



# COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION  
1401 EAST BROAD STREET  
RICHMOND, VIRGINIA 23219 2000

Gregory A. Whirley  
Commissioner  
December 10, 2013

The Honorable Robert F. McDonnell  
Members of the General Assembly

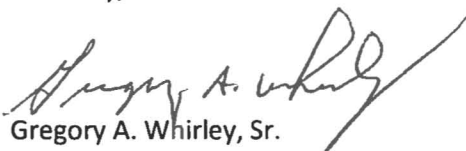
Dear Ladies and Gentlemen:

Section 33.1-13.03, added to the *Code of Virginia* by Chapters 36 and 152 of the 2011 Acts of Assembly, directs the Commissioner of Highways to submit an annual report to the Governor and General Assembly. The legislation specifically directs the Commissioner to report on the following:

- The condition and performance of the existing transportation infrastructure, using an asset management methodology and generally accepted engineering principles and business practices to identify and prioritize maintenance and operations needs and to identify performance standards to be used to determine those needs, and funding required to meet those needs;
- The Department's strategies for improving safety and security, increasing efficiency in agency programs and projects, and collaborating with the private sector and local government in the delivery of services;
- The operating and financial activities of the Department including but not limited to the construction and maintenance programs, transportation costs and revenue, and federal allocations; and
- Other such matters of importance to transportation in the Commonwealth.

To meet the requirements of the legislation, I am submitting the attached report which provides separate chapters on each of the topics mentioned above. If you have any questions or need additional information, please let me know.

Sincerely,



Gregory A. Whirley, Sr.

Attachment



# **ANNUAL REPORT**

**2013**

**Pursuant to:**

**Chapters 36 and 152 of the  
2011 Acts of Assembly of the Virginia General Assembly**

Virginia Department of Transportation  
1401 East Broad Street  
Richmond, Virginia 23219  
November 30, 2013

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# Executive Summary

Chapters 36 and 152 of the 2011 Acts of Assembly amended the *Code of Virginia* by adding § 33.1-13.03, which directs that by November 30 of each year the Commissioner of Highways is to deliver a report summarizing the condition and needs of the Commonwealth's highway system and the Virginia Department of Transportation's (VDOT's) strategies to improve safety and security, and increase efficiency in delivery of its programs. The statute also instructs the Commissioner to report on strategies for working with the private sector and local government in the delivery of services, and to report on the operating and financial activities of the Department. Finally, Virginia Code section 33.1-13.03 instructs the Commissioner to report on "other such matters of importance to transportation in the Commonwealth."

The 2013 VDOT Annual Report is published pursuant to section 33.1-13.03. The body of the Annual report is comprised of four chapters. Chapter I highlights the current condition and the FY 2015 - 2016 biennial needs of Virginia's highway system.

Chapter II summarizes VDOT's efforts to improve the safety of the motoring and non-motoring public. Chapter II also presents an overview of VDOT's security programs and protocols. This section is followed by an overview of VDOT's strategies to increase efficiency in delivery of its programs. VDOT's efforts in working with the private sector and local governments are presented in the two final sections of Chapter II.

Chapter III summarizes budget performance data on the operating and financial activities of VDOT for the reporting period FY 2013 (July 1, 2012 – June 30, 2013).

Chapter IV presents "Other Matters of Importance to Transportation in the Commonwealth." VDOT believes that agency activities, as they relate or contribute to multimodal systems warrant mention in this report, and Chapter IV summarizes VDOT's role in support of the development of effective multimodal systems. This includes participating in the update of VTrans 2035, the Commonwealth's statewide multimodal long-range transportation policy plan. The update was completed in February 2013. In the effort to take advantage of all available financial resources to aid in pursuit of the Commonwealth's transportation program, VDOT actively pursued and assisted other non-VDOT entities in pursuing federal competitive grant opportunities in FY 2013. A summary of those efforts and the results are also presented in Chapter IV.

The "Moving Ahead for Progress in the 21<sup>st</sup> Century Act" (MAP-21, P.L. 112-141) is the two year federal transportation program, enacted in July 2012, and effective on October 1, 2012. Since MAP-21's passage, the Federal Highway Administration (FHWA) has released several guidance documents, developed new rules and regulations and produced several webinar presentations designed to assist states, Metropolitan Planning Organizations and other affected parties in understanding the program. VDOT's Policy Division has tracked FHWA's efforts closely in order to assist any affected VDOT Division in implementing program and policy changes due to MAP-21. This effort included assisting in the development of proposals for needed changes in Virginia's highway laws and regulations. Changes to the Commonwealth's highway program based on MAP-21 are highlighted throughout this report, while the final

section of Chapter IV presents a summary comparison of the major elements of MAP-21 and the former federal program, the Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU).

**\*\*\* A Special Note Concerning House Bill 2313 \*\*\***  
**(Chapter 766 of the 2013 Acts of Assembly)**

During the 2013 General Assembly session, transportation funding was addressed in historical measure by House Bill 2313. The revenues generated by HB 2313 will breathe new life into Virginia's transportation program.

The major sources dedicated to transportation include:

- Motor Fuel Taxes
- Motor Vehicle Sales and Use Tax
- State Sales and Use Tax
- Motor Vehicle License Fees
- International Registration Plan
- Recordation Tax
- Auto Insurance Premiums dedicated to the Priority Transportation Fund

Of the revenue sources dedicated to transportation, the most significant change attributable to HB 2313 relates to taxes collected on the sale of fuel. Instead of collecting 17.5 cents per gallon on gasoline and diesel, a Motor Fuel Sales Tax is being collected at 3.5% on gasoline and 6% on diesel as of July 1, 2013. This revenue is distributed as follows: 80% to the HMOF, 15% to the TTF, 4% to the Priority Transportation Fund (PTF), and 1% for the Department of Motor Vehicles for administering collection.

Other sources of revenue were also altered by HB 2313 to provide for additional revenue, with new options designed to reduce reliance on fuel tax revenue over time. The Retail Sales and Use Tax was increased statewide by 0.3%, with the increase dedicated to transportation. The 0.3% increase is divided between the HMOF (0.175%) and intercity passenger rail and mass transit (0.125%). The bill also contains an incremental sales tax commitment of the existing sales tax to transportation from the current 0.5% to 0.675% over four years. These additional funds are dedicated to the HMOF. The legislation also increases the Motor Vehicle Sales and Use Tax from 3.0% to 4.0% effective July 1, 2013, with additional incremental increases through FY 2017 that will reach 4.15%. All of the revenue generated by this increase is dedicated to the HMOF. The HMOF will also receive all of the revenue generated by a \$64 registration fee for electric vehicles, hybrid electric vehicles and alternative fuel vehicles. Mechanisms are also put in place to dedicate a majority of revenue that may be generated after Congressional approval of the Marketplace Fairness Act to transportation.

HB 2313 also increased the state sales tax by an additional 0.7 percent in planning districts meeting specified criteria (currently Planning District 8 [Northern Virginia] and Planning District 23[Hampton Roads]); imposes a 2 percent Transient Occupancy Tax in planning districts meeting certain criteria (currently Northern Virginia Planning District); includes a regional

congestion relief fee of \$0.15/\$100 for real estate transactions (grantor’s tax) in planning districts meeting certain criteria (currently Northern Virginia Planning District); imposes a new 2.1% tax on wholesale fuels distributors in certain planning districts (currently Hampton Roads Planning District—the same tax is already imposed in the Northern Virginia planning district).

Table 1 below sets forth information relating to impacts of HB 2313 on Statewide Transportation Funding while Table 2 below sets forth information relating to VDOT anticipated revenues for the next six years, taking into consideration additional estimated revenues that will be generated by HB 2313. Table 3 reflects estimated regional/local revenues that will be generated by HB 2313.

