Virginia's Long-Range Multimodal Transportation Plan 2007-2035

Final Report

TRANSPORTATION FUNDING: PAYING FOR PERFORMANCE

Prepared For:
Office of Intermodal Planning and Investment
October 2009

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Under Contract to VHB, Inc.
October 31, 2009

ABBREVIATIONS AND ACRONYMS

AC	Advanced Construction
CPR	Capital Projects Revenue (bonds)
CTB	Commonwealth Transportation Board
DMV	Department of Motor Vehicles
DOAV	Department of Aviation
DOT	Department of Transportation
DRPT	Department of Rail and Public Transportation
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FRA	Federal Railroad Administration
FRANS	Federal Highway Revenue Anticipation Notes
FTA	Federal Transit Administration
GARVEE	Grant Anticipation Revenue Vehicle
GDP	Gross Domestic Product
HERS	Highway Economic Requirements System
HMOF	Highway Maintenance and Operating Fund
HOT	High Occupancy Toll
HOV	High Occupancy Vehicle
HRT	Hampton Roads Transit
ISTEA	Intermodal Surface Transportation Efficiency Act
NNMT	Newport News Marine Terminal
NS	Norfolk Southern
OIPI	Office of Intermodal Planning and Investment
PAB	Private Activity Bond
PMT	Portsmouth Marine Terminal
PPP	Public-Private Partnership
PPTA	Public-Private Transportation Act (1995)
PTF	Priority Transportation Fund
RAB	Rail Advisory Board
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act—A Legacy for Users
SIB	State Infrastructure Bank
TIFIA	Transportation Infrastructure Finance and Innovation Act
TTF	Transportation Trust Fund
USDOT	United States Department of Transportation
VAB	Virginia Aviation Board
VDOT	Virginia Department of Transportation
VIT	Virginia International Terminals
VMT	Vehicle Miles of Travel
VPA	Virginia Port Authority
VRE	Virginia Railway Express
VRT	Virginia Regional Transit
VTRC	Virginia Transportation Research Council
WMATA	Washington Metropolitan Area Transit Authority

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CHAPTER 1
INTRODUCTION TO VIRGINIA TRANSPORTATION FINANCE

Virginia's complex, multi-modal transportation system provides a broad variety of services to a growing population and an expanding economy. Its roads and transit systems connect millions of people to work, school, family, public services, commerce and recreation. They also provide a vital network for business of all kinds, connecting Virginia's economic actors to each other and to the rest of the world. In addition, Virginia's ports and airports provide crucial access to the region for both goods and people.

In keeping with its complexity and scale, Virginia's transportation system is also very expensive to maintain. Wear and tear on heavily-used infrastructure requires extensive, ongoing repair. Paved surfaces require repair and replacement, as do facilities, passenger shelters, and buildings. Aging fleets of buses and trains require repair and replacement.

Further, as communities grow and change, costly new transportation capacity will be required. This entails massive construction projects to lay down miles of roads or rails, and massive investments to buy hundreds of additional buses and railcars, and large-scale projects to expand ports and airports. Each of these projects costs billions of dollars.

In the context of these large and growing costs, the funding available to pay the bills is under strain, and its future is uncertain. The recent economic downturn has severely reduced the revenue from some large sources, such as the motor vehicle sales tax and the gas tax. Given the circumstance that these revenue sources were already growing more slowly than costs, the recent losses are all the more pressing. Other issues, most notably the concern over greenhouse gas emissions from the tailpipes of cars and trucks, have the potential to force changes in the ways that all states finance transportation spending. Our transportation funding crisis has reached a critical state.

At the same time, Virginia's toolkit for financing transportation projects is expanding. Federal provisions have given states mechanisms that open up financing options to states, allowing them to spend future tax and toll revenues now. Other tools create easier access to federal assistance and opportunities to collaborate with private investors and operators in order to defray the costs of expensive new projects.

Virginia's transportation system will need innovative solutions and no small amount of resources if it is to continue meeting the vital and growing needs of this large, multi-faceted commonwealth. Even the status quo is unacceptable. Maintaining current levels of system performance is projected to require an additional $1.3-1.4 billion in spending per year over a business-as-usual approach. Without such additional funding, several categories of system performance are projected to decline. Further, as maintenance costs drain funds available for new capital investment, Virginia faces the imminent danger of losing federal funds for capital because of an inability to produce the required matching funds. Financing tools exist to access future revenues, but a long-term shortage of available funds is projected at the same time as

rising costs for new capacity and looming maintenance needs will demand greater and greater sums of money.

CHAPTER 2:
GROWING BURDENS ON VIRGINIA'S TRANSPORTATION SYSTEM

Virginia's transportation system has fallen under gradually increasing strain. Greater use of all modes of transportation, combined with the growth in commercial shipping and booming populations in metro areas, put new pressures on the network of roads, rail lines, transit systems, ports and airports. All this creates a need for expensive maintenance and large-scale projects to expand capacity.

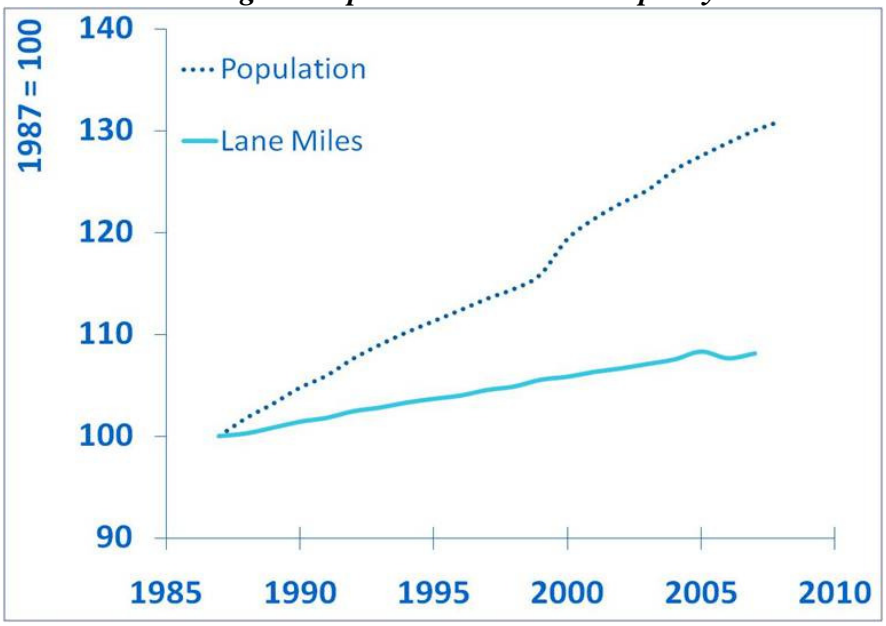
Population Outpaces Transportation System Expansion

Population in the Commonwealth has grown dramatically, from under six million inhabitants in 1987 to nearly 8 million inhabitants today – an increase of nearly 30% in just over 20 years.

At the same time, overall usage of all aspects of the transportation system has increased significantly. Virginians use their roads more intensively than before, use mass transit more extensively, and fly more as well. In addition, commerce through the port, airports, railways and roadways has increased at a record pace.

Capacity has not kept up. Total highway miles and transit capacity have not kept pace with population growth. As a consequence, roads and rail cars are packed more tightly, and congestion and delays plague highway users. Exhibit 1 contrasts the growth in Virginia's population against the much slower growth in capacity of its highway system.

Exhibit 1: Change in Population and Road Capacity since 1987



In addition, the costs to do the necessary work to maintain and expand the system in order to meet the additional demand are rising rapidly. The producer price index for construction commodities has outpaced both population growth rates and the rate of inflation.

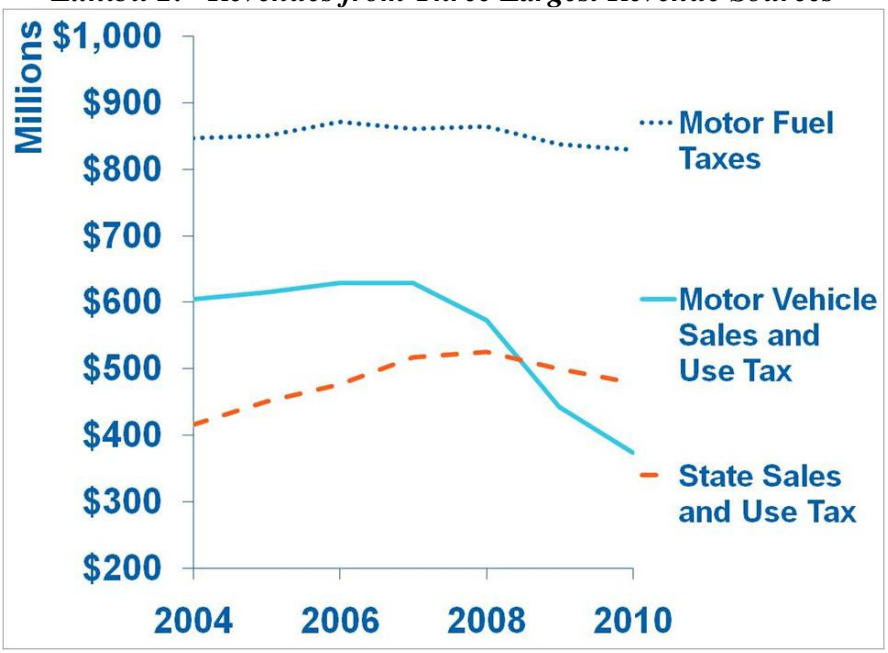
The consequence has been a drop in capacity per person. As population continues to grow, approaching transportation as before will require accelerating new capacity projects just to keep the system growing at the same pace as the public it serves.

Tax Revenues Falter Due to Economic Hardship

The recent recession has not spared the Commonwealth's revenue sources. Many of the signature impacts of the recent economic downturn have directly affected Virginia's most important ways of paying for system maintenance and system expansion.

For example, as credit tightened and job losses mounted, car purchases fell dramatically. As construction markets bottomed out, light truck purchases also sank. Both of these changes caused a significant drop in revenues from Virginia's motor-vehicle sales and use tax. As gas prices rose, residents cut back on their driving, which led to lower purchases of gasoline. Virginia's motor fuel tax revenues fell as a result. Third, as consumers cut spending in general, transportation-dedicated revenues from the sales and use tax fell. Exhibit 2 below compares the trends of these key revenues sources.

