

# The Virginia NEWS LETTER

## Virginia's Transportation Funding Crisis

by Bob Chase

### Introduction

When a politician proclaims, "We must learn to live within our means," heads often nod in accord. Who can disagree with such an obvious statement, particularly in these difficult economic times? But relying only on the limited resources currently in Virginia's transportation program translates literally into learning to live with poorly maintained and inadequate roads and more congestion.

It's been nearly 25 years since Virginia last invested new, long-term funds in transportation. Ronald Reagan was president, the average cost of a new home was \$92,000, the average new car \$10,000, postage stamps were 24 cents and gasoline was 89 cents per gallon.<sup>1</sup> Since then Virginia has added more than 1.5 million licensed drivers, 2 million people and 2.9 million registered vehicles, but no new long-term transportation dollars.<sup>2</sup>

The central question is whether Virginia can afford to continue to operate its transportation system on limited existing revenue streams and still be considered the best place to do business and raise a family. Or will retaining its attractiveness require investing additional resources that are available statewide and within its regional economies to improve its transportation network? The facts show that living within our existing transportation system will cost Virginia its economic competitiveness.



Bob Chase

### Characteristics of Virginia's Highway System

In most states, the state is responsible for interstates and other major roads, while counties, cities and towns care for vast networks of secondary and other minor roads. Virginia is one of only four states, Delaware, North Carolina and Texas being the others, responsible for virtually all primary and secondary roadways.<sup>3</sup>

Virginia operates the nation's third largest state highway network, consisting of nearly 60,000 miles of roads. The Virginia Department of Transportation (VDOT) is responsible not only for building and maintaining roads but also for plowing snow and cutting grass along roadways. VDOT's scope of coverage is from Lee County in the far Southwest to Accomack County on the Eastern Shore and from Winchester City in the north to the Southside region bordering North Carolina.

VDOT's extensive road and bridge network breaks down as follows:<sup>4</sup>

- Interstate: 1,118 miles
- Primary roads: 8,111 miles
- Secondary roads: 48,305 miles
- Frontage: 333 miles
- Total: 57,867 miles
- Urban: 10,561 miles (roadways are maintained by cities and towns with the help of state funds)
- Bridges (12,949) and culverts (7,971)<sup>5</sup>



*“Funding shortages force VDOT to regularly assess whether to make longer term, more expensive repaving solutions or settle for interim patches.”*

The state’s control over most roads within its borders dates back more than 80 years to the Great Depression when the Byrd Act was passed. The act provided for the state government to assume responsibility for secondary road maintenance in all counties except Arlington and Henrico. This action was deemed necessary to maintain roads at uniform high standards throughout the commonwealth. Since then, the network has grown substantially larger while all of it is aging. Parts of our interstate highway network are approaching 50 years in age. The lifespan of the average bridge is 40 to 50 years and that of highways 20 to 25 years before major reconstruction is required.<sup>6</sup>

VDOT’s latest pavement surface analysis in 2010 found that 21.6 percent of Virginia’s interstate lane miles and 26.7 percent of its primary roads lane miles had substandard pavement surfaces with ratings of poor or very poor (see **Figure 1**). More alarming is the fact that 34.2 percent of secondary road pavements or 27,800 lane miles were substandard. Three years earlier in 2007 only 24.2 percent of secondary roads surfaces were substandard.<sup>7</sup>

Funding shortages force VDOT to regularly assess whether to make longer term, more expensive repaving solutions or settle for interim patches. For example, VDOT might resurface the Fairfax County Parkway with two inches of pavement rather than a longer lasting four-inch solution. Over time, multiple short-term fixes cost more, but current revenue streams leave little choice. Another problem is that the cost of replacing more than 1,700 structurally deficient bridges is nearly \$4.7 billion.<sup>8</sup> To its credit, VDOT is in the process of streamlining and re-evaluating some of its maintenance procedures. However, greater efficiencies enacted by the Kaine and McDonnell administrations and reclassification of some projects from maintenance to construction will not

obviate the need for new long-term funding to meet even some of these pressing needs.



Building work platforms on the side of the new Huguenot Bridge. Photo by D. Allen Covey, VDOT.

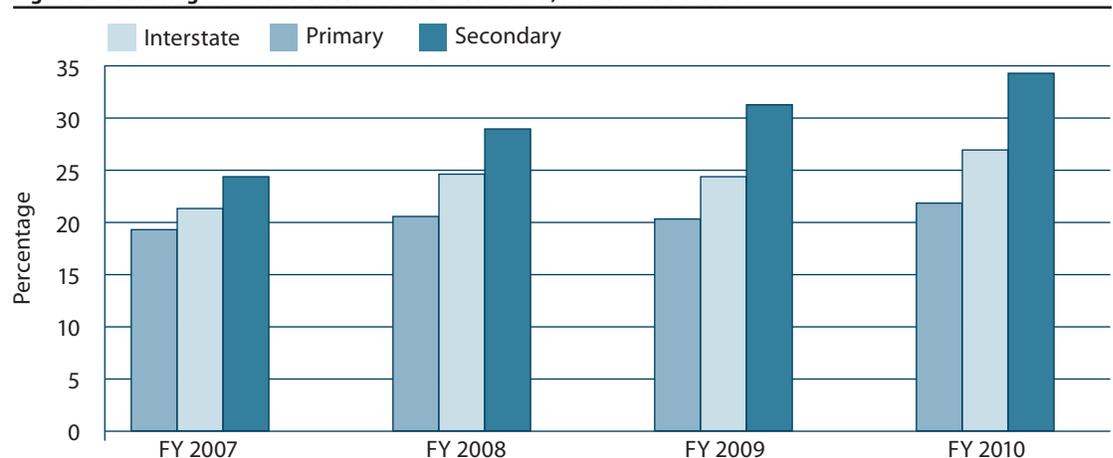
### Inadequacy of the Highway Maintenance and Operation Fund

Learning to live within currently available revenues means tolerating an inadequately maintained, increasingly dangerous transportation network. Here’s why. Virginia’s Highway Maintenance and Operating Fund (HMOF), established in 1987, is funded by the following sources:

- Motor Fuels Tax (gasoline tax) [15 cents of the 17.5-cent per gallon tax]
- Motor Vehicle Sales and Use Tax (2 percent of the 3 percent tax)
- Motor Vehicle License Fee (\$26 of the \$40.75 annual fee)
- Miscellaneous (includes the International Registration Plan and recordation tax revenue dedicated to maintenance).