### IMPACT OF HB 2313 ON TRANSPORTATION FUNDING

Revenue Source	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019*	6-Year Total
Eliminate 17.5 cents/gallon tax on motor fuel (gasoline and diesel)	\$ (871.1)	\$ (889.3)	\$ (907.4)	\$ (922.6)	\$ (938.2)	\$ (954.5)	\$ (5,483.1)
3.5% Sales and Use Tax on gasoline and 6% on diesel	626.3	723.0	749.6	778.5	804.7	831.8	4,513.9
1.6% increase in Sales and Use Tax on gasoline if Marketplace Equity Act (MEA) is not approved by January 1, 2015		89.6	220.5	225.5	229.2	233.0	997.8
<b>Net of Gas Tax Change</b>	<b>\$ (244.8)</b>	<b>\$ (76.7)</b>	<b>\$ 62.7</b>	<b>\$ 81.4</b>	<b>\$ 95.7</b>	<b>\$ 110.3</b>	<b>\$ 28.6</b>
0.3% Sales and Use Tax increase (5.3% total)	265.8	301.2	313.2	325.2	336.3	347.8	1,889.5
\$64 Alternative Fuel Vehicle Fee	6.5	7.3	8.3	9.6	10.9	12.4	55.0
Increase titling tax from 3% to 4.15%	184.0	213.7	228.0	246.3	246.5	246.7	1,365.2
<b>Net tax/fee increases</b>	<b>\$ 456.3</b>	<b>\$ 522.2</b>	<b>\$ 549.5</b>	<b>\$ 581.1</b>	<b>\$ 593.7</b>	<b>\$ 606.9</b>	<b>\$ 3,309.7</b>
<b>Total New Revenue</b>	<b>\$ 211.5</b>	<b>\$ 445.5</b>	<b>\$ 612.2</b>	<b>\$ 662.5</b>	<b>\$ 689.4</b>	<b>\$ 717.1</b>	<b>\$ 3,338.2</b>
Incremental Sales Tax Commitment Over 4 Years (0.5% to 0.675%) - No increased transfer after FY 2015 without MEA	49.0	101.7	105.6	109.6	113.3	117.1	596.2
<b>Additional Funding for Transportation</b>	<b>\$ 260.5</b>	<b>\$ 547.2</b>	<b>\$ 717.8</b>	<b>\$ 772.1</b>	<b>\$ 802.7</b>	<b>\$ 834.2</b>	<b>\$ 3,934.4</b>

\*Projected

TABLE 1

<b>Estimated VDOT Revenues*</b>							
	2014	2015	2016	2017	2018	2019	Total
<b>State Transportation Revenues</b>							
HMO	\$1,608.3	\$1,870.8	\$2,028.1	\$2,098.2	\$2,131.8	\$2,166.5	\$11,903.7
TTF net interest	740.7	767.3	807.8	836.5	857.6	879.4	4,889.3
PTF (From TTF)	156.0	169.5	183.1	190.7	199.7	209.1	1,108.1
Regional Transportation Funds	448.9	505.3	523.5	541.7	558.6	576.0	3,153.9
Local and Other Revenues	465.8	342.5	330.2	338.2	350.8	356.7	2,184.3
<b>Total</b>	<b>3,419.7</b>	<b>3,655.4</b>	<b>3,872.7</b>	<b>4,005.3</b>	<b>4,098.4</b>	<b>4,187.7</b>	<b>23,239.3</b>
<b>Federal Revenues</b>	<b>867.3</b>	<b>871.1</b>	<b>881.3</b>	<b>879.6</b>	<b>869.6</b>	<b>874.7</b>	<b>5,243.6</b>
<b>Total Revenues</b>	<b>4,287.0</b>	<b>4,526.5</b>	<b>4,754.1</b>	<b>4,884.8</b>	<b>4,968.1</b>	<b>5,062.4</b>	<b>28,482.9</b>
<b>Other Financing Sources</b>							
GARVEE Bonds	202.7	-	375.0	225.2	130.0	110.0	1,042.9
Capital Improvement Bonds	161.2	-	-	-	-	-	161.2
<b>Total</b>	<b>363.9</b>	<b>-</b>	<b>375.0</b>	<b>225.2</b>	<b>130.0</b>	<b>110.0</b>	<b>1,204.1</b>
<b>Total Revenues and Other Financing Sources</b>							
<b>Financing Sources</b>	<b>\$4,650.9</b>	<b>\$4,526.5</b>	<b>\$5,129.1</b>	<b>\$5,110.0</b>	<b>\$5,098.1</b>	<b>\$5,172.4</b>	<b>\$29,687.0</b>

\* Based on the FY 2014-2019 Six-Year Financial Plan, adjusted to reflect the final regional revenues provided by TAX.

**TABLE 2**

**HB 2313 REVENUES DEDICATED TO LOCAL AND REGIONAL ENTITIES (IN MILLIONS)**

<b>Northern Virginia Local Component</b>							
Revenue Source	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019*	6-Year Total
Northern Virginia 0.7% Local Sales Tax	\$ 214.1	\$ 242.6	\$ 252.3	\$ 261.9	\$ 270.8	\$ 280.0	\$ 1,521.7
Northern Virginia Grantors Tax (\$0.15/\$100)	33.5	33.5	33.5	33.5	33.5	33.5	201.0
Northern Virginia Transient Occupancy Tax 2%	24.9	28.2	29.1	30.1	31.2	32.4	175.7
<b>Total New Local Revenue NOVA</b>	<b>\$ 272.5</b>	<b>\$ 304.3</b>	<b>\$ 314.9</b>	<b>\$ 325.5</b>	<b>\$ 335.5</b>	<b>\$ 345.8</b>	<b>\$ 1,898.4</b>

<b>Hampton Roads Local Component</b>							
Revenue Source	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019*	6-Year Total
Hampton Roads 0.7% Local Sales Tax	\$ 114.3	\$ 129.6	\$ 134.8	\$ 139.9	\$ 144.7	\$ 149.7	\$ 813.0
Hampton Roads 2.1% Fuels Sales Tax	62.1	71.4	73.8	76.3	78.4	80.6	442.6
<b>Total New Local Revenue Hampton Roads</b>	<b>\$ 176.4</b>	<b>\$ 201.0</b>	<b>\$ 208.6</b>	<b>\$ 216.2</b>	<b>\$ 223.1</b>	<b>\$ 230.2</b>	<b>\$ 1,255.5</b>

\*Projected

Estimates updated after budget approved in June 2013.

**Table 3**

The Six-Year Improvement Program (SYIP) (2014 to 2019) addresses planned transportation projects for the upcoming six years. Table 4 sets out information relating to funding for the prior three SYIPs as well as the current SYIP and reflects the impact on the program of estimated statewide and regional funding provided by HB2313:

	Approved FY 2011- 2016 Program	Approved FY 2012- 2017 Program	Approved FY 2013- 2018 Program	Approved FY 2014- 2019 Program
Highway Construction	\$5.7 b	\$8.3 b	\$9.0 b	\$11.5 b
Rail & Public Transportation	\$2.1 b	\$2.3 b	\$2.4 b	\$2.9 b
Hampton Roads Trans Fund				\$1.3 b
Total Final SYIP	\$7.8 b	\$10.6 b	\$11.4 b	\$15.7 b
NOVA Transportation Fund				\$1.9 b
Total With Regional Funds		\$10.6 b	\$11.4 b	\$17.6 b

**Table 4**



# I.

## Condition and Performance of the Existing Transportation Infrastructure

Chapter I provides an update on the condition and performance of the Virginia Department of Transportation (VDOT) maintained portion of the Commonwealth's transportation infrastructure. The *Code of Virginia* § 33.1-13.03 instructs VDOT to report annually on the condition, performance, and the maintenance and operational needs of the existing transportation infrastructure. In accordance with the legislative requirement, and to be consistent with the two year perspective used in previous reports, this report presents needs for FY 2015-2016, which includes an update of the FY 2015 needs reported last year.<sup>1</sup>

The network of highways and roads maintained by VDOT is the third largest state maintained system in the United States. There are 126,769 lane miles of roadway and 19,356 bridges and large culverts. Section I.1 summarizes pavement condition, performance and targets. Section I.2 presents a summary of bridge condition, performance and targets.

Section I.3 summarizes the funding needed to reach pavement and bridge performance targets and the funding gap based on the sum of the preliminary estimates of the FY 2015-2016 maintenance and operations allocation and the estimated contribution to funding needs provided by projects in the Six-Year Improvement Program.

There are a wide range of essential transportation assets and services that must be maintained and improved for which performance targets are not established in the manner targets are set for pavements and bridges. Section I.3 also presents funding needs and the funding gap for those assets and services. These include but are not limited to 7 tunnels, 43 safety rest areas, 11 welcome centers, and 7 ferries in addition to assets such as sign assemblies, signalized intersections and thousands of other highway assets in the VDOT maintained network.