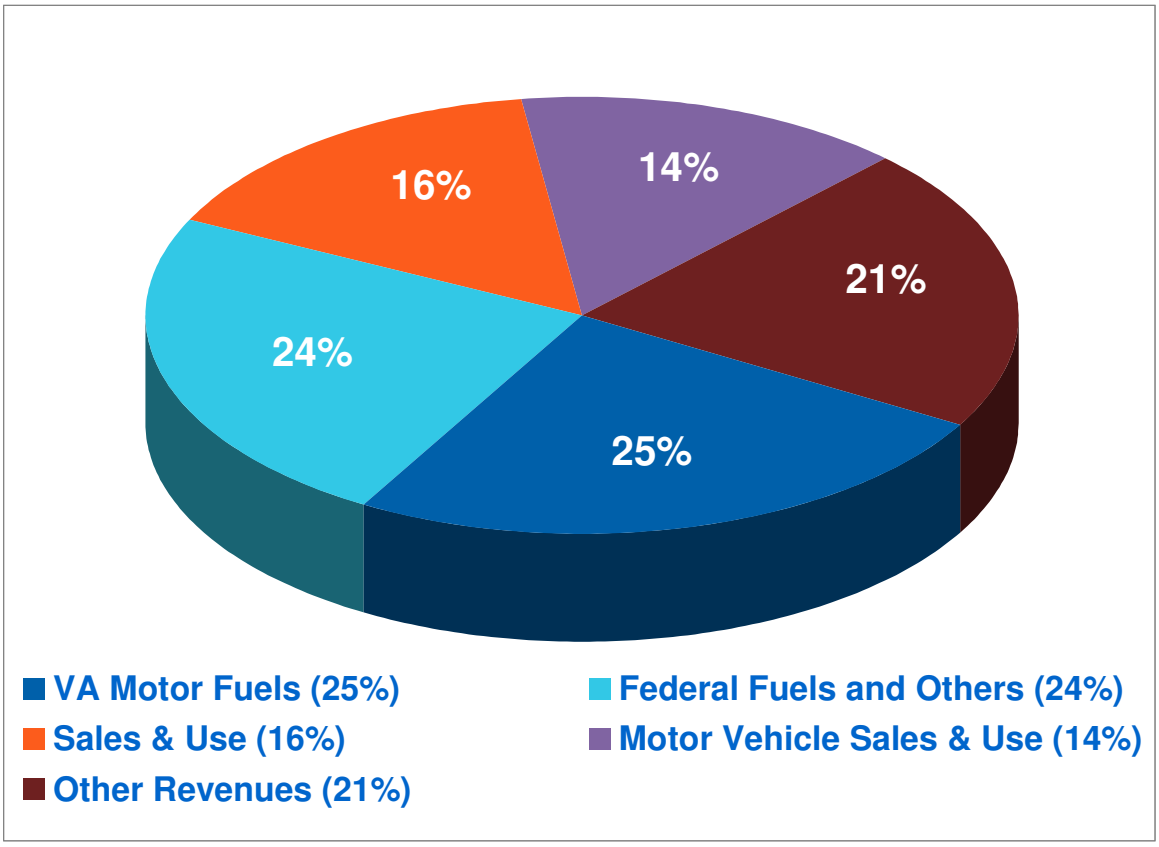
Exhibit 2: Revenues from Three Largest Revenue Sources



CHAPTER 3:
MAJOR SOURCES OF TRANSPORTATION FUNDING IN VIRGINIA

Funding for transportation spending comes primarily from four different sources. As the pie chart below shows, one quarter of all funding for transportation spending comes from the Virginia motor fuels sales and use tax (generally referred to simply as the "gas tax"). Two other specific taxes, a sales tax on motor vehicles and a portion of the sales tax equal to 0.5% on general sales, contribute 14% and 16% respectively. Federal support constitutes another 24%, and smaller sources such as toll revenues contribute the remaining 21%.

Exhibit 3: Proportion of Revenues by Source



The major taxes funding Virginia's transportation budget are as follows:

- **The Virginia Motor Fuels Tax** is a tax of 17.5 cents per gallon on gasoline, and has done so at that rate since 1987. Total revenues from the motor fuel tax were approximately $859 million in FY07, after which they fell slightly (by about 1.5%) as the economic downturn reduced consumption. Drivers also pay a 0.9-cents-per-gallon tax assessed specifically to pay for repairs to leaking underground storage tanks. In addition to that, gas sold in the part of Northern Virginia that is served by the Washington Metropolitan Area Transit Authority is assessed an extra tax at 2% of price.

- **Federal Aid Highway Grants** are disbursed from the Federal Highway Trust Fund, which was originally established in 1956 to be an account for treasury funds to be spent on the new interstate highway system. This fund contributes significantly to Virginia transportation spending. The fund is now supplied entirely by revenues from federal fuel taxes (the federal gasoline tax of 18.4 cents per gallon and the federal tax on diesel fuel of 24.4 cents per gallon), as well as by several other transportation-related excise taxes.

- **The Motor Vehicle Sales and Use Tax** is a tax assessed on the purchase of vehicles at the rate of 3% of the price of sale. Total revenues from this tax reached a high of $630 million in 2007. The recent economic downturn had a far more dramatic effect on automobile sales than on gasoline sales. By 2009, revenues from the Vehicle Sales and Use Tax had fallen by nearly 30%, to around $420 million, and are expected to recede further in FY 2010 before they rebound.

- **The Virginia Sales and Use Tax** is a 5% tax assessed on all retail sales in the Commonwealth. Of that 5%, 4% goes to the Commonwealth and 1% is collected by local governments. A tenth of the total revenue (equal to 0.5% of retail sales) is set aside for Virginia's Transportation Trust Fund. In 2007, the sales and use tax generated $517 million. This tax also fell with the recession, but not nearly as sharply as the vehicle sales and use tax.

CHAPTER 4:
IMPORTANT CHARACTERISTICS OF THE GAS TAX IN VIRGINIA

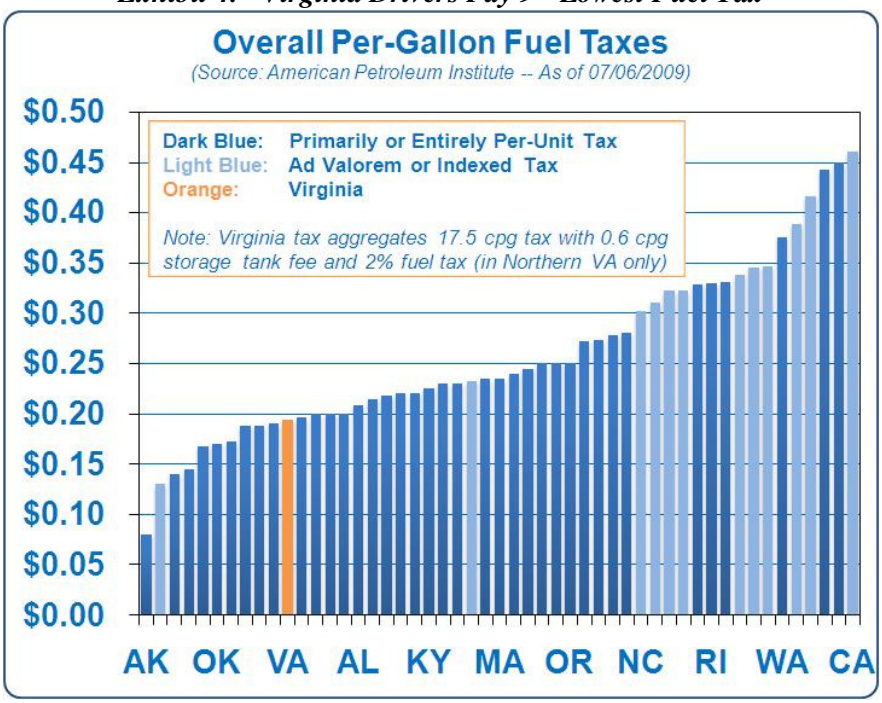
The motor fuel tax in Virginia is assessed, like the gas taxes of most states and of the federal government, on a per-gallon basis. Since 1970, the gas tax has been increased on four separate occasions, from a rate of $0.07 per gallon to the current tax of $0.175 per gallon. The last increase was in 1987, twenty-two years ago. In addition to this tax, Virginia assesses an additional 0.9 cents per gallon for the repair of underground storage tanks and drivers in Northern Virginia pay a 2% tax directed specifically to transit spending. In total, Virginia drivers pay a combined average of approximately 19.4 cents per gallon in total non-federal taxes on gasoline. When federal taxes are included, the tax burden is 37.8 cents per gallon.

According to the Statement of Revenues, the motor fuel tax has provided around 27% of all transportation funding for the last several years. This amounted to over $800 million per year, every year since FY03. When the current rate was set in 1987, the motor fuel tax was even more central as a revenue stream, generating almost half of all of transportation funding.

Taxpayer Burden is Comparatively Small, and Shrinking

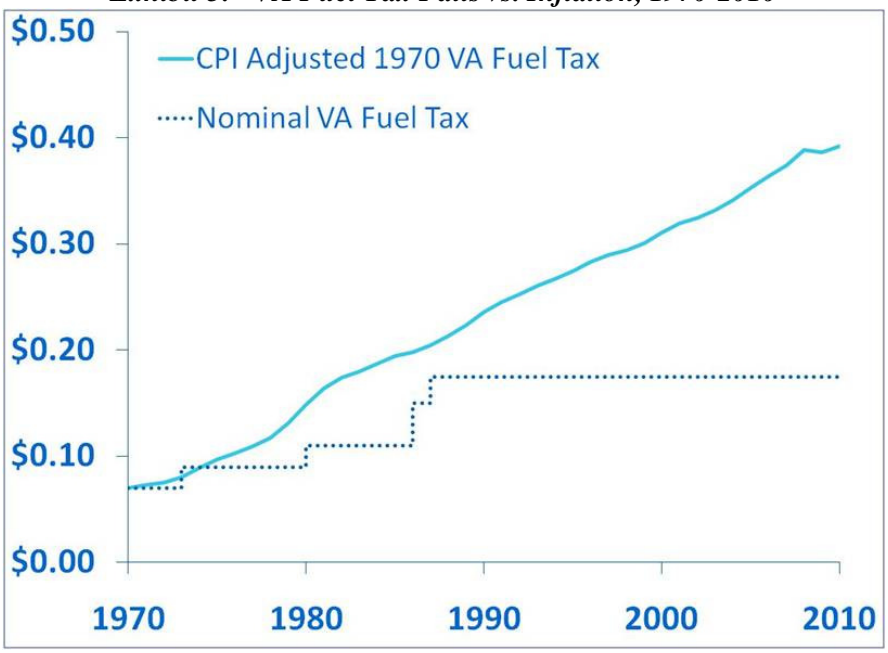
Compared to other states and to the District of Columbia, Virginia's combined tax on gasoline is 9th lowest overall. As shown in Exhibit 4, states range in the taxes they assess from a low of only eight cents per gallon in Alaska to a high in California that averages 46.1 cents per gallon.

Exhibit 4: Virginia Drivers Pay 9th-Lowest Fuel Tax



In addition to paying a comparatively small total tax on gasoline, drivers in Virginia have seen the gas tax hold steady for nearly a generation as other consumer prices nearly doubled. Exhibit 5 below shows that after adjusting for inflation, the tax of seven cents per gallon that drivers paid in 1970 is equivalent to a tax of 39 cents per gallon in 2010 – about double the 19.4 cents drivers are actually paying.

Exhibit 5: VA Fuel Tax Falls vs. Inflation, 1970-2010

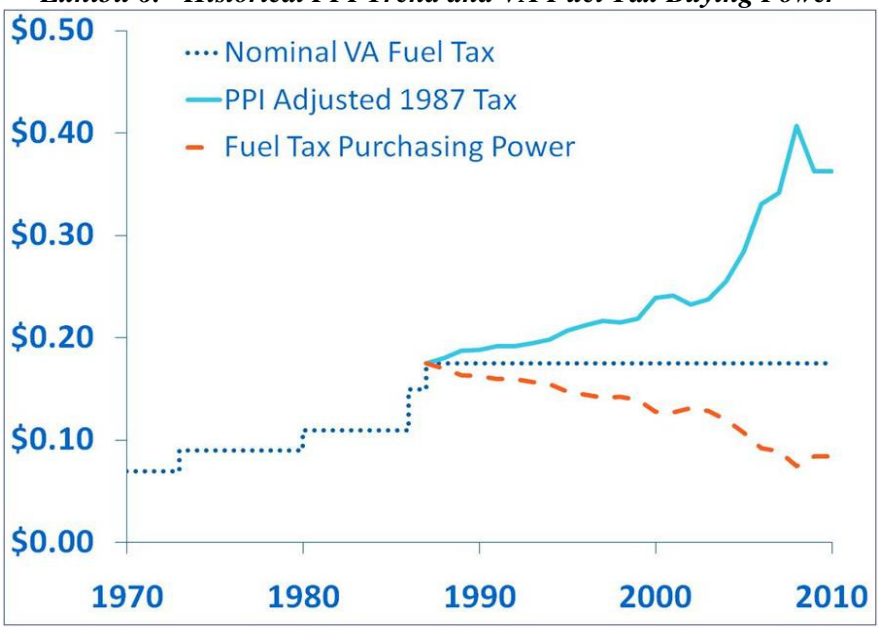


Dwindling Purchasing Power of the Gas Tax

Even though the tax rate has held constant for a long while, revenues from the gas tax grew steadily as the driving population grew and traveled more miles every year in vehicles whose fuel efficiency has stayed fairly consistent over time. In addition, while revenues from the motor fuel tax fell as gas prices spiked, they suffered less than revenues from other sources in the recent economic downturn.