Revenue from all these sources is running below levels of just a few years ago. Collections from the gasoline tax and license fees are fairly static and don’t grow with the economy. Motor vehicles sales tax growth is constrained both by

**Figure 1: Percentage of Roads Classified as Substandard, FY 2007 to FY 2010**



Source: VDOT, *State of the Pavement Report*, January 2010.

the current economy, and the fact that today's better-built cars last longer means people replace them less frequently. The median age of automobiles in the U.S. fleet was 9.2 years in 2007 as opposed to 6.5 in 1990 – a 42 percent increase.<sup>9</sup>

For over a decade HMOF funds were more than adequate to meet needs and even produced a surplus that was transferred to the Transportation Trust Fund (TTF) for construction purposes. However, that situation ended in fiscal year (FY) 2002 when \$3.6 million was transferred from the construction fund to the maintenance fund to address what was hoped would be a brief shortfall. But the General Assembly's ongoing reluctance to address the problem caused those fund transfer levels to grow to more than \$500 million per year by FY 2010, meaning that money was no longer available for construction. As shown in column 3 of **Table 1**, for the cumulative period from FY 2002 through FY 2012, more than \$3 billion in state transportation funds originally intended for construction have been diverted to maintenance purposes. An additional \$1.1 billion in federal funds that could have been used for construction have been diverted to maintenance.

Without an infusion of new sustainable funds, the HMOF will continue to consume more and more construction dollars. Just looking at the short term, the latest Commonwealth Transportation Fund<sup>10</sup> projections show that by FY 2017, highway maintenance will consume 50 percent of

all transportation dollars (state and federal) and only 19 percent will be available for new construction.<sup>11</sup> In fact, by FY 2017 the combined state and federal construction funds diverted to maintenance will approach \$900 million.<sup>12</sup> Thus, while legislators talk regularly about the need to “lock-up the Transportation Trust Fund” to protect it from being raided for non-transportation purposes, in truth, it is the General Assembly's persistent failure to adequately fund the HMOF that has resulted in a decade-long annual raid on the TTF.

One option, labeled “devolution,” is being considered to help close the maintenance funding shortage. Under devolution the state would transfer to counties responsibility for maintaining (and possibly operating) secondary and other roads, as is done in most other states. Not surprisingly, most counties are not enthusiastic about bearing this additional cost. However, before a decision of this nature can be made, it first should be determined whether it would be more cost-effective to transfer such responsibilities to localities or to have the state do the work but require localities to cover part or all of the cost.

### Inadequacy of the Transportation Trust Fund

The Transportation Trust Fund (TTF) was established in 1987 to finance capital construction of highways, public transit, ports and aviation

*“...for the cumulative period from FY 2002 through FY 2012, more than \$3 billion in state transportation funds originally intended for construction have been diverted to maintenance purposes.”*

**Table 1: Use of Transportation Trust Fund and Federal Funds for Maintenance, Actual FY 2002 through FY 2012, and Planned FY 2013 through FY 2016 (Millions of Dollars)**

Fiscal Year Actual	TTF Construction Share	TTF Transfers to HMOF	Remaining State Dollars for Construction	Federal Funds Used for Maintenance
2002	\$549.9	\$3.6	\$546.3	\$0.0
2003	534.9	147.2	387.7	0.0
2004	603.0	56.9	546.1	0.0
2005	613.9	244.6	369.3	0.0
2006	714.3	186.2	528.1	97.4
2007	699.1	286.3	412.8	178.2
2008	706.4	260.6	445.8	143.
2009	617.2	362.6	254.6	199.6
2010	597.4	500.2	97.2	178.6
2011	614.1	511.0	103.1	155.1
2012 <sup>a</sup>	698.9	447.8	251.1	167.3
<b>Total, 2002-2012</b>	<b>6,949.1</b>	<b>3,007.0</b>	<b>3,942.1</b>	<b>1,119.2</b>
<b>Planned</b>				
2013	691.6	495.4	196.2	188.9
2014	715.8	519.3	196.5	212.1
2015	755.9	524.9	231	236.3
2016	782.8	550.6	232.2	277.5

Source: VDOT.

<sup>a</sup> Budgeted.

*“...failure to provide new, sustainable state funding, has left Virginia highly dependent upon federal funding.”*

facilities. The TTF is funded from the following sources:

- Federal aid
- Retail Sales and Use Tax (0.5 percent of 4 percent state tax)
- Motor Fuels Tax (2.5 cents of 17.5-cent per gallon tax)
- Vehicle Sales and Use Tax (1 percent of 3 percent tax)
- Vehicle License Fee (\$3 of \$40.75 fee)
- Bonds
- Other sources

All the above state tax and fee rates, except the vehicle license fee and bonds, are the same today as in they were in 1987. It is very unlikely that many localities or businesses charging the same rates and fees as 25 years ago would be viable today. TTF dollars are distributed to four major transportation categories: highways (78.7 percent), rail and public transportation (14.7 percent), ports (4.2 percent), and aviation (2.4 percent). The inability of the TTF to adequately address any of these categories is obvious to most users. However this is especially true to travelers in Hampton Roads, Northern Virginia and the I-81 corridor (see **Table 2**).

### Defining Virginia's Needs

By law Virginia is required to prepare a transportation needs assessment every five years. The last assessment, made in 2005, was contained in the *VTRANS 2025* report, a study that pegged unfunded statewide 25-year transportation needs at \$108.4 billion. That breaks down to highway needs at \$74.2 billion, rail and public transportation at \$30.7 billion, aviation at \$3.1 billion and ports at \$0.4 billion.<sup>13</sup> Even if the most important highway needs totaled only \$40 billion that still translates into \$1.6 billion per year over the next 25 years that the commonwealth doesn't currently have to invest.

Regional updates of unfunded highway construction mandates echo problems addressed in the *VTRANS 2005* report. In 2006 the Northern Virginia Transportation Authority estimated a regional annual shortfall of \$616 million per year.<sup>14</sup> The Hampton Roads Transportation Planning Organization has identified \$30 billion in transportation construction costs associated with the projects under consideration for the 2034 Long-Range Transportation Plan, but has identified only \$13.6 billion in available traditional funds. Of this amount, \$12.35 billion is committed for maintenance leaving only \$1.25 billion available for new construction. However, while the region

**Table 2: Six-Year Improvement Program Cost to Complete, Summary by Highway District, FY 2012 to FY 2017**

District	Cost to Complete
Northern Virginia	\$940,897,634
Culpeper	100,799,807
Fredericksburg	340,765,037
Lynchburg	132,268,976
Richmond	110,038,280
I-81 Corridor	
Staunton	188,604,936
Salem	2,265,272,354
Bristol	100,742,196
Hampton Roads	7,954,793,720
<b>Total <sup>a</sup></b>	<b>11,742,293,988</b>

Source: VDOT.