### *I.1 Pavement Condition and Performance Targets Summary*

#### **Pavement Condition and Performance**

Each year, 100 percent of the interstate and primary system mileage and approximately 20 percent of the secondary system mileage is inspected and rated using digital data collection equipment. This annual pavement inspection generally takes place in the late winter or early spring. The data collected are interpreted according to the methods detailed in the VDOT Distress Identification Manual and are aggregated and summarized to produce the critical condition index (CCI).

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<sup>1</sup> The last biennial report was prepared in November, 2012.

As shown below in Figure 1(A), CCI values are grouped into five ranges corresponding to pavement condition categories: excellent, good, fair, poor and very poor. In general, pavement sections with a CCI value below 60 (poor and very poor) are considered ‘deficient’ and should be further evaluated for maintenance and rehabilitation activities. Pavement sections with a CCI value of at least 60 (fair or better) are considered ‘sufficient’.

**Figure 1(A) Pavement Condition Category Based on CCI**

Pavement Condition	Index Scale (CCI)
Excellent	90 and above
Good	70-89
Fair	60-69
Poor	50-59
Very Poor	49 and below

Pavement roughness is generally defined as the aggregation of irregularities in the pavement surface, per linear mile, that adversely affect the ride quality of a vehicle (and thus the user). Figure 1(B) shows the qualitative categories for pavement ride quality corresponding to quantitative International Roughness Index (IRI) values.

**Figure 1(B) Pavement Ride Quality Based on IRI**

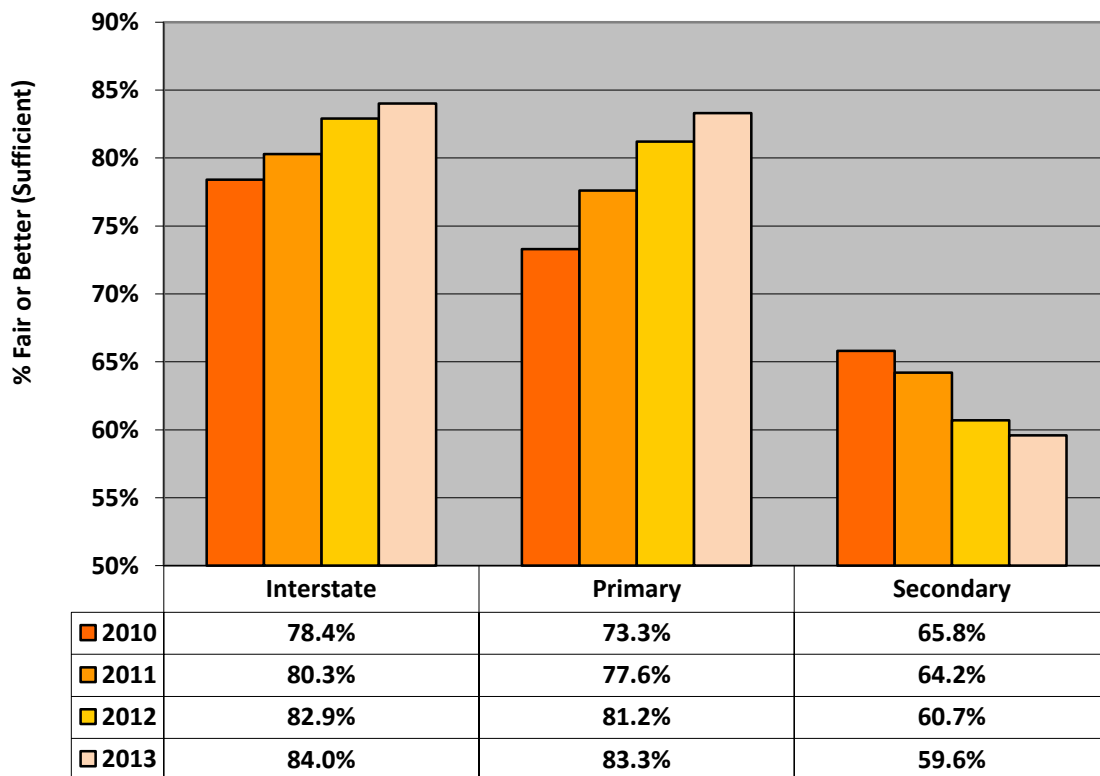
Ride Quality	IRI Rating (inch/mile)	
	Interstate & Primary	Secondary Roads
Excellent	< 60	< 95
Good	60 to 99	95 to 169
Fair	100 to 139	170 to 219
Poor	140 to 199	220 to 279
Very Poor	≥ 200	≥ 280

Ranges of IRI that correspond to qualitative descriptors of ride quality were built upon similar categories promulgated by the Federal Highway Administration and incorporated opinions from VDOT pavement experts regarding what thresholds represent acceptable roughness levels on Virginia highways. Interstate and primary pavement sections with an average IRI of 140 or more are considered ‘deficient’ in terms of ride quality. While roughness (as measured by the IRI rating) and the resulting ride quality are monitored because they not only affect the user’s experience but also are relatable to vehicle delay costs, fuel consumption and maintenance costs, the CTB has not adopted ride quality targets for the interstate, primary or secondary systems, and thus, ride quality is not utilized in establishing pavement condition needs. Additional detail concerning IRI ratings and ride quality of the interstate, primary and secondary systems, including informal ride quality targets for the interstate and primary systems can be found in State of the Pavement Reports published by VDOT at the following link:

[http://www.virginiadot.org/info/state\\_of\\_the\\_pavement.asp](http://www.virginiadot.org/info/state_of_the_pavement.asp). VDOT has not established informal ride quality targets for the secondary system because ride quality on many secondary roads either cannot be measured or cannot be measured accurately.

Figure 2 displays the statewide percent of lane miles with sufficient (fair or better CCI) pavement condition for the interstate, primary and secondary systems. Pavement conditions have improved slightly from 82.9 percent of interstate and 81.2 percent of primary system pavements in fair or better condition in 2012, to 84.0 percent of interstate and 83.3 percent of primary system pavements in fair or better condition in 2013. Secondary system pavement conditions deteriorated from 60.7 percent in fair or better condition in 2012 to 59.6 percent in 2013. The deterioration in secondary pavement conditions was due primarily to an agency focus on interstate and primary system paving over the last three years. In order to improve the conditions on the interstate and primary systems, allocations were increased to those systems. In FY 2014, the agency is focusing more on secondary pavements. This is expected to continue into FY 2015 and FY 2016.

**Figure 2 Statewide Percent Sufficient Pavements by System**



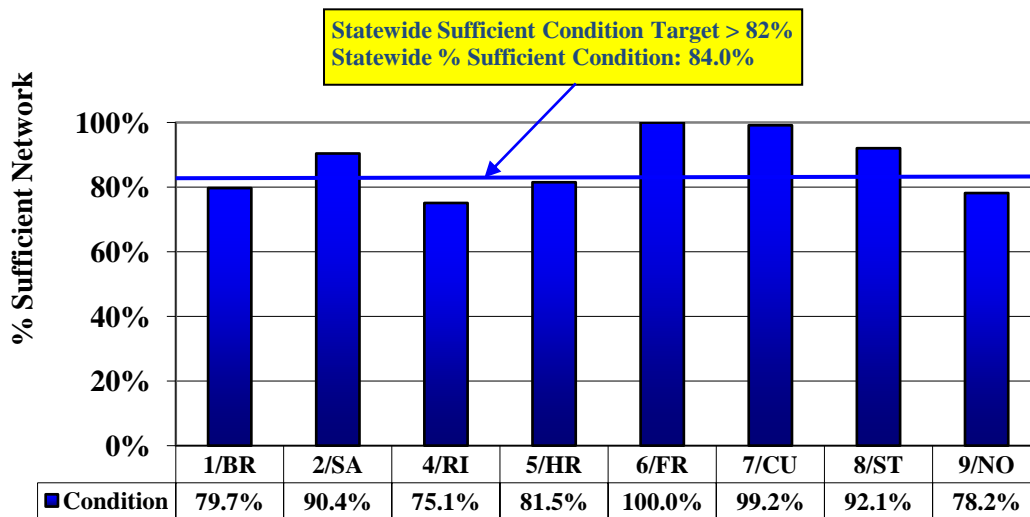
Note: Funding has been raised on the secondary system but secondary performance may still deteriorate for one more year before improvements are realized.