Despite this steady growth, however, the motor fuel tax is falling behind. Fuel tax revenues have not grown at a rate sufficient to keep up with the costs of construction. From 1988 to 2007, the annualized rate of growth from motor fuel tax receipts was 1.9%. During the same period, the costs of basic construction materials grew at a much faster rate. Growth in the Producer Price Index for construction commodities averaged 3.5% per year over the same 20-year period.

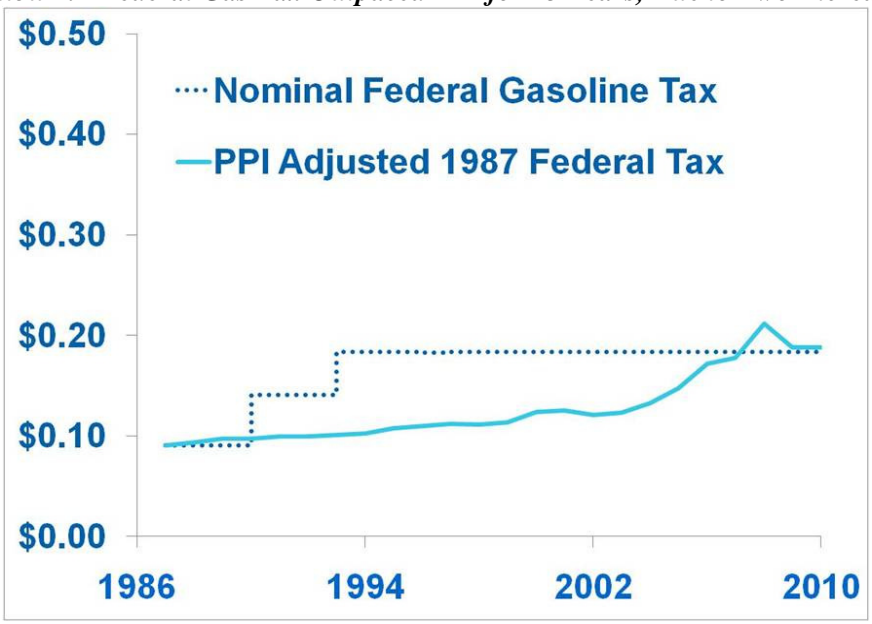
Exhibit 6: Historical PPI Trend and VA Fuel Tax Buying Power



As Exhibit 6 above indicates, the buying power of each dollar of revenue from the fuel tax into the Transportation Trust Fund has fallen by over 50% when compared against the Producer Price Index for construction inputs. In terms of buying power, the 17.5-cent tax per gallon in 1987 is now equivalent to a tax of only about 8 cents per gallon in 2010.

By comparison (see Exhibit 7), the federal gas tax has been increased on two different occasions since 1987, from 9 cents per gallon to the current rate of 18.4 cents. As a result, the revenues to the federal highway trust fund have kept up with construction cost increases.

Exhibit 7: Federal Gas Tax Outpaced PPI for 15 Years, Due to Two Increases



CHAPTER 5:
ROLE OF THE VIRGINIA VEHICLE SALES AND USE TAX

Virginia assesses a tax on the purchase of vehicles at the rate of 3% of the price of sale. Unlike the Virginia gas tax or the federal gas tax, this tax is ad valorem, rather than a per-unit charge, and total revenues approached $630 million in 2007.

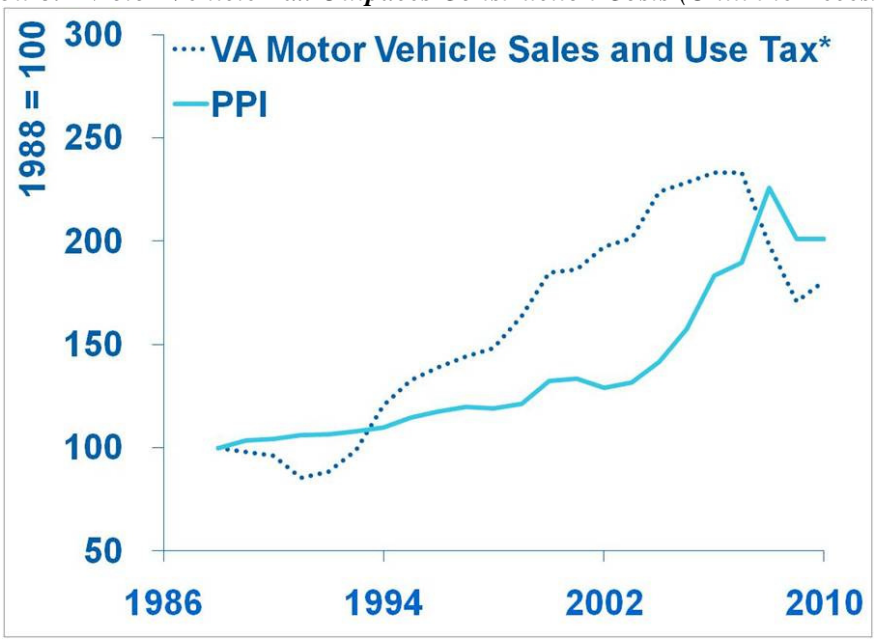
The recent economic downturn had a far more dramatic effect on automobile sales than on gasoline sales, however, and associated tax revenues fell sharply. By 2009, revenues from the Vehicle Sales and Use Tax had fallen by nearly 30%, to around $420 million, and are expected to recede further in 2010 before they rebound.

This volatility was significantly higher than that of the revenues from the other state-level tax sources. While consumer spending fell significantly at the outset of the current recession, automobile sales were hit especially hard. A combination of high gas prices, job losses, job insecurity and tightening credit made buying a new car either too expensive or too risky for millions of consumers.

Vehicle Tax Retained its Buying Power – Despite Collapse in Auto Sales

Total revenues from the Vehicle Sales and Use tax rose over 225% from 1988 to the mid-2000s, substantially outpacing the growth in construction costs. While the recession and high gas prices subsequently caused a dramatic drop in revenues, those revenues still fell only about 15% below the 20-year growth in construction costs. By comparison, fuel tax revenues fell over 50% below the construction cost growth, meaning that the ad valorem tax outperformed the per-unit tax in terms of ability to keep pace with construction costs, even after an atypically severe recession in precisely the sector to which the tax applied as shown in Exhibit 8.

Exhibit 8: Motor Vehicle Tax Outpaces Construction Costs (Until the Recession)



SECTION 6:
ROLE OF FEDERAL AID / FEDERAL HIGHWAY TRUST FUND

Recent Bankruptcy of the Federal Highway Trust Fund

The Federal Highway Trust Fund, originally established in 1956 to manage federal funds allocated to the new interstate highway system, has gone through several changes over its 53-year lifetime. It is currently funded entirely by revenues from specific federal fuel taxes (the federal gasoline tax of 18.4 cents per gallon and the federal diesel-fuel tax of 24.4 cents per gallon) as well as several transportation-related excise taxes. This tax revenue is spent on highway projects, with some money set aside into two additional accounts: 1) the mass-transit fund and 2) a fund for the clean up of underground fuel storage tanks.

The fund suffered from the per-unit nature of the taxes that generated its revenue. The tax rates per gallon remain unchanged since 1993. As a consequence, the rate of growth of the fund's income was tied to the volume of total driving. When the costs of raw materials and commodities used in highway projects rose significantly on the strength of the global market throughout the 1990s, the Fund could not keep pace and its ability to support infrastructure projects fell dramatically.

Per-unit taxes proved to be a liability again in the mid-2000s when gas prices rose quickly from below $2 per gallon to around $4 per gallon. As consumption fell in response to the spike in prices, revenues to the Fund fell as well. Where an ad valorem tax would have offset the lost volume by collecting a higher tax per gallon as the price rose, the per-unit tax generated less revenue as consumption dropped. The fall in fuel consumption continued to reduce revenues to the Fund in Fiscal Year 2009 as fuel tax receipts feel 3.8% from the previous year.

Regularly criticized for being under-funded, the Fund went through a period of years in which the fund ran net losses. Already obligated to spending on transportation-infrastructure projects around the country, the Fund's revenues fell when high gas prices and economic conditions caused reduced gasoline consumption significantly in the mid-2000s. As a consequence, the fund ran net losses until 2008, when the threat of insolvency became so immediate that Congress passed legislation to shore up the Fund with $8 billion from the treasury. The 2009 revenues again necessitated a $7 billion infusion from the treasury.

The prospect of the fund being unable to meet obligations poses the danger of a chilling effect on transportation projects. Federal funds pay large percentages of most road projects, and the vast majority of the costs of highway projects. The notion that contractors awaiting payment from the federal government may not get paid in full or on time threatens to subject important projects to delays. Alternately, the perceived risk facing contractors may push up the cost of projects.

SAFETEA-LU Commissions

Congress created The National Surface Transportation Policy and Revenue Study Commission in 2005 under Section 1909 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act—A Legacy for Users (SAFETEA-LU). The Commission was created because, as Congress declared, "it is in the national interest to preserve and enhance the surface transportation system to meet the needs of the United States for the 21st century."

The Commission was comprised of 12 members, representing: Federal, state and local governments; metropolitan planning organizations; transportation-related industries; and public interest organizations. The Commission examined not only the condition and future needs of the nation's surface transportation system, but also short and long-term alternatives to replace or supplement the fuel tax as the principal revenue source to support the Highway Trust Fund over the next 30 years.

Section 11142(a) of SAFETEA-LU established a second commission, the National Surface Transportation Infrastructure Financing Commission, and charged it with analyzing future highway and transit needs and the finances of the Highway Trust Fund and making recommendations regarding alternative approaches to financing transportation infrastructure. These recommendations addressed, but are not limited to, the following topics:

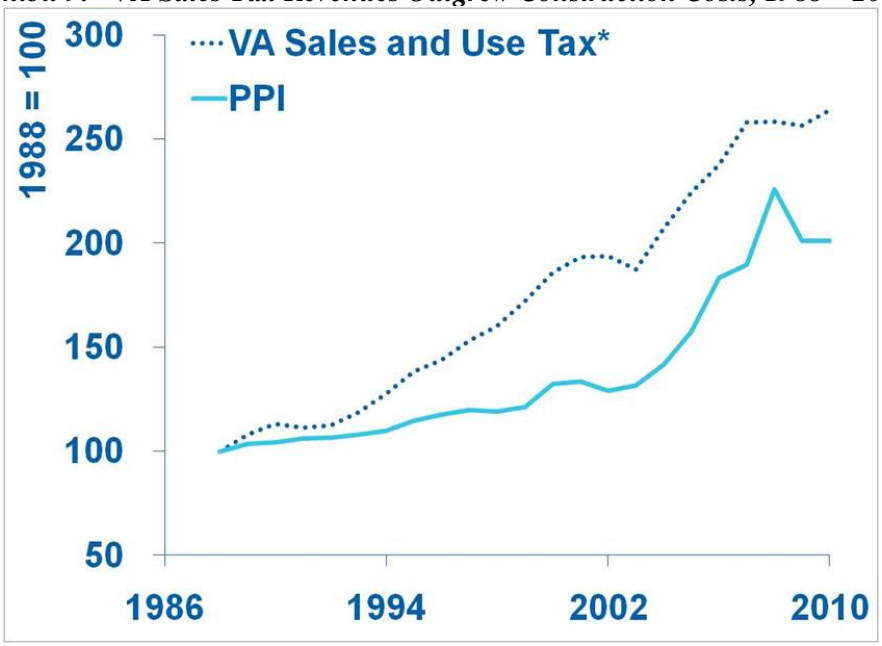
(a) the levels of revenue that the Federal Highway Trust Fund will require to maintain and improve the condition and performance of the Nation's highway and transit systems and to ensure that Federal levels of investment in highways and transit do not decline in real terms (§ 11142(b)(2)(A)-(B)); and
(b) the extent, if any, to which the Highway Trust Fund should be augmented by other mechanisms or funds as a Federal means of financing highway and transit infrastructure investments (§ 11142(b)(2)(C)).