<sup>a</sup> Total is not the sum of the districts because it has been adjusted to exclude \$391,888,952 used for statewide needs.

has identified an additional \$5.94 billion in non-traditional funds (i.e., local and private funding and the Governor's Omnibus Transportation Bill) for construction projects over the next 20 years, these dollars fall far short of identified needs.<sup>15</sup>

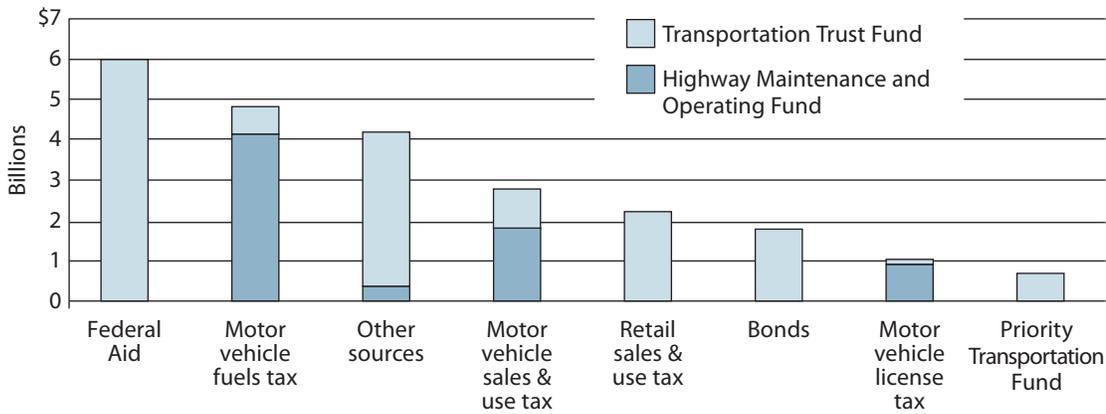
### Virginia is Heavily Dependent on Federal Funds

Of particular concern is the fact that failure to provide new, sustainable state funding, has left Virginia highly dependent upon federal funding. In fact as **Figure 2** below shows, federal dollars are Virginia's top transportation funding source.<sup>16</sup>

Thanks to the infusion of one-time Capital Project Revenue (CPR)<sup>17</sup> and federal GARVEE bonds,<sup>18</sup> 67 percent of Virginia's FY 2012 highway construction program consists of bonds and state dollars; only 33 percent is federal. However, in FY 2016 when CPR and GARVEE bond funds are gone, 69 percent of the construction funds are federal and only 31 percent are state. By FY 2017 the federal percentage increases to 71 percent with only about \$225 million state construction dollars available.<sup>19</sup> These numbers are even more sobering given that Congress has failed to reauthorize a Federal Surface Transportation Program for two years and the House of Representatives leadership is talking about restricting transportation allocations to currently available dollars, meaning future federal allocations could be less, not more.

### Other Transportation Needs in Addition to Roads

While automobiles and trucks account for the vast majority of daily trips, public transit and rail also are important and have major unfunded needs. At a time when public transit and passenger rail ridership are increasing, state and local revenue shortages are forcing hard choices such as

**Figure 2: Commonwealth Transportation Fund Revenue Forecast for the Six-Year Period from FY 2012 to FY 2017**

Source: VDOT, FY 2012-FY2017 CTF Six-Year Financial Plan, p.6.

cutting routes and service levels in order to provide money needed for purchasing replacement vehicles and other needs. The Washington Metropolitan Area Transit Authority estimates a \$5 to \$7 billion shortfall in its \$11.4 billion capital needs program over the next 10 years. The program includes maintenance, rehabilitation, technology and capacity improvements to the existing system, but not expansion.<sup>20</sup>

Also of a good news/bad news nature is the fact that in 2011 the Virginia General Assembly created the Intercity Passenger Rail Operating and Capital Fund, but then failed to identify a dedicated funding source. The need for such dedicated funding is particularly critical given that starting in 2013 federal operating and capital support for Amtrak regional services from Lynchburg and Richmond to Washington, D.C. will cease.<sup>21</sup>

### Future Demand Will Make Existing Conditions Worse

Demands on the existing transportation network will increase in the coming decades. The 2035 Virginia Surface Transportation Plan report forecasts that by 2035 the state will add nearly 2.9 million people and an increase of 149.5 million miles-per-day driven on the state's roads.<sup>22</sup> A larger national population also will put a strain on Virginia's highways. Increased truck traffic will add more demands to the system. In 2007, the most recent year available for commodity flow data, trucks delivered 70 percent of freight tonnage.<sup>23</sup> Interstate highways I-64, I-81 and I-95 are major national truck routes. Suppliers and buyers are willing to pay a premium for faster "just-in-time" deliveries to coincide with inventory requirements and to eliminate delays and the need for large storage facilities. This is particularly true in more affluent areas such as Northern Virginia with high consumer demand. While expanded rail services are likely to divert more trucks to rail,

the percentage and value of goods moved by truck are projected to continue to increase.<sup>24</sup>

Although some point to higher future gasoline prices as a likely damper on automobile and truck travel, adoption of higher fuel efficiency standards and continued progress in the development of more fuel-efficient and alternative fuel vehicles make it increasingly likely that motorists and truckers will be able to drive more miles for less. Even with gasoline at \$6 per gallon, owners of a 60-mpg vehicle will pay far less per mile for fuel than today's 25-mpg vehicle. The recently announced higher mileage standards for trucks, combined with the development of alternative and potentially less-expensive fuels, are likely to make truck shipments more cost competitive in the future.<sup>25</sup>

### Supplemental Funding Solutions

Over the years much of the transportation funding discussion has focused on supplemental solutions, which while helpful to some extent, individually and collectively fail to generate revenues necessary to address Virginia's significant transportation needs. In this section I cover six approaches that have been used or suggested.

#### 1. Allocation Formula Change

For years Northern Virginia and Hampton Roads candidates have campaigned on a platform to "change the funding allocation formula" for highway funds so their areas can get a bigger share of the pie. In fact they've done so for so many years without providing new transportation dollars that the funding formula no longer exists. As VDOT's FY 2012 budget stated, "FY 2010 was the first time since the state construction allocation formula was instituted by the 1986 Special Session that no funds were available for distribution to the construction districts and localities. The outlook

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*“While the FY 2012 VDOT budget is substantially larger than for the previous year due to Governor Bob McDonnell’s bond initiative, revenue levels still are not sufficient to implement a meaningful allocation formula.”*

**Table 3: Commonwealth Transportation Fund Projected Spending, FY 2011 to FY 2017 (Millions of Dollars)**

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Debt service	\$257.7	\$321.7	\$351.7	\$392.9	\$424.8	\$406.7	\$400.8
Other agencies and transfers	36.5	40.7	41.3	41.3	41.9	42.0	40.4
Highway maintenance	1,697.6	1,779.1	1,820.3	1,890.8	1,964.2	2,040.4	2,119.6
Operations, tolls and administration	350.8	356.8	374.4	382.5	391.9	401.6	412.3
Mass Transit Fund	429.9	466.9	374.5	409.4	390.9	398.1	403.7
Port Trust Fund	34.0	37.4	37.0	38.3	40.4	41.9	42.8
Airport Trust Fund	20.0	21.7	21.5	22.2	23.5	24.3	24.8
Earmarks and special financing	306.8	1,536.9	1,004.1	681.1	320.2	347.4	320.3
Highway construction	656.8	711.9	582.0	536.5	523.3	472.3	469.0
<b>Total</b>	<b>3,790.1</b>	<b>5,273.1</b>	<b>4,606.8</b>	<b>4,395.2</b>	<b>4,121.1</b>	<b>4,174.8</b>	<b>4,233.7</b>