While Figure 2 summarizes statewide pavement condition, Figures 3 through 5 show the FY 2013 percent of lane miles with sufficient pavement condition for the interstate, primary and secondary systems by district. As an example, reading Figure 3 from left to right, the first blue

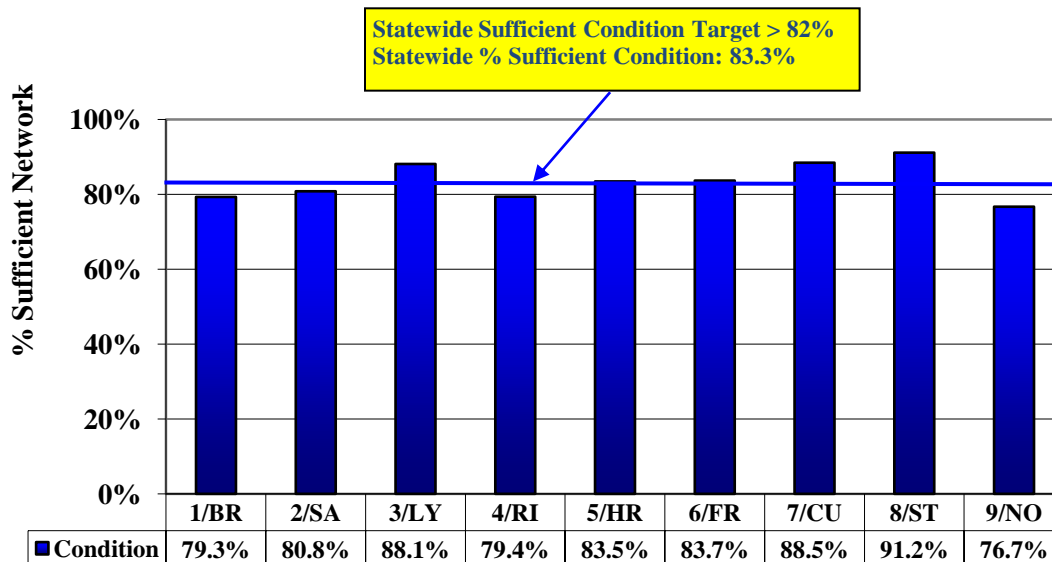
bar displays District 1/Bristol District's percent of interstate roadway with sufficient pavement condition, 79.7 percent. The second bar displays percent sufficient pavement condition for District 2/ Salem District, and, so on. (Note: District 3, Lynchburg, does not maintain any interstate roads.)

The horizontal blue lines in Figures 3 through 5 represent the statewide sufficient pavement condition target.

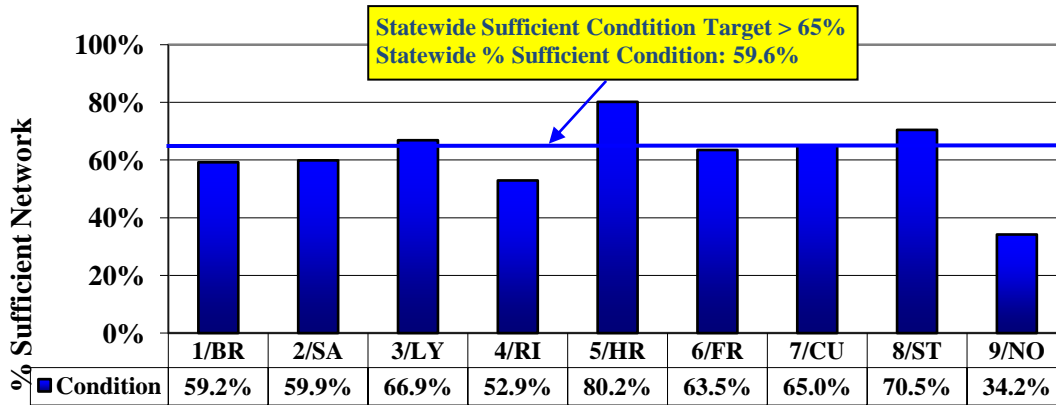
**Figure 3 Percent Sufficient by District – Interstate System**



**Figure 4 Percent Sufficient by District - Primary System**



**Figure 5 Percent Sufficient by District - Secondary System**



### Pavement Performance Targets

The CTB has adopted three performance measures for pavements. The performance goals are:

- a. 82% of all interstate pavements shall be in sufficient (fair or better) condition.
- b. 82% of all primary pavements shall be in sufficient (fair or better) condition.
- c. 65% of all secondary pavements shall be in sufficient (fair or better) condition.

The following may bring further clarity to the pavement performance targets:

- a. Interstate and primary pavement goal of 82% - Currently, an average of all interstate and primary roads meet the 82% target statewide. However, within some districts interstate and primary roads do not meet the performance target. VDOT predicts that interstate and primary roads in districts will meet the performance target by the end of FY 2015.
- b. While in some districts interstate and primary roads may have exceeded the 82% target, VDOT strives to maintain that level and not lose ground by diverting resources to other areas that have not met the target. This requires a delicate balancing of resources.

The information summarized in Figure 2 shows that while statewide pavement performance targets have been met on the interstate and the primary systems, they are well below the target on the secondary system.

The next pavement condition assessment (scheduled for early 2014) is expected to show that interstate and primary pavement conditions will remain at or above 82 percent in fair or better condition. It is expected that the secondary system target of 65 percent will not be achieved until the 2019 rating.

## *1.2 Bridge Condition and Performance Targets Summary*

### **Bridge Condition and Performance**

VDOT is responsible for the inventory and inspection of 20,997 structures (bridges and large culverts<sup>2</sup>) across all of the Commonwealth’s roadway systems shown in Figure 6. VDOT is responsible for the maintenance of 19,356 of these structures, while localities and private owners (Non-VDOT) maintain the other 1,641. Statewide there are 13,392 structures that are part of the national bridge inventory, the vast majority of which are maintained by VDOT. In FY 2013, nine structures (net) were added to the inventory. VDOT inspects over 10,000 structures annually at a cost of approximately \$21 million.

VDOT inspects bridges and large culverts according to the requirements of the Federal Highway Administration, using the national bridge inspection standards as well as VDOT policies and procedures. The national bridge inspection standard rating system uses a scale from 0 to 9 to characterize the condition of the major structural components of bridges and large culverts, which include the deck,<sup>3</sup> superstructure,<sup>4</sup> and substructure.<sup>5</sup> On this scale “0” is a failed condition and “9” represents excellent condition. In order to simplify analysis and discussion with such a large inventory, VDOT has adopted the convention of describing conditions of bridges and culverts by their lowest General Condition Rating. If any of these components receives a rating of four or less, the structure is said to be structurally deficient. A structure with a minimum rating of five or higher is said to be in fair or better condition.

**Figure 6 Distribution of Bridges and Large Culverts (VDOT and Non-VDOT)**

DISTRICT	Number of Structures (Bridges and Culverts)				
	Interstate	Primary	Secondary	Urban	Total
Bristol	216	952	2,044	223	3,435
Salem	217	800	1,933	113	3,063
Lynchburg	0	663	1,392	59	2,114
Richmond	511	799	1,127	161	2,598
Hampton Roads	459	456	515	262	1,692
Fredericksburg	79	252	473	8	812
Culpeper	122	496	1,052	24	1,694
Staunton	429	824	2,135	109	3,497
NOVA	367	511	1,132	82	2,092
<b>Grand Total</b>	<b>2,400</b>	<b>5,753</b>	<b>11,803</b>	<b>1,041</b>	<b>20,997</b>

Figure 7 presents the recent trend in the percentage of structures (bridges and large culverts) that are rated in fair or better condition. At the end of FY 2013, of the 19,356 VDOT-maintained structures, 18,019 (93.1%) were rated in fair or better condition, which is a 0.5 percent improvement from the beginning of the fiscal year, while 1,337 were rated structurally deficient.