The reports of both Commissions documented the deteriorating performance of the nation's transportation system, the failure of the funding system to keep pace with our system needs and the opportunities to improve performance. Recommendations included an increase in fuel taxes as an incremental measure, more involvement of the private sector, and the use of a vehicle miles traveled fee to augment and/or replace fuel taxes.

CHAPTER 7:
ROLE OF THE VIRGINIA SALES AND USE TAX AND OTHER NON-USER REVENUE

All retail sales in Virginia are assessed a 5% tax (4% by the Commonwealth and 1% by local governments). A tenth of that revenue (equal to 0.5%) is set aside for the Transportation Trust Fund. In 2007, the sales and use tax generated $517 million. This tax also fell with the recession, but not nearly as sharply as the vehicle sales and use tax fell.

Exhibit 9: VA Sales Tax Revenues Outgrew Construction Costs, 1988 – 2010

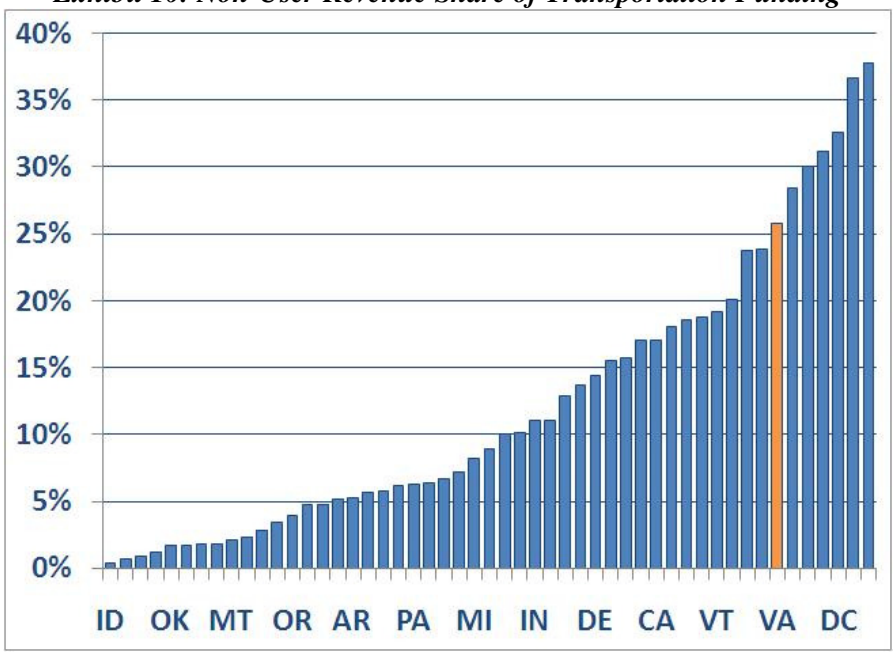


Revenue sources fall into several different categories. These include 1) user fees, 2) tolls, 3) other imposts and general revenue, 4) miscellaneous income, 5) bond proceeds, and 6) Federal sources. Exhibit 10 provides a comparison across states of the percent of non-user revenue to total road transportation revenue (items 3 and 4 above).

While user fees provide the majority of funding in all 50 states, reliance by states on non-user sources of revenue to fund transportation varies across the country. General revenues, sales tax, and other non-user fee revenues have been growing in importance as states have been reluctant to raise the fuel tax and have instead relied on these non-user alternatives. Such non-user fees treat transportation service as a public good and remove the direct (tolls) or indirect (fuel tax) pricing from the decision to use the road system.

Virginia, with 26 percent of road funds coming from non-user sources, has the seventh highest percent of non-user fee revenues for roads. The national average is only twelve percent. Only Utah, Alaska, Arizona, Kansas, Massachusetts and the District of Columbia rely more on revenue not collected from system users. By contrast, ten states draw less than three percent of revenues from non-user-fee sources, and over half of all states draw less than ten percent of revenues from non-user-fee sources.

Exhibit 10: Non-User Revenue Share of Transportation Funding



CHAPTER 8:
HOW VIRGINIA TRANSPORTATION REVENUES ARE SPENT

Collected revenues are assigned to one of the Virginia funds that dictate the mode to which those funds are allocated. Exhibit 11 below shows the breakdown among different funds.

The Transportation Trust Fund

The Transportation Trust Fund (TTF) was established in 1996 with an ambit to provide funding for capital improvements to all modes of Virginia's transportation system. Percentages of its funds are apportioned to different modes and different types of projects within those modes by regulation, so that ports, airports, transit and roadways consistently get a share of capital spending. In addition, some of its budget is set aside to provide sufficient funds needed to meet federal matching requirements for new capacity projects.

The Highway Maintenance and Operating Fund

The Highway Maintenance and Operating Fund, or HMOF for short, disburses funding for transportation infrastructure maintenance projects. Its funding levels are often supplemented by revenues from other funding sources, such as the TTF. This transfer of capital funds to support maintenance requirements reduces the capital funds available to match federal funds that are a key component of the Virginia transportation finance plan. See Section 11 below for a further discussion of the impact of this crossover of capital funds to support maintenance.

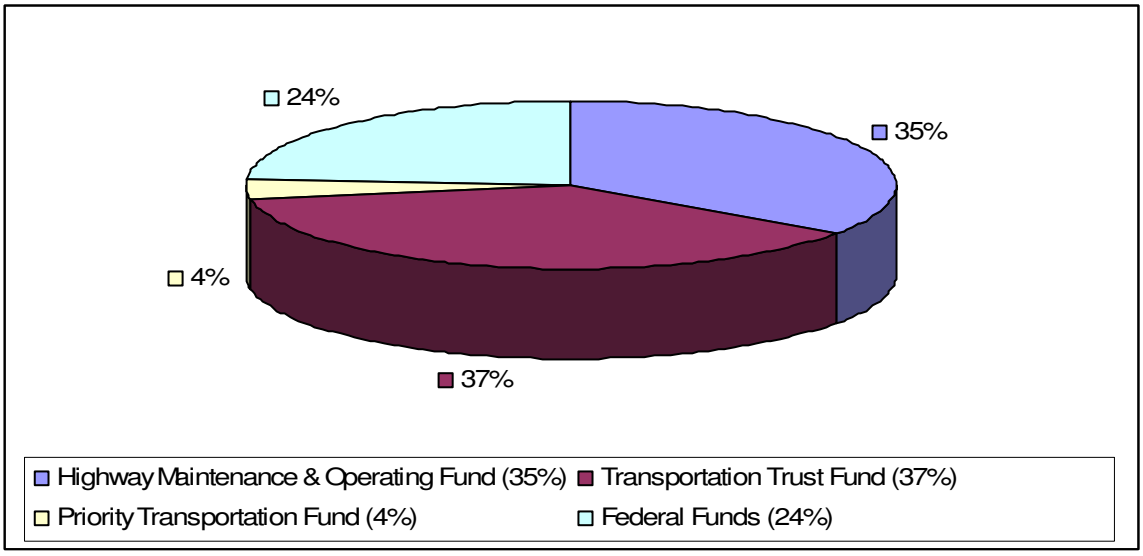
The Priority Transportation Fund

The Priority Transportation Fund, created by the Virginia Transportation Act (VTA), commits General Fund revenues to transportation and provides for service on debt obligations. The debts serviced by PTF funds are payments on Federal Highway Revenue Anticipation Notes (FRANs) and on CPR bonds. The fund will use the collection of future federal funds to pay debt service on the FRANs. The PTF is a special, non-reverting fund and is a component of the Transportation Trust Fund.

Federal Funding contributes 24%

Federal funds, primarily from the Highway Trust Fund, supply a significant portion of Virginia's transportation funding. This is true for both capacity expansion and for maintenance efforts. (A result of the recent rule changes enabled the use of Federal funds for maintenance.) Federal funds usually require matching by state-level and/or local government entities before spending is authorized, creating a limitation on the flexibility of state-level authorities to allocate their spending to road projects that are not eligible for federal aid.

Exhibit 11: Division of Revenues by Spending Authority



Additional Sources of Revenue for Non-Highway Modes

In addition to receiving direct government spending, many modes are funded by a diverse set of sources. Transit systems, for example, receive significant local support and are also supported to varying degrees by farebox revenues paid by riders. Ports and airports charge fees to users as well.

CHAPTER 9:
APPLICATION OF FINANCING MECHANISMS TO INFRASTRUCTURE DEVELOPMENT

High Megaproject Costs Encourage Use of Innovative Financing

Infrastructure projects are expensive. The project extending a Metro rail line from Vienna, VA to Dulles International Airport is projected to cost over $5 billion. Estimates for the costs to complete the HOT lanes project on I-395 (which involves the expansion of existing roads and the addition of supporting infrastructure) run near $1 billion. Even assuming the constant presence of federal support, the prospect of financing projects to build additional rail lines, add lane-miles of roads, or create entire new transit systems is a daunting one.

Common practice had been to pay for such projects on a pay-as-you-go basis. Like any other expenditure, the government would authorize the project as part of its budget. As costs of projects have risen, however, pay-as-you-go approaches began to show shortcomings as a tool for financing large expenditures. Spending only what money is available in real time can make a very large project extend over many years, taking years longer than it would if the funding were readily available. Consequently, the affected community is left without the new capacity for years and the costs of the project rise because inflation invariably drives up prices significantly before the project is completed. Furthermore, the obligation to spend general funds on an ongoing project reduces the flexibility the government has in budgeting for other expenditures or responding to unforeseen needs.

Numerous financing tools exist which offer ways to alleviate those problems. They make funds available in time to avoid delays in projects, exchange uncertain inflation costs for certain interest rates, and avoid burdening budgets with large, inflexible costs. Below is an example of the trade-offs between a pay-as-you-go approach to a $600 million project and an approach involving bond financing for the same project:

Exhibit 12: Comparison of Pay-As-You-Go vs. Financed Costs of Construction

Estimated Project Cost:	***$600 million***	
Inflation Rate:	***3%***	
Bond Interest Rate:	***5%***	
	Debt Financed	***Pay-As-You-Go***
Annual Payment	***$60 million***	***$60 million***
Total Project Expenditures	***$893 million***	***$700 million***
Years to Completion	***3***	***12***
Years to Pay Off	***15***	***12***

Federal Expansion of State-Level Financing Options

Since the passage in 1991 of the Intermodal Surface Transportation Efficiency Act (ISTEA), the federal government has given states progressively more opportunities to finance large-scale transportation projects in innovative ways. Various mechanisms were created to allow states better advantages in borrowing, using federal funds, or partnering with private entities in order to bring new transportation infrastructure into use more rapidly than would be possible through simple bond financing.

State Infrastructure Banks

A State Infrastructure Bank (SIB) is a revolving loan fund that can be used as a mechanism to provide funding for transportation projects through loans and credit enhancement. As a revolving loan fund, the bank's capital grows as loan repayments and interest charges are used to support a new cycle of projects. Under SAFETEA-LU all states are authorized to enter into cooperative agreements with the Department of Transportation to establish SIBs and capitalize the banks with Federal funds, so long as the state matching requirement is met. SIBs may fund capital projects, or any other transportation project that the Secretary of the USDOT deems appropriate through direct loans and lines of credit.