Source: VDOT, FY 2012 -2017 CTF Six-Year Financial Plan Recommended FY 2012 CTF and VDOT Budgets (June 15, 2011 presentation to Commonwealth Transportation Board), p. 7. [http://www.ctb.virginia.gov/resources/2010/June/cm\\_4\\_FY2011-16\\_Financial\\_Plan\\_and\\_VDOT\\_FY2011\\_Budget\\_06162010.pdf](http://www.ctb.virginia.gov/resources/2010/June/cm_4_FY2011-16_Financial_Plan_and_VDOT_FY2011_Budget_06162010.pdf) [http://www.ctb.virginia.gov/resources/2011/june/Agenda\\_Item\\_2\\_FY2012-17\\_Financial\\_Plan\\_and\\_VDOT\\_FY2012\\_Budget\\_06152011\\_Final.pdf](http://www.ctb.virginia.gov/resources/2011/june/Agenda_Item_2_FY2012-17_Financial_Plan_and_VDOT_FY2012_Budget_06152011_Final.pdf)

for FY 2012 remains the same without any construction formula allocations.”<sup>26</sup>

While the FY 2012 VDOT budget is substantially larger than for the previous year due to Governor Bob McDonnell’s bond initiative, revenue levels still are not sufficient to implement a meaningful allocation formula. Without new funding, a formula more favorable to Northern Virginia and Hampton Roads would make relatively little difference. Larger pieces of a small and potentially shrinking pie do not meet the transportation needs of growing regions.

**2. Bonds**

Virginia has issued transportation bonds for years. Without question, by jump-starting hundreds of delayed or partially funded projects across the state, Governor McDonnell’s \$3.3 billion Omnibus Transportation Funding Bill is making a difference. However, the governor readily acknowledges these funds do not provide the long-term solution Virginia’s transportation program needs and has frequently stated his commitment to securing new long-term funding.

Table 3 shows the dramatic difference the governor’s new program makes to the FY 2012 construction program, which is the total of the bottom two categories, “earmarks and special financing” and “highway construction.” For several years the levels remain relatively high. However, the long-term trend is downward. Unless the governor is able to make good on his pledge to find new sustainable revenue by FY 2017, construction funding levels will be less than in FY 2011.

**3. American Recovery and Reinvestment Act Stimulus<sup>27</sup>**

The American Recovery and Reinvestment Act (ARRA), the federal stimulus package associated with the 2007-2009 recession, provided a

one-time shot in the arm to Virginia’s transportation network of \$694.5 million for highway projects, deficient bridges, and pavement and congestion relief efforts. Of that amount \$117.8 million was sub-allocated to Virginia’s five major Metropolitan Planning Organizations (MPOs), for local and regional improvements. In addition, Virginia’s public transit allocation included \$220 million for the Washington Metropolitan Transit Authority, \$77 million for Dulles Rail, \$24.8 million for Hampton Roads Transit, and \$13.1 million for Richmond area transit.

While this federal boost enabled Virginia to jump-start a number of “shovel-ready” projects that lacked funding, it did not provide a sufficient amount for the needed long-term infusion. And another round of stimulus spending, should it occur, would be insufficient in relation to needs.

**4. Public Private Partnerships (P3s)**

Public Private Partnerships, which are popularly known as P3s, are joint ventures requiring public as well as private financial investment. Virginia has been a P3s leader. Its P3s legislation enacted in 1995 has been a model for other states. The upgrade of Route 28 near Dulles Airport (75 percent financed with commercial development revenues and 25 percent with state revenue) from one lane in each direction to six lanes with grade separated overpasses/interchanges is perhaps the most prominent example of a successful P3s project.

The McDonnell Administration’s new Office of Transportation Public Private Partnerships is another important step forward. By actively soliciting and streamlining the P3s application process, Virginia will provide a greater level of certainty for investors and will gain an important competitive advantage. The McDonnell administration deserves credit for recognizing that P3s require not only highly professional management but also

significant public sector investment and setting aside some funds for this purpose. Still, limitations exist. P3s are generally applicable only to big ticket, more complex projects capable of generating significant revenue, typically toll roads and bridges. Most primary and secondary roads would not qualify, nor would maintenance or reconstruction projects. P3s' share of U.S. capital investment in highways by all levels of government since 2008 is about 2 percent. In 2011 P3s will account for only about 11 percent of total capital investments in new highway capacity.<sup>28</sup>

While important, P3s are not substitutes for broader, more sustained funding sources. The P3s financial markets and realities are changing. Investors and lenders are becoming less aggressive and more conservative. Unlike governments, private investors need to make a profit. Investors are becoming more risk conscious. Fewer banks are willing to lend; those that do are lending less and charging more. Transportation Infrastructure and Finance Invocation Act (TIFIA) credit assistance formerly was the backbone of major P3s projects nationwide, including Northern Virginia's Capital Beltway HOT Lanes, but is becoming more competitive and less available. All of this constrains private sector equity levels and requires higher public sector equity levels and risk. Sealing the deal on Hampton Roads' \$1.2 billion Downtown/Mid-Town Tunnel/MLK Extension required \$395 million in state-backed bonds. The \$500 million being set aside for the Route 460 relocation may not be enough.

Toll levels required to ensure project viability are unknown. Rates for the I-495 HOT Lanes have yet to be published. Peak period peak direction Dulles Greenway tolls are currently \$4.50. A 1990 Virginia State Corporation Commission staff report estimated that private sector construction costs would be much higher than a state facility and that if the commonwealth had built and operated the Greenway, tolls could have been as little as \$1 over the life of the project.<sup>29</sup> A further consideration is that Arlington County's legal actions that stopped the I-395 portion of the I-95/I-395 HOT Lanes add to the uncertainty of these ventures.

### 5. Highway Tolls

Tolls are a proven way to help finance highway construction and upkeep and are most likely to be well received or tolerated by the public to the extent they are used in conjunction with new facilities. Tolling of existing facilities, without new capacity, is likely to encounter stiff public pushback. Keep in mind that it is unlikely that new toll roads and new bridges can be built on

the basis of toll revenue alone. All require significant public funding, of which Virginia does not currently have in abundance. Northern Virginia's \$1.4 billion Capital Beltway HOT Lanes Project required \$409 million in state funds.