<sup>2</sup> Culverts with openings  $\geq 36\text{ft}^2$

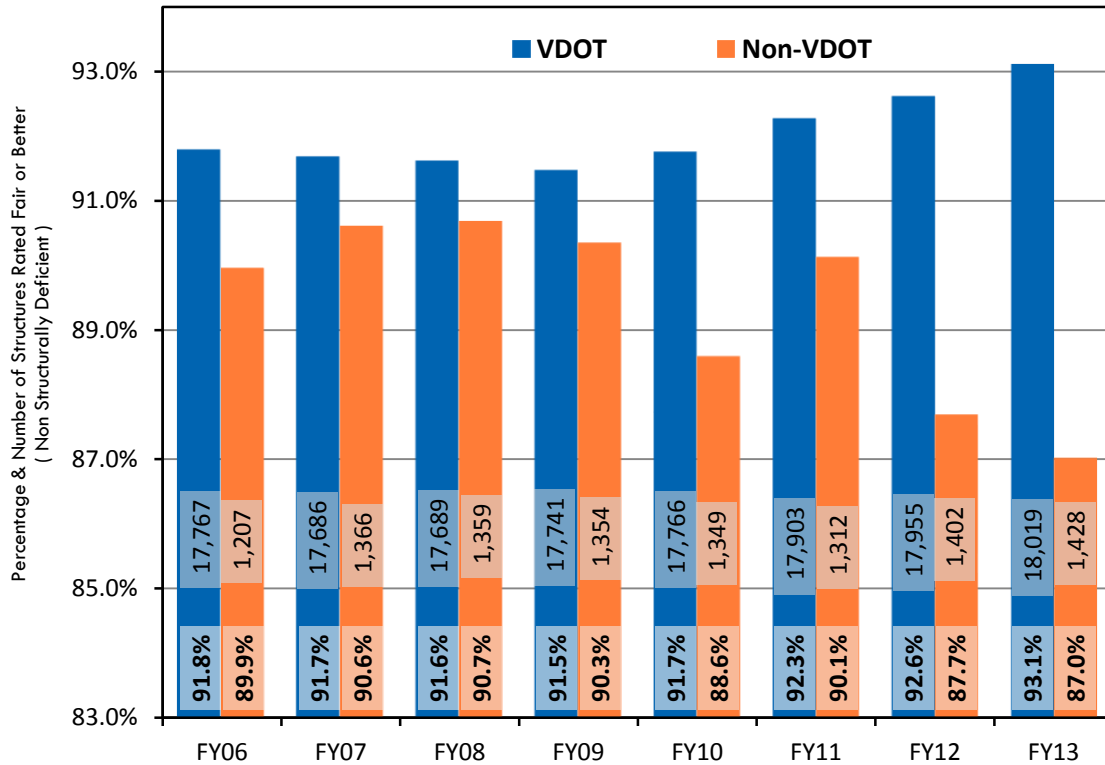
<sup>3</sup> A bridge deck is the roadway portion of a bridge, including shoulders, usually composed of a concrete slab.

<sup>4</sup> For the purposes of General Condition Ratings, a bridge superstructure constitutes the primary load-carrying members supporting the deck and is usually comprised of beams or girders.

<sup>5</sup> A bridge substructure includes the foundation and supporting abutment, columns and piers.

Figure 7 also displays trends for structures maintained by entities other than VDOT. The national average of structures in fair or better condition in the national bridge inventory is 89 percent. The national bridge inventory only includes bridges and large culverts with a length of 20 feet or greater.

**Figure 7 Statewide Percentage of Virginia Structures Rated Fair or Better**  
(Not Structurally Deficient)



Note:

1. The Federal Highway Administration measures bridge performance based on square footage of deck area rather than number of structurally deficient structures. VDOT reports bridge performance primarily based on number of structures in fair or better condition but is also monitoring square footage deck area in fair or better condition. For the past two years, the percentages of VDOT maintained structure deck areas in fair or better condition have been improving.
2. In FY12, 44 structurally deficient structures were added to the Non-VDOT maintained inventory in Buchanan County, resulting in a decrease of 2.4% of structures rated fair or better.

By system, the condition of the VDOT maintained bridges and culverts at the end of FY 2013 is as follows:

- Interstate - 97.5 percent in fair or better condition (not structurally deficient)
- Primary - 95.3 percent in fair or better condition (not structurally deficient)
- Secondary - 91.2 percent in fair or better condition (not structurally deficient)

Figure 8 shows the change in number of structurally deficient structures from FY 2012 to FY 2013 by district.

**Figure 8 Change in number of Structurally Deficient Structures from FY 2012 to FY 2013**  
(VDOT and Non-VDOT)

DISTRICT	Structurally Deficient		
	End of FY2012	End of FY2013	Change
Bristol	363	346	-4.7%
Salem	332	282	-15.1%
Lynchburg	122	126	3.3%
Richmond	239	241	0.8%
Hampton Roads	89	88	-1.1%
Fredericksburg	71	80	12.7%
Culpeper	119	125	5.0%
Staunton	240	212	-11.7%
NOVA	57	50	-12.3%
<b>Statewide</b>	<b>1,632</b>	<b>1,550</b>	<b>-5.0%</b>

### Bridge Performance Targets

The agency’s performance measure and target for bridges and large culverts is for 92 percent of these structures to be in fair or better condition (not structurally deficient). The term “structurally deficient” has been widely adopted in the bridge community and has a very specific, technical definition. The vast majority of structurally deficient structures are so designated because one or more of their components have received a General Condition Rating of four or less, but a bridge with higher General Condition Ratings can also be classified as structurally deficient if its load-carrying capacity is significantly below current design standards or if a waterway frequently overtops the bridge during floods.

The statewide performance target of 92 percent of bridges and large culverts in fair or better condition is based on sub-targets of 97 percent of the interstate structures, 94 percent of the primary structures and 89 percent of the secondary structures.

An assessment of ongoing work scheduled to be completed by the end of FY 2014 indicates bridges should maintain the performance target of 92 percent in fair or better condition through the end of FY 2014. The extent to which bridge projects are identified and funded will be the primary factor in determining whether VDOT is able to maintain this target in the coming years.

The bridge assessment also incorporates measures designed to address the structures in fair condition that will deteriorate and become structurally deficient. As of the end of FY 2013 there were 4,577 of these fair structures in the VDOT maintained inventory. These measures include provisions for replacement of expansion joint seals on bridges with leaking joints, annual improvement of six percent of fair structures and two percent of good structures, and performance of preventive maintenance on structures with a General Condition Rating equal to seven or greater. This two-tiered maintenance approach avoids a “worst first” philosophy and instead emphasizes a balanced maintenance approach focused on maintaining the quality of the bridge and culvert inventory over time. This is a more cost-effective method because spending funds to perform preventative maintenance extends the asset’s life at a much lower cost than allowing the asset to fall into disrepair.



### *1.3 Summary of Funding Needs and Projected Funding Gaps*

This section summarizes funding needed over the next two fiscal years (FY 2015–2016) to maintain and operate the existing transportation infrastructure as well as overall funding needed over the next two fiscal years to meet statewide performance targets. Summaries are provided for all categories of maintenance and operations (M&O) on the existing infrastructure.

This section also presents needs for pavement, bridge, tunnel, and ITS major reconstruction /rehabilitation /enhancement (Major Reconstruction). Major Reconstruction is generally funded using construction program allocations in the Six-Year Improvement Program (SYIP). However, Major Reconstruction needs are addressed by both the construction and maintenance programs. The source of funds for reconstruction is largely driven by the availability of state maintenance resources, state construction resources and federal resources.

Figure 9 presents the FY 2015-2016 needs for the existing VDOT maintained infrastructure. The column titled “FY 15-16 M&O Needs” presents M&O needs. The column titled “FY 15-16 Reconstruction/ Rehabilitation/ Enhancement Needs” presents Major Reconstruction needs.

Across all categories, the statewide total needs sum to \$5.731 billion, which include \$4.171 billion in maintenance and operations needs and \$1.560 billion in pavement, bridge, tunnel, and ITS major reconstruction needs.

The maintenance program is estimated to allocate \$3.061 billion over FY 2015–2016 to VDOT’s maintenance and operations program. This is \$1.110 billion less than the \$4.171 billion for ordinary, preventive, corrective, and restorative maintenance and operations needed to meet performance targets and continue providing operations services at current levels.

Overall, after accounting for both the maintenance and operations program allocation and benefits of the construction program to maintenance and operations needs, there is a funding gap of \$1.974 billion (34 percent) to meet all performance targets and service goals for FY 2015 and 2016.