The Commonwealth's SIB was created prior to the SAFETEA-LU legislation as part of a FHWA pilot program that included ten states and was made possible by authorization under provision in the PPTA of 1995. The SIB was capitalized with $18 million in Federal funds and $4.5 million in state matching funds in 1998. The first and only loan of the SIB was to the Pocahontas Parkway Association for $18 million. As of June 2009 the SIB has $36.5 million available to lend to private partners in transportation projects.

Federal Highway Reimbursement Anticipation Notes (FRANS)

FRANS are a form of debt financing that pledges anticipated Federal aid apportionments to service debt payments. In other states these are called Grant Anticipation Revenue Vehicles (GARVEE). FRANS are unique to Virginia and are slightly different from GARVEEs because the debt service is based on Federal reimbursements rather than Federal obligations and the term of the debt is only 10 years. Servicing the debt through Federal reimbursements qualifies the Commonwealth to use the principal raised in the bond issuance as the state match of Federal transportation dollars obligation required of transportation projects. Additionally, these funds can be used for advanced construction to further maximize the State's dollars.

Since their inception through the Virginia Transportation Act of 2000, FRANS have raised $1.1 billion to partially fund 138 highway and mass transit projects in the Commonwealth. FRANS were issued three separate times in 2000, 2002, and 2005. All of the projects funded through these notes were designated in VTA 2000. As of legislation in 2005, future issuances may fund any project that appears in the six-year improvement plan.

Capital Projects Revenue (CPR) Bonds

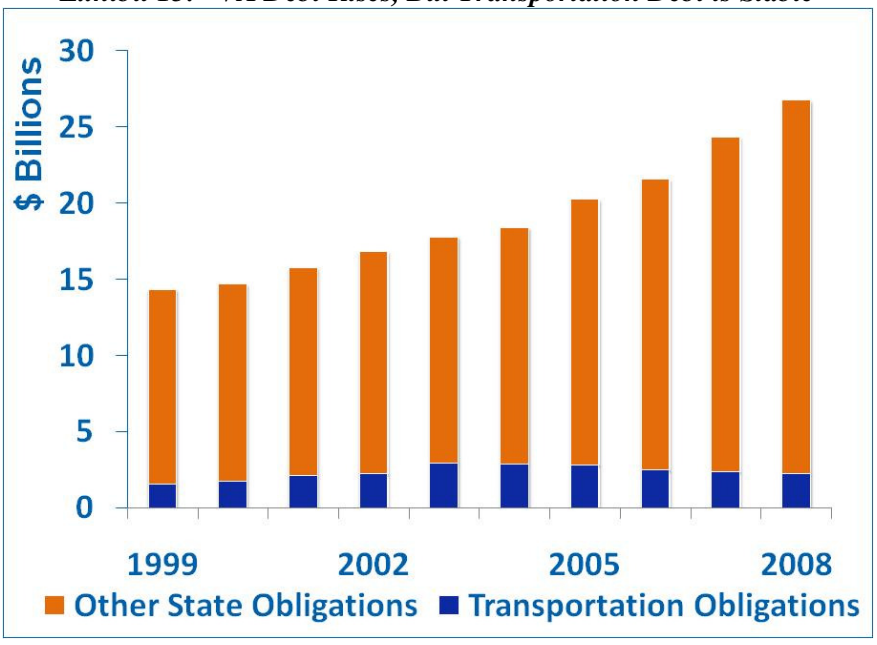
Pursuant to the *Commonwealth Transportation Capital Projects Bond Act of 2007,* the Commonwealth Transportation Board (CTB), with the approval of the Governor, has the authority to issue Capital Project Revenue (CPR) bonds. These no-obligation bonds are a flexible funding vehicle that enables the CTB to raise money for transportation projects related to all modes, without specific requirements concerning upon which projects the money must be spent. The CTB can issue as much as $300 million a year in CPR bonds, so long as the aggregate premium does not exceed $3.18 billion. These bonds are serviced from revenues deposited in the Priority Transportation Fund (PTF), which is comprised of one-third of the revenues collected by the license tax levied on certain insurance companies, the Transportation Trust Fund, or any other legally available funds. The first issue of CPR bonds is anticipated to occur in 2010.

Transportation Borrowing as a Portion of Total Debt

Virginia's debt has grown steadily over the past decade. From a total indebtedness of less than $15 billion in 1999, the Commonwealth's debt has grown over 40% in just ten years, exceeding $25 billion as of 2008.

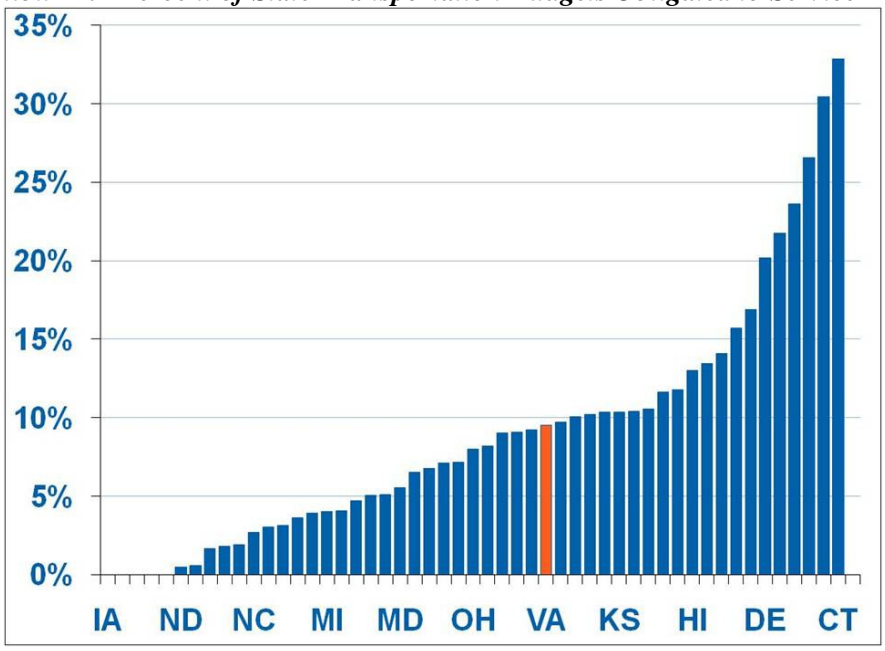
While bonds and financing mechanisms for transportation are proliferating, overall transportation debt is not growing at the same pace. In fact, after a peak in 2004 of less than $3 billion, Virginia has actually had less in overall transportation-related debt every year.

Exhibit 13: VA Debt Rises, But Transportation Debt is Stable



It is also informative to consider Virginia's use of debt in a comparative light. Virginia's debt financing obligations currently consume about 10% of the Commonwealth's transportation budget. While 10% is significant, it is not atypical when compared to the debt financing obligations of many other states. As Exhibit 14 below shows, all but five states have some proportion of their transportation budget dedicated to debt service. Further, Virginia's obligations are fairly moderate: the debt financing obligations of 25 states range between 5% and 15%, while several states have borrowed to the extent that over 20% of their transportation spending is dedicated to paying debt.

Exhibit 14: Percent of State Transportation Budgets Obligated to Service Debt



Financing vs. Funding

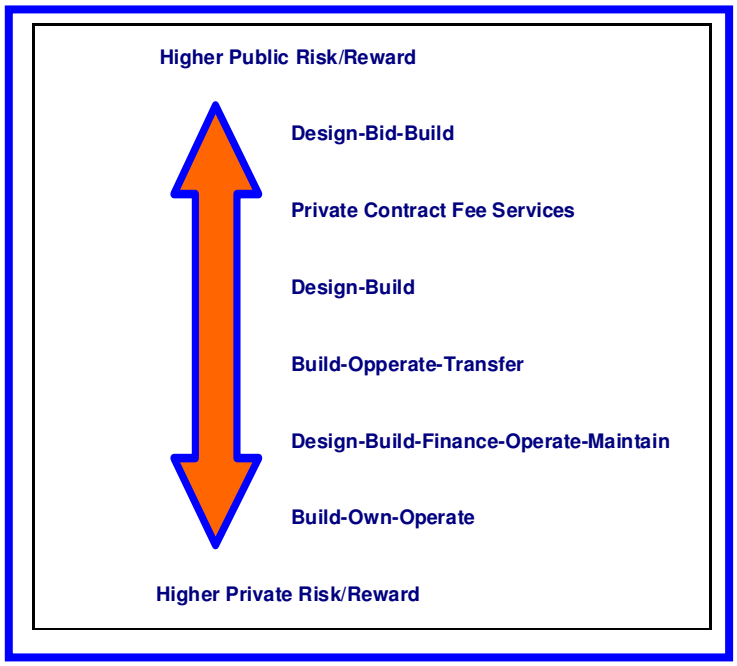
While creative and innovative approaches to financing can shift risk, create flexibility, and access future revenues to pay for today's needs, they do not, for the most part, represent new sources of actual revenue. The ability to sell bonds or borrow against future incomes in other ways simply allows for greater flexibility of spending – it does not create more money to spend.

The strategy of accessing private capital is much the same. While private-sector partners certainly have the potential to bring about large sums of money for new infrastructure and for maintenance, they do so in anticipation of a profitable return on their investment. That return will come from taxpayers, usually through fees such as tolls on privately-operated routes and other state provided sources.

Projected revenues are expected to fall short of levels necessary to expand and maintain the transportation system. These projections are discussed in greater length below. The development of, or reliance on, innovative financing tools for new capital will not significantly affect the underlying revenue shortage.

CHAPTER 10:
PUBLIC-PRIVATE PARTNERSHIPS IN VIRGINIA

Virginia has been a leader in putting to use different tools that allow for the involvement of private investors in transportation infrastructure projects. There are several mechanisms, each giving states different capacities to involve private capital, and doing so subject to different limitations and requirements.



Transportation Infrastructure Finance and Innovation Act (TIFIA) Loans

The TIFIA credit program was established in 1998 to provide Federal credit assistance to transportation projects of regional or national significance. The program is designed to increase the profit potential for private investors, in order to stimulate private investment in transportation infrastructure. TIFIA Loans are meant for large projects of more than $50 million, with an exception of $15 million for intelligent transportation projects. A TIFIA loan may account for only 33 percent of the project cost and the senior project debt must be rated investment grade. Loans must be repaid from dedicated revenues.

The TIFIA credit program provides term loans, loan guarantees, and lines of credit. Term loans are direct loans with a maximum repayment period of 35 years, starting five years after project completion. Loan guarantees ensure a project loan repayment to a non-Federal lender. Lines of credit are available for up to 10 years after project completion.

The Commonwealth is a leader among U.S. states in engaging the private sector to undertake transportation projects and securing TIFIA assistance. Of the 12 active TIFIA agreements in 2009, Virginia was represented in three of the agreements, with direct loans of $739 million and an additional loan guarantee of $600 million. One direct loan of $150 million was used to supplement funding on the Pocahontas Parkway between Chesterfield and Henrico counties and the other $589 millions for

development of HOT lanes on the capital beltway between Springfield and the Dulles Toll Road. Both loans are secured against future toll revenues from the projects. The $600 million loan guarantee went to the Washington Metropolitan Area Transit Authority for the capital improvement program.

Encouraging private investment and use of TIFIA loans enables transportation agencies to do more with less. Private investment draws funds into the transportation sector that would not otherwise be available, and toll roads, like the Pocahontas Parkway and I-495 HOT lanes are sustainable methods of expanding transportation capacity. An added benefit is that TIFIA loans backed by toll revenues generate "toll credits" for Federal-aid funds, meaning that the toll receipts in future years can count towards the state match requirement on other projects.

