. WMATA's constant 2005 dollar values have been converted to 2006 dollar values. As mentioned earlier, the numbers in Table 2 include the Davis Bill project in needs (\$762 million in DC, \$829 million in Maryland, \$678 in Virginia. One half of these amounts would be paid from federal funds if Davis Bill is enacted. . The overall impact of Davis Bill will be to provide funds for WMATA capital projects of approximately \$2.3 billion in year 2006 dollars. WMATA's request, funding commitment from jurisdictions and the resulting shortfalls are summarized at the bottom of Table-2.

The Transit Ridership Constraint

Why Was The Transit Ridership Constraint Developed And Why Does It Need To Be Applied To The 2006 CLRP?

As required under current federal regulations, the region has updated the financially constrained long-range plan (CLRP) every three years, in 1994, 1997, 2000, and 2003. For each three-year update, a financial analysis is conducted to ensure that the plan is financially realistic with respect to expected transportation costs and revenues and only includes new facilities that can be funded while maintaining the existing transportation system. The projects submitted for the plan must be "constrained" to the revenues that are reasonably expected to be available.

For the 2000 CLRP update, the Washington Metropolitan Area Transit Authority (WMATA) estimated the costs for preserving the transit system and to accommodate Metrorail ridership growth over the 25-year time frame of the plan. In the Spring of 2000, WMATA submitted these funding requests for consideration in the financial analysis of the CLRP. Because the \$1.5 billion requested for the rail cars and station improvements to accommodate the projected Metrorail ridership was not funded in the CLRP,¹ WMATA expressed concern that the transit system would be unable to accommodate the significant ridership increases previously forecast between 2000 and 2020.

To address the fact that funding was not identified to accommodate all of the projected ridership growth, a method was required to limit the projected ridership to be consistent with the available funding for the capacity improvements. WMATA and TPB staff developed a travel demand analysis methodology to "constrain" transit ridership into and through the core area, the most congested part of the system, after 2005. In this method, the forecasted transit person trips that cannot be accommodated are allocated back to the automobile trip forecasts.

¹ See Cambridge Systematics, Inc., *Analysis of Resources for the Financially Constrained Long Range Transportation Plan for the Washington Area*, prepared for the TPB, October 2000.

For the 2005 CLRP, the TPB, as requested by WMATA changed the capacity constraint on the core Metrorail system from 2005 to 2010. For the 2006 CLRP, the TPB in April 2006 approved the scope of work for the air quality conformity assessment with the transit capacity constraint using the 2010 levels.

How Does The Transit Ridership Constraint Work?

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 2010, 2020, and 2030. Constrained transit trip tables are then created for 2020 and 2030 by inserting 2010 totals for the transit trip patterns that correspond to trips into or through the core area² 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.

When this method was applied for the 2000 CLRP, transit work trips were forecast to increase by 18 percent from 2001 to 2025 under the constraint, but would increase 36 percent without the constraint. The constraint caused 104,000 additional daily trips to be absorbed by the highway system, causing an increase in emissions.

4.0 Comparison to the 2003 CLRP Update

Initial comparisons between average annual revenues by jurisdiction and type for the 2006 Draft versus the 2003 Update concludes that more revenues are needed on an annual basis than before.

While the revenues and expenditures for 2006 and 2003 Updates were developed using the same general methods, some assumptions have changed and several other factors have changed. First, there are now 24 years in the forecasts (2007-2030) in comparison to 27 years in the earlier forecasts (2004-2030). Also, the new Tables 1 and 2 are estimated in constant 2006 dollars, whereas the previous tables were in constant 2003 dollars.

The net effect of the above two opposing influences would be expected to roughly cancel each other out. However, the financial analysis shows an increase in real terms from the total of \$93 billion in the 2003 CLRP to \$102 billion in the 2006 CLRP. This suggests that the jurisdictions have identified new revenues. For example:

- DC funding is \$14.8 billion in 2006 compared to \$12.5 billion in 2003;

² The core area includes the area directly surrounding downtown Washington D.C., and a small portion of Arlington County.