**Figure 9 FY 2015 and 2016 VDOT Needs For Existing Infrastructure by Category**

(Dollars Millions)

		FY 15-16 M&O Needs <sup>1</sup>	Preliminary Proposed FY15-16 M&O Allocation	Difference between FY15-16 M&O Preliminary Proposed Allocation and Need	FY 15-16 Reconstruction / Rehabilitation/ Enhancement Need <sup>2</sup>	FY 15-16 Contribution of SYIP to M&O Needs <sup>3</sup>	Difference Between FY15-16 Reconst/Rehab SYIP Contribution and Need
Roads <sup>4</sup>	Interstate	\$ 185	\$ 58	\$ (127)	\$ 292	\$ 335	\$ 43
	Primary	382	249	(133)	11	125	115
	Secondary	697	547	(150)	-	11	11
	<b>Sub-Total</b>	<b>1,263</b>	<b>854</b>	<b>(409)</b>	<b>302</b>	<b>471</b>	<b>169</b>
Bridges	Interstate	160	155	(5)	484	28	(456)
	Primary	137	131	(6)	552	128	(424)
	Secondary	112	103	(9)	165	43	(122)
	Operations	11	-	(11)	-	-	-
<b>Sub-Total</b>	<b>420</b>	<b>389</b>	<b>(31)</b>	<b>1,201</b>	<b>200</b>	<b>(1,001)</b>	
Tunnels	90	82	(8)	50	19	(35)	
Traffic and Safety	925	557	(368)	-	-	-	
Emergency and Incident Management	625	500	(125)	7	6	(1)	
Roadside	460	339	(121)	-	-	-	
Facility and Other	387	339	(48)	-	-	-	
<b>Grand Total</b>		<b>\$ 4,171</b>	<b>\$ 3,061</b>	<b>\$ (1,110)</b>	<b>\$ 1,560</b>	<b>\$ 696</b>	<b>\$ (864)</b>

Totals may not match sum of parts due to rounding.

<sup>1</sup> M&O Needs include ordinary, preventative, corrective, and restorative maintenance activities.

<sup>2</sup> Reconstruction/Rehabilitation/Enhancement needs include major rehabilitation and reconstruction activities for pavements, bridges and tunnels as well as corridor wide installation of intelligent transportation system assets.

<sup>3</sup> The contribution of projects in the SYIP to pavement and bridge reconstruction/ rehabilitation needs is estimated. The reported \$471million SYIP contribution to Roads include \$300 million funding allocated by CTB to reconstruct deteriorated interstate and primary system pavement determined to have a CCI of less than 60 pursuant to Code of Virginia §33.1-23.1 (B).<sup>4</sup> "Roads" includes hard surface pavements, un-paved roads, paved and unpaved shoulders, bike lanes, and rumble strips.

The discussion that follows presents more detail on the main categories summarized in Figure 9.

## Pavement Needs and Projected Funding Gaps

Total FY 2015-2016 pavement needs sum to \$1.566 billion, an increase of 217 million (16 percent) when compared to the FY 2014-2015 needs. The increase is due to the continued deterioration of the secondary system and a change in interstate and primary performance goals.

In addition to statewide achievement of pavement performance targets, those goals now focus on individual districts reaching the performance targets for the interstate and primary roads. Pavement performance has improved on the interstate and primary systems, and, starting in 2012, VDOT revised its assessment procedure to include interstate and primary ramps, which had previously been excluded from the assessment.

By system, total interstate and secondary pavement needs have increased by \$241 million (103 percent) and \$33 million (5 percent), respectively, while primary system pavement needs have decreased by \$57 million (13 percent).

Currently, maintenance program is estimated to allocate \$854 million over FY 2015-2016 to the pavement maintenance program. This leaves a gap of \$409 million in maintenance funding to maintain existing paving assets. The SYIP includes projects with construction allocation that will address approximately \$171 million in pavement reconstruction needs and \$300 million to be allocated to the maintenance program to address paving needs. Overall, there is a gap of \$241 million in the maintenance program and SYIP funding needed to reach and maintain pavement performance targets.

## **Bridge Needs and Projected Funding Gaps**

Bridge needs are calculated with a goal of meeting or exceeding the established performance targets. Total FY 2015-2016 bridge needs sum to \$1.621 billion, a \$518 million (47 percent) increase when compared to FY 2014-2015 bridge needs. The increase in needs is due to several factors, including an increase in unit costs as result of a more rigorous bridge job cost estimation based on a broader sample of cost data as well as a market price increase, an increase in the number of fair structures that are susceptible to becoming structurally deficient, and an emphasis on a system-preservation approach that proactively addresses all structures.

Bridge M&O needs across all road systems sum to \$420 million, an increase of \$7 million (2 percent). Major Reconstruction needs sum to \$1.201 billion, an increase of \$510 million (74 percent) when compared to the FY 2014-2015 needs.

By road system, total interstate, primary, and secondary bridge needs increased \$268 million (71 percent), \$186 million (37 percent), and \$57 million (26 percent), respectively.

VDOT is currently assessing the needs and strategies to address the maintenance and replacement schedules for major infrastructure assets, which may lead to considerable investment needs. The financial impacts from the identified needs will be reported in future needs reports.

Currently, maintenance program is estimated to allocate \$389 million over FY 2015 – 2016 to the bridge maintenance and operations program. This leaves a gap of \$31 million in maintenance funding to maintain and operate existing bridge and structure assets. The SYIP includes projects with construction allocation that will address approximately \$200 million in existing bridge major reconstruction needs. However, there is a gap of \$1.001 billion in bridge reconstruction in the SYIP needed to reach and maintain bridge performance targets.

## **Tunnel Needs**

Total FY 2015-2016 tunnel needs sum to \$140 million, which is a \$20 million (16 percent) increase when compared to needs reported for FY 2014–2015. The increase is mainly due to project needs identified through a tunnel baseline assessment and risk analysis recommended by the Statewide Tunnels Oversight Committee.<sup>6</sup> In addition, the needs include funds needed to comply with federal and state fire, life and health safety standards.

Tunnel M&O needs sum to \$90 million, a \$29 million (47 percent) increase. The increase is due to additional maintenance repair projects for the tunnels and augmentation for fire prevention measures and to support fire safety. Major Reconstruction needs total \$50 million, a \$9 million (15 percent) decrease.

Examples of tunnel projects include ventilation upgrades, improvements in fire detection and suppression, and replacement of switchgear, generators and controls. These needs also include a training drills program to respond to potential risks. In many cases, these projects span multiple years.

## **Traffic and Safety Needs**

Total needs for traffic and safety assets sum to \$925 million, an increase of \$79 million (9 percent) when compared to FY 2014-2015 needs. This category includes signs, signals, guardrail, pavement marking and lighting.

- Guardrail needs increased by \$22 million (11 percent).
- Pavement marking/markers/message needs increased by \$13 million (7 percent).
- Lighting needs increased by \$16 million (38 percent).
- Traffic and safety service needs increased by \$26 million (38 percent).
- Signal and sign needs remain relatively stable compared with FY 2014 – 2015 needs.

The increases in signal, guardrail and marking needs are primarily due to the inclusion of additional factors such as detector loop replacement, guardrail upgrades and marking replacement to account for the impacts of pavement resurfacing on these assets.

The increase in lighting needs is explained by additional structural repair needs recommended by ancillary inspections of the light poles and an increase in lighting inventory, primarily in the Northern Virginia District with the acceptance of the Woodrow Wilson Bridge project.

The increase in traffic and safety service needs is primarily due to additional engineering and safety inspection services required to support increased activities in project development, construction and paving program areas relating to maintenance of traffic plans, work zone inspection, and paving program traffic devices safety field assessments. In addition, a significant portion of the increase is due to increased frequencies of inspection of ancillary traffic structures.

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<sup>6</sup> Composed of members from VDOT's senior management team, the Statewide Tunnels Oversight Committee provides organizational direction, decision-making, guidance and support for the unique needs and challenges of the tunnel facilities owned and operated by VDOT.

A small percentage of the increase in traffic and safety needs is associated with an improvement in secondary system inventory data.

## **Emergency and Incident Management Needs**

Funds needed to provide emergency and incident management services total \$632 million, an increase of \$106 million (20 percent) when compared to the FY 2014-2015 needs. These needs include incident response, snow and ice removal, traffic operations centers, safety service patrols, and maintenance of technology assets.