Advanced Construction (AC)
AC is a cash flow management technique that enables the Commonwealth to start projects using State funds and later convert the project to a Federal-aid project. VDOT regularly uses AC to start projects with Federal approval in advance of Federal funds apportionment.

Private Activity Bonds

Private Activity Bonds are a financing tool made available to states and municipalities under federal tax law. Its purpose is to attract private investment in infrastructure projects by reducing the costs of financing. Through these bonds, governments are allowed to utilize their credit rating and their non-profit status to obtain financing for privately-capitalized projects. Government agencies are allowed under federal law to issue bonds that earn tax-exempt interest. These bonds are more attractive to investors, offering higher actual returns than private bonds at the same interest rate could offer. Consequently, a project funded with public bonds can be financed at a significantly lower interest rate while still attracting investors. This financing mechanism was made available for highway capacity projects and freight transfer facilities as part of SAFETEA-LU in 2005.

The restrictions on the amount of money borrowed and the acceptable sources of money for repayment of the debt are established in the tax code. While the government has a role in obtaining financing for the project, federal law requires that the private investor repay the whole debt from revenues or other resources. The local or state government is prevented from taking on the debt. Such bond issuances must be individually approved by the US Department of Transportation prior to issuance. Notably, projects receiving federal credit assistance under TIFIA are also eligible to be approved for private-activity bonds.

Notably, the Capital Beltway HOT Lanes project has been financed with private-activity bonds. The HOT lanes project involves adding two lanes in each direction of I-495 between I-95 and the Dulles toll road, and establishing a tolling system on those roads that reacts in real time to traffic volumes, ensuring that traffic on the HOT lanes always moves smoothly. Buses and high-occupancy cars would have access without charge.

The private contractors were two major transportation engineering firms, Fluor Enterprises and Transurban DRIVE. Fluor and Transurban partnered to create a joint venture, named Capital Beltway Express, LLC. This private entity has taken on the debt to finance $1.3 billion of the project costs and must pay the debt from the revenues it earns from tolling on the HOT lanes themselves. For its part, the VDOT promised $400 million in financing for certain key aspects of the project and budgeted approximately $8 million per year for supervision and oversight work.

Public Benefit (63-20) Corporations

Public-benefit corporations are public-sector entities created by governments to oversee and manage large operations. These entities, often called "63-20" corporations after the relevant section in the US tax code, are used to govern a number of regional transit and transportation systems around the country such as the Metropolitan Transportation Authority in New York City, the Regional Transportation Authority in Chicago, and the Los Angeles County Metropolitan Transportation Authority.

63-20 corporations have been used extensively to facilitate the financing of transportation projects, such as the Pocahontas Parkway in Virginia. Boards of directors, who are appointed by elected officials rather than directly elected, generally lead them. When created by states, they are empowered under US tax law to issue tax-exempt bonds, as a private non-profit would.

The major advantages of using a 63-20 organization lie in the ability to use private funding while still enjoying the benefits that accrue to government or non-profit agencies. Specifically, 63-20 corporations allow for the creation of a new entity, which holds liability for any financing, and allows local governments to escape statutory or other limitations on debt that they might otherwise face. In addition, such a structure lets existing government agencies avoid directly carrying debt from the entity's projects.

63-20 corporations also have the ability to issue tax-exempt debt, and by running actions through them, governments can evade the need for special legislation to authorize or change a project. These entities have greater flexibility to cooperate with other non-profits.

But the most salient characteristic of 63-20 corporations, especially in an atmosphere of constrained financing and growing need, is that these entities can shift risk to the private sector while retaining non-profit benefits. 63-20 corporations are allowed to receive grants or public funds reserved for non-profit initiatives, while contracting with private-sector entities in ways that shift risk.

Government control over projects is secured in several ways. First, the local or state government must approve the corporation in the first place. Also, it must also approve any financing the corporation is to take on, and the government must receive ownership of the financed project when the debt is paid off. Finally, while the debt on the financed project is being paid, the government controls either the facility or the board of the corporation that controls the facility.

The Pocahontas Parkway is a 9-mile toll road running roughly east-west from I-95 south of Richmond over to I-295. It facilitates access to Richmond International Airport and connects communities southeast of Richmond to major interstates. To finance it, VDOT formed a 63-20 Corporation called the Pocahontas Parkway Association. The Association then issued tax-exempt bonds for a portion of the capital cost, and obtained the remainder of the financing for the project by contracting with TransUrban, a private toll-road operator. TransUrban financed 90% of the construction cost, and in return has a 99-year lease during which it pays the maintenance cost in return for the toll revenue. This example demonstrates the combination of non-profit advantages (low-cost financing) and for-profit advantages (private capital and management) that such an entity can provide.

Public-Private Partnerships, it should be noted, do not represent a brand-new source of revenue. Money must be identified to fund these projects, whether through tolls charged by private entities or through government spending to pay costs of private management.

CHAPTER 11:
FUTURE PROJECTIONS OF VIRGINIA TRANSPORTATION REVENUE STREAMS

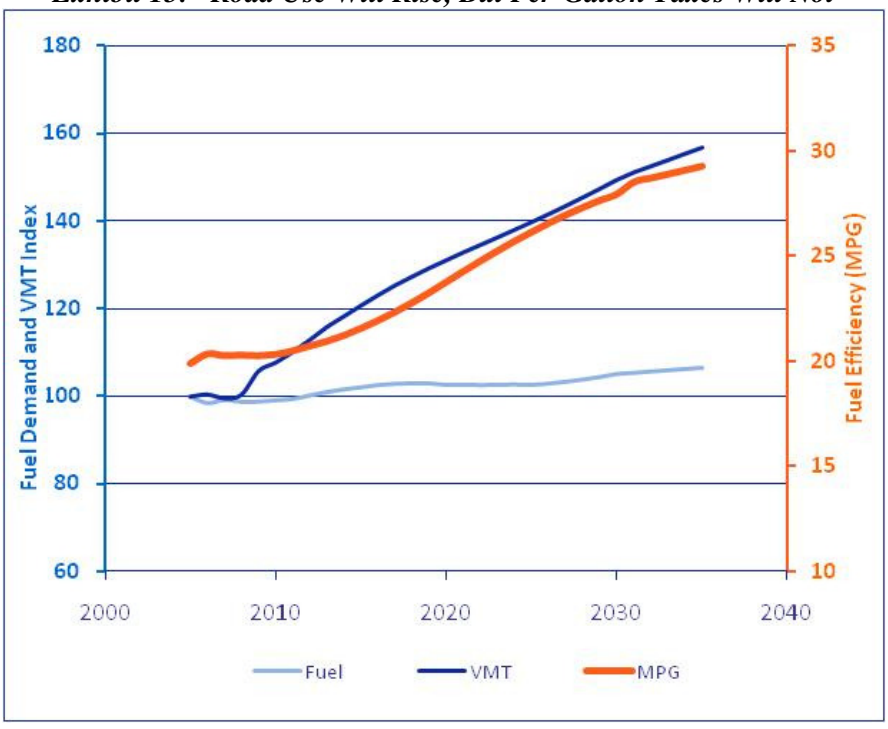
Downward Pressure on Fuel Tax Revenues

The Virginia motor fuel tax is the Commonwealth's single largest source of revenue for transportation spending. But several forces outside of the scope of state-level action will act to reduce the motor fuel tax's ability to continue funding transportation projects at the same scale as it has done up to the present.

Federal fuel-efficiency standards will exert downward pressure on the role of the gas tax as a revenue stream for transportation costs. The 2007 Energy Independence and Security Act put new fuel-efficiency standards into effect, requiring that light-duty vehicles reach a fleet average efficiency of 35.5 miles per gallon by 2020. In 2009, the Obama administration accelerated that requirement to 2016. The projected consequence of this legislation is a gradual increase in fuel efficiency for all vehicles on the road over the next 25 years, as old vehicles go out of use and are replaced by newer vehicles adhering to the higher standard.

The significance of such a change when considering transportation system funding is that revenue from a per-gallon gas tax will fall in relative terms when compared to driving volume, and as most likely will also fall as against the transportation budget. Crucially, greater fuel efficiency means that Virginia will receive less revenue per vehicle-mile traveled – drivers will continue to use the road system at increasing rates (indeed, the lower marginal cost of additional driving will, if anything, increase VMT all the more), but they will pay less money per mile driven into the budgets for repair and new projects.

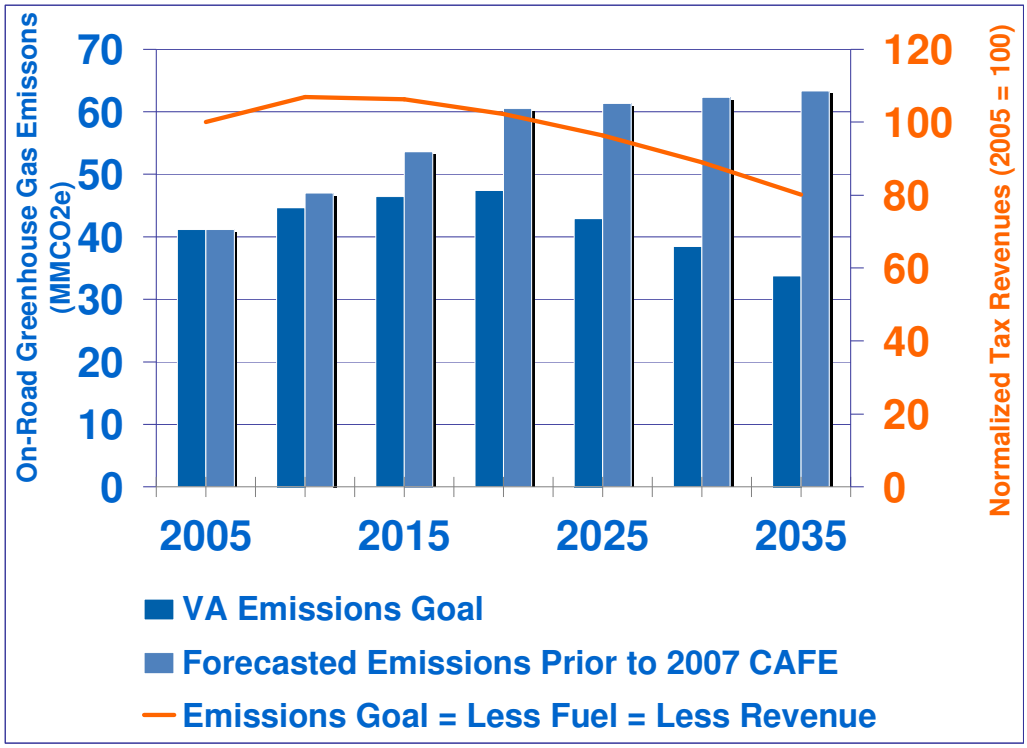
Exhibit 15: Road Use Will Rise, But Per-Gallon Taxes Will Not



Furthermore, both federal and state-level policies seeking to reduce total greenhouse gas emissions are likely to influence gas consumption significantly, reducing even further the role that the motor fuel tax can play in financing transportation costs. Emissions from transportation energy use constitute over 30% of the United States' total greenhouse gas emissions, a proportion which ensures that transportation emissions will be at the center of proposed climate policies over the long term.

Virginia has set a goal under the Kaine administration of reducing greenhouse gas emissions significantly over the next 25 years. It is likely that federal policy will be brought to bear on greenhouse gas emissions levels in the medium term. These policies may involve encouraging or mandating the use of different fuels, which would have the effect of marginalizing the motor fuel tax as a source of revenue. As with fuel-efficiency standards, the gas tax would generate less revenue per vehicle-mile traveled, giving it less power to cover costs. Alternatively, future policies could involve the imposition of an additional federal tax on gasoline, either directly or indirectly, which would put downward pressure on consumption and consequently on revenues from the motor fuel tax.