- MD funding is \$38.3 billion as compared to \$33 billion in 2003 CLRP (MDOT increased from \$28 to \$29 billion, MD suburban jurisdiction funding increased from \$4.3 to \$7.0 billion, and the separate ICC special funding of \$1.7 billion is included);
- VA funding of \$; and (to be included later)
- WMATA regional funding is up from \$20.5 billion to \$21.3 billion. The total WMATA program request has gone up from \$40.5 billion in 2003 CLRP to \$43 billion (\$45.3 billion if Davis amount is included) in 2006 CLRP.
- The 2006 CLRP tables 1 and 2 indicate shortfalls in meeting WMATA request. This is mainly due to the lack of agreement by the three jurisdictions to commit funding for capital expansion identified in the proposed Davis Bill and the fact that Davis Bill has not been enacted. Additionally, The District of Columbia is short by \$817 million with respect to funding of the WMATA request exclusive of the Davis Bill allocation.

In addition, since 2003, the SAFETEA-LU enactment provided additional federal funding for highways to all jurisdictions and all the jurisdictions committed to funding WMATA's "Metro Matters" initiative.

The District has identified additional sources of revenue via new legislative initiatives to fully meet its key highway and transit needs including rehabilitation and expansion of two key bridges and corridors. Also, they have identified funding for "Metro Matters" beyond 2010 and carry funding assumptions out to 2030.

MDOT has identified additional funding for highways and transit including increases attributable to SAFETEA-LU as well as the willingness to fully fund WMATA operating allocations and "Metro Matters" allocations. Like DC, Maryland also makes an assumption regarding continuation of the "Metro Matters" level beyond 2010 to 2030. Maryland also has the new Inter County Connector "self funded" project in the 2006 CLRP. The other large increase (\$2.7 billion) in the funding can be attributed to additional transportation funding identified by Montgomery County, MD. which includes \$29 million for the Silver Spring Transit Center.

The percentage of expenditures for public transportation and highways in the 2006 draft plan are 58 and 42 percent in comparison to the 2003 percentages of close to 60 percent for public transportation and 40 percent for highway. The small shift toward highways probably has resulted from increased funding from SAFETEA-LU and addition of two major new "self-financing" projects (the Beltway HOT Lanes in VA and the Inter County Connector in MD).

Some changes have occurred in the relative amounts listed as state and Federal versus local categories in the revenue tables, which may be due to different accounting for state aid categories.

The percentage of expenditures for expansion shifted marginally from 20 percent in 2003, and is around 22 percent for the 2006 Update – a major likely reason being the inclusion of the two new highway projects (VA HOT Lanes and MD ICC).

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■ 5.0 Future Projects and New Revenue Sources

The National Capital Region needs additional revenues and new revenue sources in order to support critically needed future transportation programs and projects. The vast majority of available future transportation revenues will be devoted to the maintenance and operations of the current transit and highway systems. Many desirable projects were identified during the 2000 and 2003 updates and in the 2004 publication “A Time to Act” that could not be included in the CLRP under funding constraints. A progress report on unfunded needs and revenues is being prepared.

Therefore, the region must examine new sources of possible future funding and identify the critical steps needed to achieve more adequate funding for the unfunded maintenance, rehabilitation, and expansion needs of the transportation system. Although the region is in the process of implementing HOT and toll lanes, these are only appropriate in particular circumstances and for specific corridors. While specific project-based funding agreements such as HOT and toll lanes are important steps in the right direction, they are not substitutes for broad-based funding sources such as enhanced fuel taxes. In addition, although fuel taxes and other current user fees are a feasible source for the short and mid-term, they may not necessarily be the best long term solution. VMT fees (fees on vehicle miles of travel) are being considered elsewhere as long term options and could be considered as a potential long term option for the region.

Potential Funding Sources for Evaluation

The greatest challenge to the region is the existence of multiple jurisdictions at several levels, each with their own tax base, tax structure and tax policy. Based on a recent report released by AASHTO titled *Metropolitan-Level Transportation Funding Sources*, there is the potential for developing metropolitan-level funding sources for planning and implementing regional transportation projects.

Successful transportation revenue-raising initiatives in other states and major metropolitan areas provide valuable lessons in how to successfully bring new revenue sources. A wide range of revenue sources potentially is available to the region. These are described in a companion document that provides a progress report on short term funding and needs.