The Federal Highway Administration (FHWA) has granted "conditional, provisional approval" of Virginia's request to swap tolling authority on I-81 for similar authority on I-95. Authority to toll I-81 was granted in 2003 as part of the Interstate System Reconstruction and Rehabilitation Pilot Program, which is limited to one roadway in each of three states. Imposing tolls on I-95 is contingent on Virginia meeting a number of statutory criteria including identifying where tolls are collected and why Virginia selected those specific locations. Preliminary estimates indicate I-95 tolls would generate about \$50 million per year. Points south of Richmond, particularly along the Virginia-North Carolina border and perhaps south of Fredericksburg, have been mentioned as the most likely tolling locations. Proceeds can only be spent on corridor improvements in the 180-mile I-95 North Carolina border to the Potomac River corridor, which constitutes only 16 percent of Virginia's interstate network and only a fraction of a percent of the overall network.

Don't look for the federal government to allow unlimited tolling on the interstate network anytime soon. If tolls are permitted, it may be only for construction of new lanes, and toll revenues are likely to be restricted to the facility on which they are collected. Another limiting factor may be in areas such as Northern Virginia where separately owned and operated facilities (Dulles Greenway, Dulles Toll Road, Capital Beltway and I-95 HOT Lanes) become part of a network. The resulting cumulative tolls for a given trip will become hefty in a hurry, discouraging use and forcing more vehicles to seek and congest alternative routes for which improvement funds are not available.

### 6. State Infrastructure Bank

The Virginia Transportation Infrastructure Bank (VTIB) is another key part of Governor McDonnell's transportation program. Its initial capitalization goal was \$1 billion, but thus far the General Assembly has authorized only \$283 million (\$250 million from the Commonwealth Transportation Fund and \$33 million in FY 2010 General Fund surplus). Whether and when \$1 billion is achievable is unknown. The bank is a revolving fund for loans and grants, most likely on relatively small projects to leverage local and state dollars. Over time, loan repayments will be reinvested in new projects.

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*“Meeting Virginia’s immediate and longer term transportation maintenance and construction needs requires facing up to the reality that while supplemental solutions have a place in the transportation tool box, they are not enough, either individually or collectively.”*

The Commonwealth Transportation Board will manage the VTIB with financial management by the Virginia Resources Authority. Guidelines and scoring criteria have been developed and the VTIB expects to be in a position to begin accepting and evaluating applications in early 2012.<sup>30</sup>

### The Case for New, Sustained, Long-Term Transportation Funding

Meeting Virginia’s immediate and longer term transportation maintenance and construction needs requires facing up to the reality that while supplemental solutions have a place in the transportation tool box, they are not enough, either individually or collectively. The numbers don’t add up. And since they don’t add up, and after two decades of ignoring the obvious need for more permanent solutions, it’s time to address this reality.

The evidence shows that as a high-income, low-tax and low-spending state, Virginia can afford to provide new, sustainable funding, and that such funding represents a prudent and necessary investment in Virginia’s future.

Virginia is the twelfth most populous state.<sup>31</sup> In 2010 the state’s per capita income of \$44,246 ranked it seventh in the nation.<sup>32</sup> Also in 2010 Virginia’s economy churned out \$423.9 billion in current-dollar gross domestic product, making it the nation’s tenth largest state economy.<sup>33</sup> While far from being acceptable, Virginia’s 6.5 percent September 2011 seasonally adjusted unemployment rate was considerably below the national average of 9.1 percent.<sup>34</sup>

The Virginia General Assembly’s oversight arm, the Joint Legislative and Audit Review Commission (JLARC) is required by law to conduct periodic comparisons of Virginia and other states in a wide range of fiscal and other matters. As its 2011 report indicates, Virginia continues to rank second in federal largess per capita and continues to be a high income, low-tax, low spend state. Consider the following JLRAC findings:<sup>35</sup>

Measure	Rank
Bond ratings	1 <sup>st</sup>
Per capita federal expenditures	2 <sup>nd</sup>
Per capita personal income	7 <sup>th</sup>
State and local revenue as a percentage of personal income	46 <sup>th</sup>
State motor fuels excise taxes per gallon	37 <sup>th</sup>
State funding per pupil pre-K-12	38 <sup>th</sup>
Per capita road expenditures	42 <sup>nd</sup>
Welfare expenditures as a percentage of total state expenditures	43 <sup>rd</sup>
Per capita total Medicare expenditures	47 <sup>th</sup>

The fact that Virginia ranks forty-second in per capita road expenditures and forty-sixth in state and local revenue as a percent of income succinctly explains why the transportation network is in poor shape and why Virginia can afford to invest more to improve it. About 28 percent of the state’s gross domestic product and 34 percent of its jobs result from industries that are heavily dependent upon the movement of raw materials and goods on Virginia’s transportation network.<sup>36</sup> This demonstrates why such new investment is necessary.

Prosperity is never guaranteed and can never be taken for granted. Absent new, dedicated transportation funding, many of the economic assets that give Virginia a unique national and global competitive advantage are heavily dependent upon an efficient surface transportation network and are very much at risk. Consider the following.

### Hampton Roads

Hampton Roads has the East Coast’s deepest harbor, is the only East Coast port with no air, water or capacity restrictions, and is ideally equipped to handle the new super container ships that will become common upon completion of the Panama Canal expansion in 2014. It also is home to the world’s largest naval base and many other military installations, and it is heavily dependent on federal defense spending.

However, 68 percent of the 1.8 million containers that moved through the port in 2010 were transported by truck and the port’s future success is heavily dependent on an efficient highway network that does not exist.<sup>37</sup>

Last year, retired Navy Rear Admiral Byron E. Tobin observed, “One of the key components of [mission performance] success is mobility and our mobility is impeded because of our transportation infrastructure that is in decline and is struggling to meet our needs.”<sup>38</sup> Such realities are liabilities at a time when the Department of Defense is under pressure to cut spending and legislators from other parts of the nation are seeking to secure a larger part of any future military spending pie.

### Northern Virginia

Northern Virginia has one of the nation’s strongest regional economies. Thirty-five percent of Virginia’s total office space is in Fairfax County. The Tysons Corner area alone has 26 million square feet of office space, five Fortune 500 companies and 100,000 workers, and that’s before the Dulles Metrorail opens in 2014. In 10-15 years Tysons is projected to have more than 50 million square feet and 200,000 workers.<sup>39</sup>

However, Northern Virginia also has the commonwealth's and nation's worst traffic congestion in large part because road, bridge and transit growth has not kept pace with job and population growth. Dulles Rail will support less than 15 percent of new Tysons Corner daily trips. High congestion levels throughout the region and the lack of resources to meet documented transportation needs seriously threaten Northern Virginia's future economic output.

Washington Dulles International Airport is one of the nation's few international gateways with excess design capacity.<sup>40</sup> However, the lack of adequate access for passengers and freight from the north, south and west will seriously restrict its growth potential.