Exhibit 16: Virginia's Greenhouse Gas Target Aims to Cut Fuel Purchases

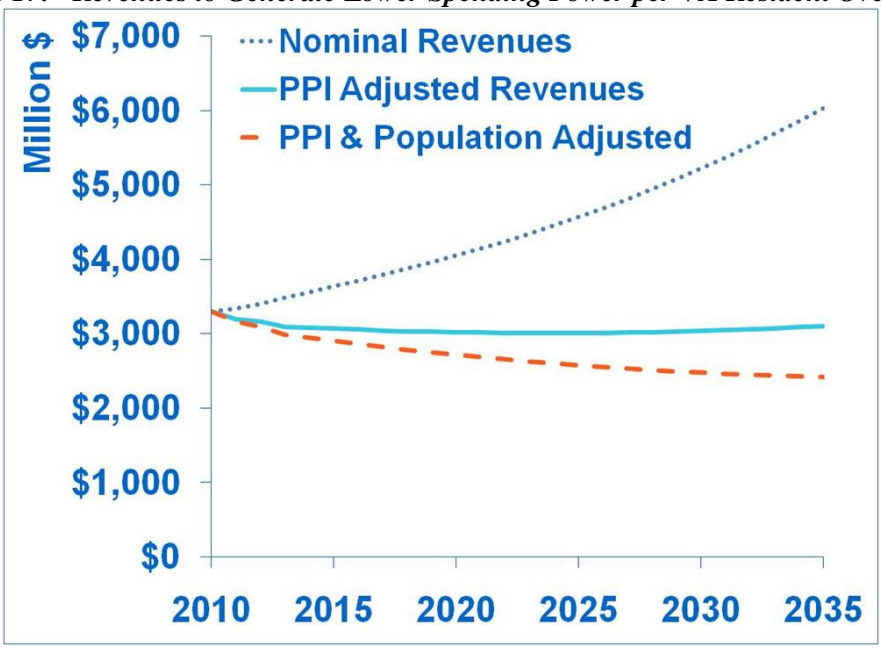


As a consequence of the dwindling buying power of the motor fuels tax and the uncertain future of gasoline and diesel in our transportation system, the prospect for the decline in the capacity of such a tax in to fund transportation infrastructure projects is high.

Overall Revenue Projected to Decline in Relative Terms

Revenues from various sources are all expected to increase in actual dollars as the economy and population of Virginia expand. However, the needs for transportation spending will also expand. Projected growth rates in revenues shrink when considered on a per-capita basis, because additional population will mean that the extra revenue is spread out to meet the needs of a larger and larger population. When those lower growth rates are adjusted for inflation, the growth actually falls into a projected decline, meaning that over time, these revenue streams will generate less buying power per person for transportation projects than they do now.

Exhibit 17: Revenues to Generate Lower Spending Power per VA Resident Over Time



Looming Maintenance Costs Threaten to Overwhelm Budget

Over the past few years, Virginia's budget for maintenance of transportation infrastructure has been insufficient to meet pressing needs around the state. While maintenance costs rise, revenues available to pay those costs are not growing at the same rate. Increasingly, paying the costs to cover essential maintenance will leave less and less available for projects necessary to expand the transportation system's capacity, such as additional lane-miles, extensions to rail lines, or additional bus system capacity.

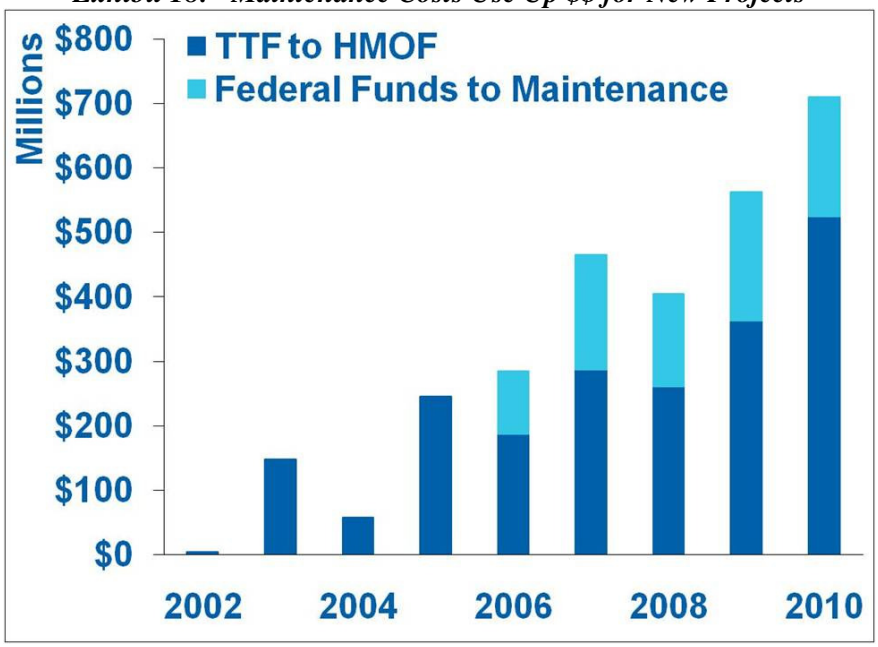
Capital-Maintenance Crossover

Virginia's Department of Transportation is required by language in the most recent appropriations legislation to prioritize maintenance needs over construction of new highway capacity. Maintenance costs have grown significantly, and Virginia has been forced to transfer money from its fund for new capacity (the Transportation Trust Fund) to its fund for infrastructure maintenance (the Highway and Maintenance Operating Fund) in order to meet its "maintenance first" obligation. As Exhibit 18 shows, transfers from capacity to maintenance are projected to reach $500 million in 2010. This is a problem of recent vintage resulting from changes in rules governing the use of state and federal revenues which allowed funds to be transferred from capital to maintenance. The recent occurrence and rapid growth of this need is worrisome. In fact, projections make it clear that over the next 20 years, and possibly as early

as 2018, maintenance costs could consume Virginia's entire transportation budget, so that the Commonwealth can expect to find no money for capacity expansion after paying for crucial maintenance. This can have a devastating impact on the secondary road system as local government will not have the funds to maintain the system.

As of FY2010, the Commonwealth Transportation Board of Virginia is already at its self-imposed limit of its ability to transfer capacity funds to maintenance projects. In FY2010, The CTB transferred $524 million from the TTF construction budget to the HMOF – fully 80% of the TTF construction budget.

Exhibit 18: Maintenance Costs Use Up $$ for New Projects



Threat of Lost Federal Matching Funds

At precisely the time when federal funding for new capacity is crucial, the disappearance of state-level funds for capacity actually threatens to trigger a loss of federal funds as well. Federal grants for transportation capital projects are contingent upon varying levels of matching funds from state governments, and as Virginia faces increasing difficulty allocating funds toward projects, it faces the prospect of losing federal funding for new capital projects at precisely the point when those funds are most crucial to meet the needs of a growing population. The Federal-Aid Highway Program usually requires states to provide 20% of the cost of eligible highway projects, with the federal Highway Trust Fund providing the other 80%.

In addition, if Virginia is unable to sell Capital Revenue Bonds due to state debt capacity limitations or reduced revenues, it would be unable to fully match federal funds today. The Commonwealth may have to choose between having to forgo a substantial amount of federal funds for roadway expansion in order to pay for routine maintenance, or use its resources to expand and in some cases reconstruct its existing infrastructure, while deferring maintenance on other system components.

Impact on Local Roads

A follow-on consequence of states' concern for receiving all possible federal funds is that needs for spending on any aspect of the roads system not eligible for federal funds must be subordinated to the need

to meet matching requirements. If Virginia is to provide enough of its own funding to ensure receipt of all the available federal funds, it is likely to have to reduce spending on the secondary road system, and on any other aspects of the road system for which capital projects are not eligible for federal support.

CHAPTER 12: PROJECTION OF FUTURE SYSTEM PERFORMANCE

2007 Transportation Performance Report

In 2007, the Office of the Secretary of Transportation published its 2007 Performance Report. The second of such system-wide analyses, this report differed from individual agency performance reports such as VDOT's Dashboard in that it included the performance of the overall transportation system rather than that of an individual transportation agency or mode. The Office of Intermodal Planning and Investment collaborated with the Commonwealth's five transportation agencies and regional planning organizations to develop the report.

The Governor's Transportation Accountability Commission published an earlier report, the Final Report of the Transportation Commission, in 2007. In that report, the Commission utilized the transportation goals and performance measures first established for the VTrans2025 report in 2004. The 2007 Performance Report was based on these measures as well.

The Performance Report established and utilized performance measures for the overall transportation system, and broke those measures into seven categories. Within each category were more specific performance areas, so that in all, the system's capabilities in 34 different areas were assessed (see http://www.vatransperforms.virginia.gov/home.html for details on performance categories).

To express the level to which the system met expectations, the report assigned a letter grade to each transportation goal as well as to overall performance. The grade for a particular goal is an arithmetic average based on the actual performance trend of each performance measure compared against the desired trend for that measure. For each measure, a value of one was assigned if the measure was trending in the desired direction; otherwise, it was assigned a value of zero. Adjustments were made if the trend was level or not changing. For each goal, the assigned values were summed and divided by the number of measures. The values for all of the measures are summed and averaged to obtain the overall performance. The 2007 results were as follows:

Exhibit 19: 2007 Performance Report Grades

Performance Measure Group	**2007 Grade**
Safety and Security	C
Preservation and Management	C
Mobility, Accessibility & Connectivity	B
Environmental Stewardship	C
Economic Vitality	B
Program Delivery	B
Coordination of Transportation & Land Use	B
Overall	**B**

Grading Process for Current Analysis

As part of the 2007 Performance Report, each performance measure was assigned not only a performance grade but also a desired trend. Grades were then assessed point values of 0 or 1 based on the expected trend's correlation or opposition to the desired trend. For this analysis, the grading process was altered slightly from the approach used in 2007 as this evaluation is for performance twenty-five years in the future. As before, grades are determined by assigning a point value to each performance measure based on whether it matches the desired trend (1.0) or opposes the desired trend (0.0). The point scale was expanded from that point, so that those measures that did not change substantially were given a value (0.5) rather than being left out of the math, or included only as an adjustment as they were in 2007.

Another alteration from the 2007 methodology is that extreme projected changes are given more extreme point values. Specifically, a score of -0.5 was given to very large shifts against desired trends, and a score of 1.5 was contemplated for large positive shifts, although such a score was never awarded. These numerical evaluations are summed, weighted, and averaged. If the average for a given performance group stayed at (or close to) 0.5, its grade remained unchanged. If the average fell or rose by 0.33 or more, that group's grade was raised or lowered by a third of a letter grade. Larger changes resulted in larger adjustments from the 2007 score.

Bases of Projections of Future Performance

Virginia's complex, multi-modal transportation system does not lend itself to a single, one-size-fits-all analysis. The individual characteristics of each mode of transportation ensure that a single set of assumptions could not adequately project their different responses to funding and policy decisions. In addition, the analysis involves both a consideration of agencies' analytics and their programming priorities.

The approach, as a result, involves an analysis that differs for each mode of transportation. For highway conditions and capacity, the Highway Economic Requirements System (HERS) model was utilized. HERS projects a wide variety of characteristics based upon initial system conditions and assumptions about spending levels for both new construction and system maintenance. Road quality, road usage, safety factors, and eventual future maintenance requirements are all within the scope of HERS projections. HERS is limited in its scope to highway and road conditions, and so for other modes, agency data and tools were used.

For public transportation and rail travel, data from DRPT were utilized to estimate funding levels required to expand capacity and to carry out maintenance and replacement of capital in order to keep transit capital at levels consistent with the defined state of good repair. Trends of maintenance costs rising faster than revenues, and the backlog in maintenance obligations, were taken into account.