- Funds needed for incident response management increased by \$7 million (49 percent), primarily driven by the increase in disaster support needs.
- Snow and ice removal needs increased by \$29 million (9 percent). Snow and ice removal needs now include statewide implementation of automatic vehicle location/global positioning system equipment.
- Operations and transportation technology needs increased by \$70 million (37 percent). This category includes maintenance, operations and improvement needs for assets and services such as the transportation operations centers, safety service patrols, traffic cameras, and overhead and portable message signs.

## **Roadside Needs**

Funds needed to provide roadside services needs total \$460 million, an increase of \$69 million (18 percent) when compared to FY 2014-2015 needs. This category includes drainage management, vegetation management, and sound barrier management.

- Drainage management needs increased by \$63 million (28 percent).
- Vegetation management needs increased by \$5 million (3 percent).
- Sound barrier needs increased by \$0.2 million (4 percent).

The increase in drainage and sound wall needs is the result of an update in inventory, indicating more drainage assets and sound walls on the secondary system than previously recorded. The increase in vegetation management needs is due primarily to an increase in tree removal needs where tree failure is imminent and risk of damage is high.

## **Facility and Other Needs**

Funds needed to provide facility and other services sum to \$387 million, a decrease of \$75 million (16 percent) when compared to FY 2014-2015 needs. This category includes equipment management, ferry management, rest area and wayside management, sidewalk and trail management, permitting, and management and direction.

- Equipment replacement needs decreased by \$88 million (56 percent) due to several factors including an improved assessment approach to account for depreciation, a reduction in the average unit cost, increased funding for equipment purchase in the FY

2013–FY 2014 biennium, and increased fees collected from VDOT equipment users to pay for equipment replacement.

- Management and direction needs increased \$12 million (7 percent), primarily due to an increase in training needs and improved reporting of management and direction needs in VDOT’s Operations Regions.
- Safety rest area and waysides management needs decreased by \$9 million (15 percent) due to a reduction in facility project needs.
- Ferry needs increased by \$11 million (43 percent) due to an increase in ferry operations and the replacement of drive engines on the Pocahontas, one of the vessels in the Jamestown-Scotland ferry service.
- Sidewalk and trail management needs increased by \$3 million (54 percent) due to an increase in inventory based on updated secondary roads inventory.
- Permitting needs increased by \$1 million (3 percent) due to an increase in the cost of providing permitting services. (Permitting needs are based on historic expenditures.)
- Miscellaneous Facility and Other needs decreased by \$5 million (28 percent), mainly due to a reduction in data collection needs.

## **Maintenance Payments to Localities**

Maintenance payments to localities for FY 2013 totaled \$380 million. The *Code of Virginia* § 33.1-41.1 establishes the method to be used to compute these payments, which are allocated on a per lane mile amount, based on the number of eligible miles in each locality. In FY 2014, the total allocation for these payments is \$397 million. Maintenance payments to localities are projected to be \$409 million in FY 2015 and \$421 million in FY 2016. The assessment conducted for this report does not include needs for locally maintained roads.

### Overweight Permit Fee Revenue

Sections 46.2-1140.1, 46.2-1143, 46.2-1148, and 46.2-1149.1 of the *Code of Virginia* (1950), as amended in 2012, provide that a percentage of collected overweight permit fees are to be paid to localities based on the lane miles in the locality eligible for maintenance payments. The revenue will be distributed to the localities in their quarterly maintenance payment. A summary showing the fees distributed to the urban localities can be found at:

[http://www.ctb.virginia.gov/resources/2013/june/reso2/Attachment C Agenda Item 7 Permit Revenue.pdf](http://www.ctb.virginia.gov/resources/2013/june/reso2/Attachment_C_Agenda_Item_7_Permit_Revenue.pdf).

A summary showing the fees distributed to Arlington and Henrico Counties can be found at:

[http://www.ctb.virginia.gov/resources/2013/june/reso2/Attachment B Agenda Item 8 Permit Revenue.pdf](http://www.ctb.virginia.gov/resources/2013/june/reso2/Attachment_B_Agenda_Item_8_Permit_Revenue.pdf).

## **Summary**

Funding needed over the next two fiscal years (FY 2015-2016) to maintain and operate the existing transportation infrastructure (excluding SYIP needs) is \$4.171 billion. This is a \$381 million (10 percent) increase from the level reported for FY 2014–2015. The increase is in part due to continued deterioration of secondary pavements, implementation of emergency response teams at the mountain tunnels, project needs recommended by the Statewide Tunnels Oversight

Committee, and improved reporting of needs for the Transportation Operations Centers and 511 Virginia program.

Overall funding needed over the next two fiscal years to meet statewide performance targets, cover all categories of maintenance and operations on the existing infrastructure, and fund pavement, bridge and tunnel Major Reconstruction, is \$5.731 billion. This is \$933 million (19 percent) more than the total needed funding reported for FY 2014-2015. The majority of the increase is for pavements and bridges and is primarily due to a shift in performance goals focusing on individual districts achieving performance targets. Priority is now given to important bridges and structures requiring major work.

The overall funding need of \$5.731 billion is 34 percent (\$1.974 billion) more than the combined anticipated funding from VDOT's maintenance and operations program and the construction program for FY 2015 and FY 2016. The gap in maintenance and operations program funding is \$1.110 billion, and the gap in construction program funding is \$864 million.

## II. Safety, Security, Increasing Efficiency, and Collaborating with the Private Sector and Local Government

Safety continues to be VDOT's number one priority when implementing the Commonwealth's transportation program. The first section of Chapter II summarizes VDOT's efforts to provide a safe transportation system. Pursuant to the number one goal (Safety and Security) in VDOT's FY14-FY15 Business Plan, several Action Items were developed to improve the quality and accessibility of crash data and to prioritize projects designed to reduce crashes and deaths. These Action Items will improve VDOT's ability to utilize the latest in data driven analysis and benefit-cost project evaluation techniques. For bike and pedestrian travelers, however, accident incident data do not generally meet the needed thresholds to be recognized by the more data driven techniques, yet bike and pedestrian safety issues are no less important. To overcome the bias in the analysis techniques, VDOT has developed protocols and programs to ensure that bike and pedestrian safety issues are addressed effectively. Section II.1 presents a summary of VDOT's efforts implementing the Safety and Security Goal Action Items. VDOT's bike and pedestrian safety programs are also discussed in this section

Implementing a comprehensive strategy to protect against a wide range of natural disasters and constantly evolving man-made security threats requires constant review and training. Section II.2 of this chapter presents an overview of the Transportation Critical Infrastructure program area. This is the VDOT programming area responsible for developing and implementing policies and procedures to ensure the security of its personnel and the Commonwealth's transportation assets. For obvious reasons, there are restrictions on what can be reported in a public document, but the security section in this report provides an overview of the diverse range of VDOT security programs, protocols and projects.

Section II.3 presents an overview of VDOT's strategies to increase efficiency in delivery of its programs.

VDOT spent \$2.72 billion with private sector vendors in FY 2013. This represented 64% of VDOT's total \$4.25 billion FY 2013 expenditure. Section II.4 presents a comprehensive overview of VDOT's efforts to more effectively work with the private sector. This section summarizes VDOT's success at utilizing innovative financing arrangements, including a first of its kind contract, privatizing sponsorship of Safety Rest Area/Welcome Center (SRA/WC) assets, SRA/WC vending sales and SRA/WC on-site advertising. In addition, VDOT has begun developing a naming rights program where, pursuant to legislation passed by the 2012 General Assembly, private sector entities may be charged fees for naming rights to VDOT assets. Section II.4 also discusses the efforts and successes of the Office of Transportation Public-Private Partnerships in facilitating privatization of major transportation projects in the Commonwealth.



The final section in Chapter II reviews VDOT's wide range of local government programs. VDOT works closely with its local partners on project development and funding. In addition, VDOT has established several educational and training programs to assist local governments in assuming greater responsibility for their transportation programs, and accessing state and federal funding. In FY 2013, VDOT's Local Assistance Division revised several guidance and programming documents, and worked closely with VDOT's local government partners to implement changes resulting from the "Moving Ahead for Progress in the 21<sup>st</sup> Century Act" (MAP-21).

## *II.1 Safety*

### **Safety Overview**

Safety is VDOT's highest priority when developing and implementing any transportation project or program. This section of the Annual Report describes VDOT's targeted efforts to reduce deaths and injuries from crashes on the Commonwealth's highways and streets.