Appendix A

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Detailed Methodology and Assumptions for 2006 CLRP Update Revenue and Expenditure Estimates

WMATA

WMATA's regional operating and capital subsidy request numbers for each suburban jurisdiction were derived from WMATA's spreadsheets as of mid-April 2006 which were inclusive of the Davis Bill expenditures. The consultant team subtracted, from WMATA data, \$3.0 billion in year of expenditure dollars that would be enabled by the Davis Bill funding. This included all of the \$2,784 million year of expenditure dollars in "capacity expansion" category, and \$216 million year of expenditure dollars from the "Eight Car Train" category, reflecting a reduction of 25 cars from the planned acquisition of 90 additional cars spread over FY 2013-2018. In constant 2006 dollars, the Davis Bill would add approximately \$2.3 billion to the expenditures, half of which would have to be funded jointly by DC, MD and VA.

In order to estimate the Davis Bill allocations, WMATA's year of expenditure dollars, less the Davis \$3.0 billion, were converted first to constant 2005 dollars (in order to be consistent with WMATA's estimates in 2005 dollars) and then converted to 2006 dollars assuming a 3.0 % inflation from 2005 to 2006.

WMATA's full request, including \$2.3 billion to be enabled by the Davis Bill, is shown in Table 2.

The WMATA expenditures in Table 2 show full WMATA program needs. These numbers assume that of the total needs, \$2.3 million will be funded from Davis Bill federal monies (\$1.15 Billion) and an equal match (\$1.15 Billion) from the jurisdictions. However, neither the Davis legislation has been enacted, nor has the required agreement been reached among the jurisdictions that would commit them to the requested funds. Thus, the summary tables show a shortfall in funding to meet WMATA's full program needs. In addition to the shortfall resulting from the \$2.3 billion in needs identified as the Davis Bill project expenditures, DC funding shows an additional shortfall of \$817 million in meeting WMATA's DC allocations. The WMATA program request, the funding commitments, and the implied funding shortfall are listed toward the bottom of Table 2.

District of Columbia

DDOT prepared two separate spreadsheets – one for highways and the other for transit. Revenues and expenditures were presented by DDOT in year of expenditure dollars. For summary tables 1 and 2, the consultant team converted these to constant 2006 dollar values.

The spreadsheets separate revenues by “federal” and “local” (“State”) categories. Highway revenues in 2006 dollars are \$6,985 million (\$3,771 million in federal and \$3,214 million in “State or local” funds). Transit funds in 2006 dollars are \$7,847 million (\$122 million in federal funds for DC specific projects, \$998 million in DC funds for DC specific projects and \$6,727 million in DC funds for WMATA subsidies. It should be noted that the WMATA request for DC subsidy is for \$7,544 million (\$6,081 million for operations and \$1,463 million for capital). Thus, the DC numbers show a shortfall of \$1,579 million which includes an \$817 million shortfall in meeting WMATA request in addition to the \$762 million shortfall in meeting Davis Bill allocation.

DDOT’s highway revenue estimates include the increase in federal funding due to the enactment of SAFETEA-LU. DDOT revenue estimates assume that federal funding estimated under SAFETEA-LU will continue at the current plus nominal inflation level beyond 2009.

It should be noted that the DC column in Table 1 does not show any funding from “private” sources. While DC gets some of the highway and transit funds from a variety of non-user sources (general obligation bonds, ROW rental fees and some miscellaneous sources for transit funding and ROW fees, parking meter fees, off-street taxes, bus shelter advertising for highway funding), these are generalized levies and, thus, have not been identified as privately generated funds.

With respect to WMATA, DDOT assumes that the “Metro Matters” level will continue beyond 2010 (through 2030).

The expenditure numbers for highways in the summary Table 2 are shown in constant 2006 dollars (\$5,983 million for operations and preservation and \$1,002 million for special bridge and street rehabilitation/expansion for a total of \$6,985 million). The estimate of \$1,002 million for special expansion projects includes the 11th Street and South Capitol Street bridge and corridor project costs taken from the data developed for “Time-to-Act” brochure and updated to 2006 dollar values.

DC transit expenditures consist of \$1,120 million for DC specific transit projects, \$6,081 million for the requested WMATA operating subsidy, and \$2,225 million for WMATA capital subsidy allocation (\$1,463 million IRP plus \$762 million of Davis Bill projects).

Suburban Maryland

The revenue column for Maryland in Table 1 includes funding from MDOT and the four suburban jurisdictions (Montgomery, Prince George’s, Frederick, and Rockville). MDOT numbers are based on data provided by MDOT and incorporate MDOT’s funding projections for the future. The highway funding includes the implications of SAFETEA-LU.