For Virginia's airports, capital expansion is focused primarily on runway capacity, but aviation safety is the highest priority. Funding scenarios thus measure impacts to the system in terms of changes in system safety. The analysis of airports was limited in that neither Reagan National Airport nor Dulles International Airport was included. While the two airports are undoubtedly central to the movement of goods and people in the Commonwealth, the two are managed by the Metropolitan Washington Airport Authority, which is not under state authority. As such, their funding decisions are not part of Virginia's transportation planning process.

For Virginia's ports, while much of their funding is provided by user fees, projects to expand capacity to handle container traffic are funded through the Transportation Trust Fund. Capital spending through the TTF, therefore, is considered to impact future port traffic volumes. The prospect of a reduction in funding allocations from the TTF to the Commonwealth Port Fund presents a likely constraint on the

ability of the ports to grow with the regional economy. Capacity constraints may frustrate the Port of Virginia's current advantage as the only east-coast port able to receive the larger ships expected after Panama Canal lock improvements are completed in 2015. Also, access to ports is crucial to their operations, and to the extent that funding decisions affect road or rail access (or affect efficiency of that access) those analyses bear on the future prospects of the Commonwealth's port system.

Results of Analysis

Using the 2007 system performance scores as a starting point and using the scoring methodology explained above, HERS data along with data state of good repair projections for public transportation programs were examined for their correlations with the desired trends of performance. Even the 2007 performance as measured in the recent study does not meet the expectations of the citizens of the Commonwealth. Improvements above and beyond the 2007 scores are needed to meet the growing needs of users of all modes. This analysis developed a sketch planning estimate of the annual expenditures required to maintain the 2007 performance in 2035. Even higher investments are required to meet all of the priority goals of VTrans 2035.

In the Sustain 2007 scenario, the 2007 levels of performance were held constant, and a spending estimate was developed by examining the projected funding requirements that would be needed to provide sufficient maintenance and sufficient capital expansion in order to retain those performance levels. For capital expansion, HERS projections for costs were applied. For maintenance requirements, a number of cost estimates were used, including the projections for required State of Good Repair spending by DRPT, a projection of maintenance costs consistent with past maintenance spending growth of 4% per year, and a HERS projection for maintenance costs, adjusted to reflect Virginia's actual historical maintenance spending levels. The result was a projected additional cost above business as usual of between $1.3 billion and $1.4 billion in 2009 dollars in each year through 2035. This approximate cost projection was corroborated by both HERS projections and projections forward of historical growth rates of VDOT maintenance costs.

The unexpected growth in maintenance costs over the past two decades is challenging the ability of the modal agencies, particularly highways and transit, to meet future demands. Recent experience has seen the annual growth in maintenance expenditures of close to four percent. While the future is uncertain, current expectations are for a reduction in maintenance growth to about three percent per year as a result of lower growth rates for travel, the continued development of PPTA projects and other forces.

In the Business as Usual scenario, rather than holding performance constant and projecting spending, the process was reversed and spending was based on current VDOT projections. Changes in projected performance were measured under spending levels consistent with recent spending patterns.

Exhibit 20: Projected Decline in System Performance Under Business-As-Usual Through 2035

Performance Measures	**Business As Usual**	**Sustain 2007**
Safety and Security	C	C
Preservation and Management	D-	C
Mobility, Accessibility & Connectivity	C+	B
Environmental Stewardship	C	C
Economic Vitality	C	B
Program Delivery	C	B
Coordination of Transportation & Land Use	B+	B
Overall	**C-**	**B**
Annual Cost Above Business As Usual Through 2035		**$1.3B-$1.4B**

As the table above demonstrates, several performance measures are projected to erode significantly as time goes by. System Preservation and Management is projected to suffer most, falling from its 2007 grade of C to a D-. This is primarily due to HERS projections that highway system quality will suffer greatly. Many indicators making up this performance measure worsen under business-as-usual, most notably the International Roughness Index, a measure used to standardize road quality, which is projected to worsen by over 30% in Virginia by 2035. Additionally, pavement serviceability is expected to fall. The share of bridges in fair or better condition is also expected to decline.

Also suffering under the business-as-usual scenario is the measure of Mobility, Accessibility and Connectivity. HERS projects a dramatic system-wide increase – over 10% – in the hours of delay that drivers will experience on Virginia's highways. Transit use and HOV lane use, both dependent on maintenance and construction dollars to grow with population, are also projected to be constrained. While HERS provides the system wide deterioration, it is expected that key bottlenecks would increase leading to even longer delays in some corridors and locations.

Economic Vitality is a third measure expected to decline sharply under a business-as-usual scenario. The transportation system's direct contributions to the economy in which it operates are expected to fall as its capacity and maintenance lag behind projected need. Transportation sector employment is projected to fall, and freight through the Port of Virginia is expected to be constrained by limited land access to the port facilities. It is worth noting that this performance measure was limited in its scope and did not extend to broader economic consequences such as effects on overall GDP growth or employment, which are also likely to be constrained by the lagging transportation system performance.

Coordination of Transportation and Land Use was the lone performance measure to appear better off under a business-as-usual scenario, but in fact that lone uptick is suspect. This performance measure attempts to measure indications of better land use by looking at the presence of denser communities, greater proximity of jobs and housing, and lower volumes of vehicle travel over time. The improvement here is due to a HERS projection of lower vehicle-miles traveled under a business-as-usual scenario, but that is due to lower road capacity and worsening road quality, not due to any projected land-use planning improvements. This should not be taken as an indicator of smarter growth, but rather of worsening road conditions.

Measuring future performance as presented here is a long range strategic assessment. It is not a program planning exercise and the results can vary based on assumptions about the economy, growth in travel demand, availability of alternative modes and many other factors. The modeling process for converting investments into system conditions does not provide a direct link to the previous Virginia Transportation performance measurement and as such the selection of performance letter grades requires some judgment. The change in letter grades is selected to best represent both the previous performance analysis and the change in indicators provided by the available models.

CHAPTER 13:
OPTIONS FOR THE FUTURE

Across the country transportation departments are struggling to maintain a system that delivers safe and efficient transportation services to the public and to industry. Erosion of traditional financial sources has exacerbated the problems as departments seek to achieve their goals with more limited budgets. Population growth, economic expansion and affluence all lead to increased demand for transportation placing more pressure on departments to expand and improve the current system.

Congress and the US Department of Transportation have begun to respond by providing states with more flexible options for using federal funds, and by encouraging the development of Public Private Partnerships to supplement traditional system financing options. Congress also created two Commissions to document the crisis and to develop options to protect our existing transportation assets and to understand the options before us for solidifying the transportation finance future.

However, utilizing new financing mechanisms and commissions is a far cry from addressing the funding crisis that has been evident and widely reported for over a decade. Decisive, non-partisan action by Congress and the Administration are need now to provide the revenues desperately required to meet current needs. The Texas Transportation Institute, 2009 Urban Mobility Report estimated that the overall cost (based on wasted fuel and lost productivity) of urban congestion reached $87.2 billion in 2007 – more than $750 for every U.S. traveler. The total amount of wasted fuel topped 2.8 billion gallons – three weeks' worth of gas for every traveler and the amount of wasted time totaled 4.2 billion hours – nearly one full work week (or vacation week) for every traveler. Virginia travelers bear these costs every day.

Virginia has responded, primarily by making use of a wide variety of creative financing tools. Efforts to raise additional funds from current sources or to install new sources have not been fully successful. The Virginia modal agencies have sought out and applied to some extent most of the innovative financial tools made available in recent legislation. Virginia's efforts in this regard are more extensive and wide-ranging than those of most other states. The PPTA law has opened new opportunities to develop projects with the private sector provided that revenue sources such as tolls can be found. Virginia continues to investigate VMT fees and other revenue options. One study by the VTRC considered the opportunities for such fees, pointing out the opportunities and challenges of such a major shift from current revenue sources.

The future is uncertain. Planning for the future is a challenge that requires vision and an understanding of how transportation needs will evolve and the options available to support them. VTrans 2035 has established a set of performance goals and meeting them will require a financing structure that provides the required revenue and engages all the resources, public and private, that can address these challenges. Some immediate and log term steps that can be taken include, but are not limited to, those listed below. Many of these options have also been recommended to Congress by its SAFETEA-LU Commissions for federal transportation finance improvements.

• **Increase Traditional Transportation Taxes And Fees Now** – Traditional revenue sources for financing transportation in Virginia include the motor fuel tax, the motor vehicle sales and use tax, and vehicle registration fees. The motor fuel tax has not been increased since 1987.

• **Index the Motor Fuel Tax –** The current state motor fuel tax is a flat tax on gallons consumed. Revenues from this user fee do not increase with the cost of constructing and maintaining transportation facilities. The Commonwealth can index motor fuel tax rates with an appropriate measure of inflation. The index would ensure that the user fee paid by system users would not be reduced over time as price levels change. A potential method for indexing the fuel tax is to use the growth in travel. This would like added system use with added revenue.

• **Investigate the Use of Vehicle Miles Traveled Fees** – The SAFETEA-LU Revenue Commission established by Congress made a strong recommendation that the current user fee structure should be changed or modified to include a charge for vehicle miles traveled (VMT). Such a fee combined with modern information technology can include components that charge users by time-of-day, facility type, vehicle type, emissions, fuel efficiency, etc. A VMT fee would ensure that the transportation system provided the service that users were willing to pay for. Current systems of charging based on VMT may be costly to implement and operate, however, imposing a financial and administrative burden on the taxpayers and government. A study by the National Cooperative Research Program (NCHRP) of the Transportation Research Board (TRB) (Web Report 143) by the Rand Corporation evaluated the opportunity for a rapid national transition to VMT or similar fee structures. In addition, another TRB panel on transportation and climate change (Special Report 299) includes a paper by Oregon DOT staff on the process and technology for implementing a National Mileage-Based Charging System based on the experience gained in the successful Oregon mileage fee demonstration program.

• **Give Localities Authority to Levy Transportation Taxes and Fees –** Because Virginia is a Dillon's Rule state, the General Assembly must grant express permission for localities to raise taxes and fees.

• **Expand Use Of Tolls –** Tolls are an important tool to finance new transportation infrastructure in Virginia and around the country as well as internationally. The emergence of technology for electronic toll collection and automated toll roads combined with the user-pay benefit of tolls suggest that strategic use of tolls should be included in the mix of transportation investment options under consideration.

• **Continue the Use of PPTA's –** VDOT has already used PPTA proposal opportunities to meet infrastructure requirements that could not have been met at this time through traditional means. New federal legislation is expected to continue to encourage the use of Public/Private/Partnerships to meet future transportation needs.

• **Increase Use of Special Tax Districts –** Through legislation enacted in 1987, the General Assembly enabled localities to create special tax districts to fund transportation projects. Many localities have taken advantage of this opportunity to support local development.

• **Utilize One-Time Investments – Create a Multimodal Fund –** If a new transportation investment program is devised, consideration should be given to creating a multimodal fund to finance multimodal projects of statewide significance. This new fund could be an off-the-top allocation of new funds with the balance going through traditional formula.

• **Expand Use the Transportation Priorities Fund –** the TPF is an existing component of the Virginia transportation finance system. Virginia should investigate the opportunities for using this fund to support new transportation capital investments.

The Virginia economy and its citizens have benefited greatly from the investments made to expand and maintain the Virginia multimodal transportation system. To protect this investment and to expand it as demand grows requires a financing structure that is flexible, user sensitive and well funded. Virginia must continue to take advantage of all available Federal funding and the financial flexibility provided in recent legislation. These actions while all necessary are not sufficient to meet future transportation system needs of the Commonwealth. The legislature and the Governor must take a leadership position by modifying the current user fee system to charge all system users a fair fee for the services provided to ensure continued safety, access, development and connectivity.