### I-81 Corridor

Virginia's I-81 corridor is an attractive location for major distribution centers. The two largest buildings in the commonwealth outside of the Pentagon reside along the corridor, Volvo/Mack's 1.6 million square foot truck assembly plant in Pulaski County and Target's 1.6 million square foot distribution center in Stuart's Draft. Other significant distributions centers owned by Best Buy, Home Depot, and Wal-Mart make I-81 one of the most important freight routes on the East Coast.<sup>41</sup>

I-81 traffic has doubled in the last 20 years and tripled in urban areas. Traffic is projected to double again by 2035. As a percentage of average annual daily traffic, I-81 truck volumes are three times that in the I-95 corridor. At least half of Virginia's college students and their families use I-81.<sup>42</sup> Increasing I-81 traffic volumes, inadequate capacity and safety concerns will make this corridor less attractive for distribution centers, other industries and thousands of Virginia families.

### Tourism

In 2010 Virginia tourism generated \$18.9 billion, supported 204,000 jobs and provided more than \$1.9 billion in state and local tax revenue.<sup>43</sup>

Virginia's rich history and great outdoors attractions make it a major tourist magnet, from Civil War Heritage sights to Skyline Drive and Virginia Beach. However, these resources become less attractive as they become less accessible. Growing congestion and deteriorating maintenance will weaken the attraction of many of these magnets.

### Options for Increasing Highway Revenues

Virginia's economy and fiscal health exceed that of most other states. However, over time the failure

to invest more of its resources in its transportation infrastructure has put the commonwealth in a precarious position in terms of being able to ensure future competitiveness and prosperity. The following are options that could be adopted by the Virginia General Assembly in its 2012 session to revitalize the transportation construction program, create thousands of jobs, and help secure the state's economic future.

Consideration of these options must be combined with recognition that Virginia's transportation program needs a minimum of \$600 million per year to restore stability to the HMOF and an additional \$500 million to \$1 billion per year to ensure a robust construction program capable of meeting defined, performance-based needs.

#### 1. Increase the Motor Fuels Tax

Increasing the state's 17.5 cents per gallon gasoline tax is an obvious and fundamental part of any solution. The case for a gasoline tax increase is overwhelming:

- Virginia's gasoline tax is the nation's ninth lowest.<sup>44</sup>
- It hasn't been raised in nearly 25 years. In 1987 gasoline was about 90 cents per gallon and the 17.5-cent state tax was 19 percent of the pump price.<sup>45</sup>
- Today, 17.5 cents per gallon is less than 5 percent of the pump price.
- The highway purchasing power of 17.5 cents has shrunk to about 8 cents.
- Automobiles are logging more mileage per tank of gasoline and motorists are paying far less in taxes per mile traveled.<sup>46</sup>

A one-cent per gallon gasoline tax increase would generate about \$51.7 million next year (FY 2013) and \$54.2 million in FY 2016.<sup>47</sup> While not a source that grows with the economy like the sales or income tax, the gas tax has potential to generate significant new revenue over many years. It's time to harness that potential. Restoring the gasoline tax's purchasing power to 1987 levels would require an 18-cent per gallon tax increase and would generate nearly \$1 billion annually. The average Virginia motorist travels 12,000 miles per year; many travel considerably less. At 20 miles per gallon a car consumes about 600 gallons per year. Multiply annual consumption by a 20 cents per gallon increase and the result is \$120 per year or 33 cents per day for the 365 days in a year. Even a 10 cent per gallon increase, costing about \$60 per year or about 16 cents per day, would generate about \$500 million per year and would plug the annual drain on the Transportation Trust

*"...Virginia's transportation program needs a minimum of \$600 million per year to restore stability to the HMOF and an additional \$500 million to \$1 billion per year to ensure a robust construction program..."*

*“For nearly a quarter of a century Virginians have been paying less than what it actually costs to maintain and improve their transportation network, and it shows in poorly maintained and congested roads.”*

Fund freeing money for construction. For nearly a quarter of a century Virginians have been paying less than what it actually costs to maintain and improve their transportation network, and it shows in poorly maintained and congested roads. Asking the average driver to pay an additional 16 to 33 cents per day to maintain what’s been built is not unreasonable.

Also keep in mind that the full amount of any gas tax increase never appears at the pump as is evidenced by the fact that states surrounding Virginia and the District of Columbia all have higher gas taxes, but roughly comparable prices at the pump. In Virginia’s case, the oil companies pocket the difference.

As for indexing, tying and adjusting the gas tax based on inflation makes sense only if done retroactively. Using the Bureau of Labor Statistics Income Calculator, which measures the Consumer Price Index for a given year, the 1987 enacted tax of 17.5 cents per gallon equals 35 cents per gallon in today’s dollars. If the gas tax had been indexed to the CPI in 2002 when the HMOF experienced its first shortfall, the tax today would be 22 cents. However, if the adjustment begins in 2012, with annual inflation of 3 per cent, it would take another 24 years to reach the same 35-cent per gallon rate.

## 2. Increase the State Sales and Use Tax

At 5 percent Virginia’s state (4 percent) and local (1 percent) retail sales and use tax is the nation’s fifth lowest. All states bordering Virginia and the District of Columbia have higher sales taxes ranging from 5.75 percent (up to 8.25 percent with local options) in North Carolina to 7 percent in Tennessee.<sup>48</sup> Furthermore, today’s Virginia tax is less inclusive than when it was first adopted. In 1998 the General Assembly eliminated the sales tax on nonprescription drugs and in 2005 it reduced the state sales tax on food for home consumption from 3 percent to 1.5 percent.<sup>49</sup>

In 1987 the legislature raised the state rate from 3 to 3.5 percent and dedicated the additional 0.5 percent to the Transportation Trust Fund where it is allocated among highway construction, public transit, aviation and ports. In 2004 the General Assembly raised the rate to 4 percent, but none of the proceeds were earmarked for transportation.

The sales tax is one of the few current transportation revenue sources that actually grow substantially with the economy. A 1 percentage point increase would generate an additional \$834.9 million next year (FY 2013) and \$1,042.6 million in FY 2016.<sup>50</sup> Given its relationship to economic growth and the importance of improved

transportation to economic growth and development, it is logical to dedicate a sales tax increase to a special strategic transportation fund to finance road and public transit investments determined to be critical to reducing congestion and supporting economic development and job growth. Prioritization and focus are important. Only by dedicating such revenue to Virginia’s most effective transportation solutions can the commonwealth earn the trust and support of its citizens for such a measure.

An alternative proposed by some is to dedicate more of the existing sales tax or growth in sales tax revenues to transportation. While such an approach would boost transportation revenues, it would reduce existing and projected funding for other core government services and potentially force local governments to make up for lost revenues. As the JLARC numbers show, Virginia does not rank high in per capita spending on core services. Proponents of such an approach have an obligation to spell out how this can be done without hurting other core services. Simply passing the buck and forcing those in charge of those services to “figure it out” or make the hard choices is not fiscally responsible.