The total state and federal funding figures shown (\$ 16,024 million and \$12,654 million in 2006 dollars, respectively) includes both highway and transit funding. The \$400 million funding for the Woodrow Wilson Bridge is shown separately under special federal category. The state funding number also includes \$112 million for the Inter County Connector (ICC) Project (out of the total funding of \$1,786 million). The remaining \$1,674 million for the ICC is shown as a separate item under “Special Other” category. An amount of \$7,013 is shown in the “local jurisdictions” row. The amount of \$201 million shown in the “private/tolls/bonds” category consists of \$101 million in developer contributions and \$100 million in miscellaneous private funds available for highways. With respect to transit funding, local transit fare revenues of \$370 million have been identified separately.

MDOT bases its overall revenue projections on the budget estimates over the next few years, and extrapolation of past trends as well as assumptions about future increases for out years (approximately 2012-2030). For years 2012-2030, the numbers from MDOT imply an annual increase of approximately 0.4 percent in real terms (over and above inflation) in funding for highway expansion, 1.5 percent in real terms for operations and - 0.5 percent in system preservation.

On the expenditure side (Table 2), the figures again include MDOT data and data from the four suburban Maryland jurisdictions.

For highways, the operation and preservation funding number (\$10,724 million) includes \$7,124 million of MDOT and \$3,600 million of local expenditures. The expansion amount of \$8,954 million is derived from the total of \$9,467 million (\$6,619 million of MDOT and \$2,848 million of local expenditures) by subtracting \$400 million for WWB and \$112 million for ICC which are identified separately as “special items”. The \$82 million shown under the “other” category represents local expenditures on bicycle, pedestrian and other miscellaneous projects. The table also identifies \$1,786 million for ICC under the “special” category.

For transit, full WMATA requests for operating and capital subsidies are shown in Table 2 (\$7,129 million and \$2,407 million, respectively). As in the 2003 CLRP, other “new” transit projects have been identified separately with expenditures of \$1,439 million derived from the numbers in the 2003 CLRP by converting the past numbers to 2006 dollars.

The expenditure of \$6,244 million under “Local transit and Commuter Rail” category is derived as the amount by jurisdictions to this category (\$4,302 million), plus the amount of

MDOT funding remaining after all the other expenditures are covered as described above (MDOT total of \$25,830 million less \$23,888 million allocated to the other categories above).

Northern Virginia

(To be updated/replaced) *Since Northern Virginia is still in the process of estimating, reconciling, and approving the revenue and expenditure data for the 2006 CLRP, the numbers in summary Tables 1 and 2 are consultant team estimates and have been derived from 2003 CLRP data. Adjustments have been made for fewer years included in the 2006 CLRP (2007-2030), inflation (to bring the 2003 values to 2006 dollar values) and the implications of SAFETEA-LU legislation. Since the consultant team did not have access to 2003 CLRP year-by-year data except for highways, the figures estimated by the consultants and shown in Tables 1 and 2 are derived from available highway data.*

For the revenues (Table 1), the first step was to take out the years 2003-2005 from the 2003 CLRP. The ratio of highway revenues for the 24-year (2007-2030) to the revenues for the 27-year period (2004-2030) was used to truncate all the 2003 revenue numbers. The second step was to adjust NOVA highway funding numbers for the effect of SAFETEA-LU. The highway funding for years 2007-2009 was increased 31.86 percent (the percent increase in federal apportionment to VA compared to TEA-21) as per new FHWA apportionment estimates. Finally, the revenue numbers were converted from 2003 dollar values to 2006 dollar values using estimates of CPI change from 2003 to 2006.

The federal/state revenue category includes a part of transit funding and the remainder needs to be estimated.

For expenditures (Table 2), the ratios of each of the three components of highway expenditures for the 24-year (2007-2030) to those for the 27-years (2004-2030) were used to truncate 2003 highway expenditure numbers. The transit expenditure numbers were adjusted using a simple ratio of the years in each period (24 to 27). In the second step, the highway operations/preservation and expansion numbers were increased for the effect of SAFETEA-LU with the total increase split 50:50 between these two categories. Finally, all the numbers were converted from 2003 dollar values to 2006 dollar values using CPI escalator.

WMATA numbers for Virginia represent full WMATA program allocations to Virginia including the Davis amounts.