## 3. Increase the Motor Vehicle Sales and Use Tax

If a consumer buys a television or tool shed the state sales tax is 4 percent. However, the tax on new or used cars it is only 3 percent. All bordering states except North Carolina, which has a 3 percent highway use tax in lieu of a sales tax, have higher motor vehicle sales or titling taxes.<sup>51</sup>

Virginia’s FY 2011 motor vehicle sales tax revenues, while starting to rebound, were still 83 percent or \$107 million below the historic FY 2005 high level. In fact they are below the FY 2002 level.<sup>52</sup> Part of the reason is the poor economy; another is that today’s cars last longer than in years past. As noted previously, the nation’s vehicle fleet averages about 10-years, a 33 percent increase over 25 years ago. Even when the economy rebounds, car owners are likely to keep their cars longer and thus sales taxes paid will be amortized over more years. This means that over the life of a vehicle the sales tax would be lower in the future than in the past. Nonetheless, a 1 percentage point increase in the Motor Vehicle Sales and Use Tax would generate about \$141.3 million next year (FY 2013) and \$172.2 million in FY 2016.<sup>53</sup>

## 4. Increase the Individual Income Tax

A proposal to increase the individual income tax would be the most likely to be dead on arrival in the Virginia General Assembly. That doesn’t mean

it lacks merit. All Virginians benefit from better transportation and a tax tied to income and dedicated to transportation would ensure that everyone helps pay for an improved statewide network. In a more perfect world, Virginia would overhaul and make its entire tax code less agrarian and more tied to our 21<sup>st</sup> century economy. One suspects that such reform would generate substantial new revenue without increasing taxes on most Virginians and in some cases might actually lower taxes.

Given that the political stomach is no doubt lacking to take on such an obviously needed reform, an alternative would be a moderate income tax surcharge. The surcharge could be calculated by multiplying the existing taxpayer income tax liability by a percentage. A 10 percent income tax surcharge would generate approximately \$1 billion annually. Not all Virginians pay income taxes. However, based on 3.6 million returns filed in 2008, the additional charge for the average taxpayer would be about \$250 per year<sup>54</sup> or cost on average \$1 per workday. Exempt those with adjusted gross incomes of \$40,000 or less and the proceeds would still be substantial. Also, the additional tax would be deductible on the federal form for taxpayers who itemize.

In other words, Virginia could have a far more robust state transportation construction program with a built in annual 5 to 6 percent growth factor—the growth of the income tax in normal times—for less than \$1 per day. After two decades of allowing Virginians to pay substantially less than their transportation system costs, such an approach is not unreasonable. While the political will may be lacking, the income tax is an example of the kind of growth and economic development oriented funding source needed to sustain Virginia's transportation program and, in turn, its economy.

### 5. Enact a Vehicle Miles Traveled (VMT) Tax

As new fuel efficiency standards increase and hybrid and other alternative fuel vehicles constitute a larger share of the vehicle fleet, charging people on the basis of vehicle miles traveled becomes more compelling. In effect, a VMT tax treats transportation as a utility. The more miles driven (just as in the more electricity, natural gas or water consumed) the larger the bill. Drive more, pay more. Drive less, pay less.

In its simplest application, odometers could be read and mileage data submitted as part of the routine annual vehicle inspection. However, odometer tampering concerns have resulted in suggestions that devices be installed on all the nation's cars and trucks. Such an approach would

be very expensive and time-consuming. Other concerns include the fact that low income and rural drivers are likely to bear a larger burden, and that different rates should be applied for different vehicle types and weights. The privacy issue and perception that government will be tracking people's every movement also will be a major hurdle.<sup>55</sup>

Given the number of motorists that travel into other states during the year and the complexity of distributing taxes among states, a VMT tax is far more likely to be employed and collected at the national as opposed to state level. However, one possible application at the state level would be to consider total mileage traveled within Virginia and other states as simply an add-on to the vehicle registration fee. Annual mileage ranges such as a 5,000 to 9,999, 10,000 to 14,999, 15,000 to 19,999, and 20,000 or more could be established. Even exempting the first 5,000 miles driven would generate significant new revenue. Motorists could choose to estimate their miles in advance and pay quarterly or semi-annual installments.

### Other Sustainable, Long-Term Options

The options listed above are just some of the choices available. Others include: applying the retail sales tax to gasoline sales and/or labor for auto repair services, increasing titling and vehicle registration fees, increasing the recordation tax and uninsured motorist fees.<sup>56</sup>

### Other Key Factors

Securing the new funding the state needs to be economically competitive in the 21<sup>st</sup> century requires ensuring Virginians that new funds will be well invested. Despite having the nation's third largest state operated highway network, Virginia has no well-defined performance-based priorities. The same is true of the Northern Virginia region, part of the Washington, D.C. metropolitan area that the Texas Transportation Institute has deemed the most congested in the nation. In 2010 the Washington, D.C. metropolitan area ranked first in yearly delay per auto commuter and first in congestion cost per commuter among the nation's 15 largest metropolitan areas.<sup>57</sup>

### Prioritization

Earlier this year Delegate Jim LeMunyon (R-Fairfax) introduced legislation requiring VDOT to evaluate Northern Virginia projects on the basis of congestion relief and homeland security benefits and requiring the Northern Virginia Transportation Authority to invest a significant portion of any future regional transportation funds to projects rated most highly for congestion

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and homeland security relief. Both bills passed the House of Delegates by wide margins only to be killed in Senate Committee by several Northern Virginia senators. The senators sided with local governments who said they did not want to have their hands tied by being forced to spend most transportation funds on reducing congestion. Yet the region has the nation's worst congestion and is a major homeland security target. Such action was not a public confidence builder. This legislation needs to be reintroduced and signed into law. New taxes and fees to better maintain and improve Virginia's transportation network are not the only elements needed for a solution. Further refinements, including changes in maintenance and construction procedures and prioritization are important. This all can be done concurrently. It's time to end the “we can't ask for more money until X is achieved” mentality. There is no chance the General Assembly will approve more funding than is needed; it is more likely to approve less.

#### **Cost of Not Investing More is Greater**

Much of the transportation debate is focused on how much maintaining and improving the network will cost. Too little is focused on the true cost of not making such additional investments. Time is money and is one commodity that once lost can never be regained. The single highest, most onerous transportation tax currently paid by Virginians is congestion cost.<sup>58</sup> The Texas Transportation Institute estimates that time lost in congestion costs Virginia Beach and the Hampton Road region \$693 million in 2010 or \$654 per car-commuting motorist.<sup>59</sup> In Northern Virginia and the metropolitan Washington, DC region, the estimates are \$3.8 billion and \$1,495 per commuting motorist.<sup>60</sup> If even a small fraction of these congestion costs were invested in transportation in reducing congestion and improving road maintenance the results would be dramatic.

#### **Transportation Investments Return a Profit**

Infrastructure funding is an investment in tangible, long-term resources, not the cost of an ephemeral service. In fact, a 2007 Federal Highway Administration report estimates that every \$1 spent on highway improvements results in \$5.20 savings in reduced vehicle maintenance costs, delays, fuel consumption and emissions as well as improved safety.<sup>61</sup> The VTRANS 2035 report (Virginia's long-range multi-modal transportation plan) notes that Virginia receives \$4 for every \$1 it invests in transportation.<sup>62</sup>

The Ballston/Rosslyn Corridor in Arlington has had particular success parlaying Metro investment into economic development. In 1970, the

corridor had 5.5 million square feet of office space; today, over 20 million, more than downtown Dallas, Pittsburgh, or Denver. Further, \$12.7 billion of the total \$27 billion in assessed land value in Arlington is in the Metro corridors, which is only on 11 percent of the land.<sup>63</sup>

No part of our society is more anti-tax than the business community. However, in 2009 and again this year, more than 20 Northern Virginia business organizations have signed a petition urging the governor and state legislators to adopt new, sustainable statewide and regional transportation funding because existing means are insufficient and the problem “... cannot be met without new, reliable revenues in the form of dedicated transportation taxes and fees.”<sup>64</sup>

Northern Virginia businesses realize that transportation congestion and the uncertainty it creates is costing them, their employees and customers far more in lost money, time, productivity and quality of life than any tax or fee increase. To continue to ignore this reality is to put a stranglehold on Northern Virginia's economy, one of the state's primary economic engines.

#### **Concluding Remarks: Straight Talk Time**

On October 5, 2011 Virginia Transportation Secretary Sean Connaughton told a Virginia State Chamber of Commerce meeting that absent new transportation funding, “By 2017, we will have no money left in (the state) construction (fund).”<sup>65</sup> In other words, Virginia's transportation program is in a death spiral. Knowing they faced a serious health problem or even death in five years or less without taking dramatic remedial action, how many people would chose to wait to do something? The governor and the General Assembly need to act now.

Ignorance can be blissful. The less the public or its elected officials know about or consider the facts documenting the problem, the more likely they are to dismiss it, believe it is simply a matter of “Richmond hoarding dollars,” a “bloated VDOT bureaucracy,” “waste and abuse,” or any number of other unsupported popular myths. However, the facts show otherwise.

It's time for some transportation straight-talk. It's time for Governor McDonnell and state legislative leaders to level with the people of Virginia as to the severity of the commonwealth's transportation funding crisis.

The Virginia Department of Transportation has been trimmed down and re-organized. Virtually 90 percent or more of projects are on time.<sup>66</sup> Audits have been completed. Bonds have been issued. The Virginia Infrastructure Bank



Traffic congestion on I-95 just south of the Capital Beltway. Photo by VDOT.

and the Office of Transportation Public-Private Partnerships have been established. Still, the reality remains—Virginia lacks the transportation funding resources to maintain the transportation network it has built and to build the transportation network it needs. The point here is not to suggest that Virginia transform itself from a low to a high tax state. However, given its wealth and strong competitive advantage, Virginia can afford to increase transportation-dedicated taxes to improve its surface transportation network and still retain its competitive edge.

There are no quick transportation fixes. Transportation projects of significance can take a decade or more. The longer Virginia procrastinates in securing new, sustainable transportation funds, the more precarious its economic competitive situation becomes and the more the most effective transportation solutions will cost. A greater sense of urgency is needed not only for today's economy, but also for our children and their future. If it was appropriate for our parents and past generations to sacrifice and invest a bit more to create the interstate highway network, a stronger economy and better world for us, why is it also not appropriate and necessary for today's generations to do the same? Better transportation benefits everyone and everyone needs to contribute more to the solution.

No one *wants* to pay higher taxes. Yet periodically, everyone is charged and pays more in local property taxes, and more in electric, natural gas, and cable television fees. That's what keeps the schools open, the lights on and ESPN going. Why should transportation be exempt from that standard? And yet for nearly a quarter century in Virginia it has been exempt.

Some organizations rate Virginia as the best state in which to do business. But the Secretary of Transportation's report card awards Virginia's transportation network grades of "C" for "maintenance and preservation" and "mobility, accessibility and connectivity" and an "F" for "economic vitality."<sup>67</sup> It's hard to imagine a state that awards its transportation system with such low grades being a good place to do business over the long term. In short, transportation wake-up calls surround us.

As a young attorney defending the British soldiers accused in the Boston Massacre, John Adams told the jury, "Facts are stubborn things; and whatever may be our wishes, our inclination, or the dictates of our passions, they cannot alter the state of facts and evidence."<sup>68</sup> The jury agreed and acquitted the British soldiers, because the facts outweighed the passions. The facts surrounding Virginia's transportation crisis are equally clear and compelling. It's time for Virginia and its leaders to face up to and act on them. Successful businesses, universities and other ventures understand that to be competitive they need to continue to invest in infrastructure. For too long, state elected officials have ignored this reality, have tried to sustain Virginia's transportation program on the cheap and get by until the next election (and the next and the next).

For Virginia to have the transportation network it needs, all Virginians must start paying their fair share. Fiscal responsibility is recognizing a fiscal crisis and addressing it in a responsible manner. There are no magic bullets, no pain-free solutions. But there are solutions. When he was attorney general, Governor McDonnell helped build a bipartisan coalition for transportation funding in 2007. He can and must do it again. By adopting a mix of broad-based funding options we can minimize the pain for all while improving transportation for all. It's time to act on the basis of the facts. It's time to invest more in Virginia's transportation network.

#### **ABOUT THE AUTHOR**

Bob Chase is president of the Northern Virginia Transportation Alliance, a business and citizens' coalition founded in 1987 to promote greater awareness of and involvement in regional transportation issues. Chase is a past chairman of the Citizens Advisory Committee of the National Capital Region Transportation Planning Board. He is a member of the policy advisory committees of the Fairfax County and Loudoun County chambers of commerce, the Transportation Committee of the Virginia State Chamber of Commerce, and the Steering Committee of Virginians

*"...given its wealth and strong competitive advantage, Virginia can afford to increase transportation-dedicated taxes to improve its surface transportation network and still retain its competitive edge."*

for Better Transportation. Chase also served as study team director of the 1997 Greater Washington Board of Trade Regional Transportation Study and the 1999 Hampton Roads Partnership's 1999 Regional Transportation Study. Prior to his association with the Alliance, Chase was a public policy, research and political consultant in Virginia and other states. He served as Director of Research for the Republican National Committee in 1972-73. Chase is a graduate of Brown University.

## Endnotes

Editors note: When available, web links for sources are shown. At the time of publication all of the links worked. However, some links may be unstable and may not work with certain browsers. If you cannot open a link in your default browser, then try another. For example, if you cannot open a link with Microsoft Internet Explorer, try Firefox, Chrome, or Safari.

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18 Grant Anticipation Revenue Vehicles (GARVEE) bonds are tax-exempt debt instrument financing mechanisms that are backed by annual federal appropriations for federal-aid transportation projects.

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