The VDOT Business Plan affirms safety as one of VDOT's overarching Department goals.

#### Goal 1 - Safety and Security

- To improve the quality and accessibility of crash data so it becomes a more efficient tool in developing a list of safety improvements for future implementation.
- To identify, prioritize and implement safety improvements that will help reduce crashes and deaths.
- To identify high-priority sections of Corridors of Statewide Significance (COSS) where crash data warrant safety improvements, which may include clear pavement markings and improved reflectivity and visibility of signs.

The Safety section begins with a summary of VDOT's progress in various efforts associated with these goals.

VDOT's targeted safety strategies are implemented through the federally funded Highway Safety Improvement Program (HSIP). A requirement of the program is to develop and implement a Strategic Highway Safety Plan (SHSP) with stakeholders and partners. A description of VDOT's initiatives and accomplishments under HSIP and SHSP completes the Safety section.

### **Status of Various Efforts Relating to VDOT's Safety Goals**

Work is underway to investigate new software tools to view, summarize and prepare reports of the crash data. Currently, there is a six to nine month lag between the occurrence of a crash and when VDOT receives the crash data. VDOT has been working with the Virginia Department of Motor Vehicles to obtain more accurate and up-to-date crash data. DMV has indicated that VDOT should have data within one to two months of the occurrence by the end of 2013 and going forward. VDOT is also evaluating possible enhancements to the Roadway Network System (RNS) crash data module and has conducted a survey of users to facilitate scoping of enhancements.

VDOT is also taking steps to create a pipeline of safety projects to include in the Six-Year Improvement Program (SYIP) by December 31, 2013. In addition, the agency intends to fully leverage the HSIP and the Strategically Targeted Area Roadway Solutions (STARS) program and will identify potential safety and congestion enhancements by December 31, 2013.

VDOT's Transportation and Mobility Planning Division initiated a study to identify areas where commercial truck parking is needed along Corridors of Statewide Significance (COSS) to provide safe places for truckers to rest so they do not impede traffic by parking on entrance and

exit ramps. In addition, VDOT is taking steps to identify other sections on the COSS with high crash rates and to develop a plan to improve safety conditions. A process has been developed to prioritize the COSS route segments in each district. Compilation and analysis of the roadway inventory, traffic and crash data is ongoing to determine the intersections and roadway sections that should have an engineering assessment to determine the efficacy of lower cost traffic control improvements versus higher cost roadway improvements. Plans for the engineering assessments were completed in September 2013.

## **The Strategic Highway Safety Plan (SHSP)**

### Engineering, Education, Enforcement and Emergency Response, the 4-E Approach

Virginia has updated the SHSP through a cooperative and coordinated multi-agency and interdisciplinary, engineering, education, enforcement and emergency response (4-E) approach to improving highway safety. The Virginia [2012-2016] SHSP, developed under VDOT's leadership, will be used to drive investment decisions to improve safety and reduce deaths and severe injuries. It details all safety partner efforts to improve traffic safety in Virginia.

The SHSP has strategically focused on correcting poor driver behavior and improving roadway elements and traffic control to reduce crashes and their consequences. The SHSP establishes the goal, consistent with the goal adopted by the American Association of State Highway Transportation Officials, of reducing deaths and severe injuries from traffic crashes by 50 percent by 2030. Severe crashes on Virginia's highways have declined by over six percent both in 2011 and in 2012. Within the five year SHSP horizon, strategies and action are defined across three broad areas:

1. Human Factors - strategies developed to impact driver behavior such as speeding, young driver behavior, occupant protection and impaired driving.
2. Environmental Locations - strategies developed to impact intersection safety and roadway departures.
3. Data Collection, Management and Analysis - strategies to identify Virginia's safety needs and focus on defining VDOT's safety performance.

## **The Highway Safety Improvement Program (HSIP)**

While all maintenance and construction projects improve the safety of our transportation systems, the use of Federal Highway Administration (FHWA) funds for the Commonwealth's HSIP facilitates implementation of specific projects and strategies to reduce crashes and their consequences. The federal share for HSIP projects is 90 percent.

VDOT's HSIP is comprised of the following subprograms utilizing the federal funding sources:

- Highway Safety Projects (HSP): 23 USC Section 148
- Bicycle and Pedestrian Safety (BPS) Projects: 23 USC Section 148
- Open Container (OC) - Penalty Transfer Projects: 23 USC Section 154
- Highway-Rail Grade Crossing (H-RGC) Projects: 23 USC Section 130

All of these programs work towards reducing crashes on all roads. Bicycle and pedestrian projects reduce risks for non-motorized users and H-RGC targets higher risk at-grade railroad crossings.

MAP-21 introduced substantial changes to the High-Risk Rural Road (HRRR) Program, including giving states flexibility on developing methodology for determining “significant safety risk” and eliminating the requirement of a HRRR set-aside. However, MAP-21 does require a state to obligate a portion of its HSIP allocation to HRRRs if the state’s fatality rate on rural roads has increased over the most recent two year period for which data are available. Fatality rates have not been increasing on VDOT’s rural roads. Therefore, there is not a requirement that VDOT set aside HSIP funds for HRRRs.

The resulting distribution of HSIP federal funding under MAP-21 for FY 2013 and 2014 is shown in Figure 10.

**Figure 10 Virginia’s Fiscal Year HSIP Federal Allocation of Funds**

(Dollars Thousands)

Year	HSIP-Highway		Penalty Transfer - HSIP		HSIP-Rail	Total
	HSP	BPS	HSP	BPS	H-RGC	
FY 2012-13	\$39,143	\$4,349	\$11,233		\$4,202	\$58,927
FY 2013-14 (1)	\$59,734	\$5,400			\$3,962	\$69,096
Total	\$98,877	\$9,749	\$11,233	\$0	\$8,164	\$128,023

Note:

(1) FY 2014 penalty transfer amounts had not been determined at the time of this report

### Highway Safety Projects and Procedures

In addition to HSIP projects, maintenance paving projects that are federally funded are reviewed for potential safety improvements such as upgraded signing, marking and guardrails.

VDOT has developed a safety project economic evaluation methodology to assess the benefits of proposed safety improvements. All guidelines, project submittal forms, and benefit-cost spreadsheets are provided at [http://www.virginiadot.org/business/led\\_app\\_pro.asp](http://www.virginiadot.org/business/led_app_pro.asp). The program’s policy and procedures are being updated to reflect the MAP-21 requirements and eligibility.

After the announcement of MAP-21 FY 2013 and 2014 allocations, VDOT HSIP staff briefed District staff on the updated SHSP and the new MAP-21 requirements and eligible projects. The goal was to program safety projects that could be designed and for which funds could be obligated before the end of the 2013 federal fiscal year. Consequently, VDOT was able to successfully program most of its FY 2014 and estimated FY 2015 HSIP allocations on safety project phases during those years. Additional funds were programmed on phases that are scheduled in FY 2016-20.

Many of the new FY 2014 SYIP highway safety projects are shoulder and roadside improvements that will reduce or minimize the consequences of roadway departure crashes while staying within

the existing right of way. Other systemic improvements to traffic signals are programmed for the next FYs 2014 and 2015.

To assess HSIP effectiveness, VDOT conducts a before and after crash reduction analysis of each completed safety project. The crash analysis period for these projects covers the 36 months prior to submission for funding and the same period after the completion year of the safety improvement. These safety projects have led to significant reductions in the number of crashes. For example, the 15 highway safety projects completed in 2009 resulted in a 62 percent reduction in related crashes during the after period. Comprehensive traffic crash data for the state can be found at: [http://www.dmv.state.va.us/safety/#crash\\_data/crash\\_facts/index.asp](http://www.dmv.state.va.us/safety/#crash_data/crash_facts/index.asp)

### Bicycle and Pedestrian Safety Projects

VDOT is one of the few state agencies in the nation with a safety program that improves conditions for bicycle and pedestrian users, especially around schools.

The VDOT program preceded the Safe Routes to School program established in 2005 as part of Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) and continued, with changes to how it is funded, under MAP-21.<sup>7</sup>

Using the traditional benefit-cost crash reduction based procedures, Bicycle and Pedestrian Safety (BPS) improvements are typically not prioritized and programmed due to the lack of multiple crashes at a specific location. In addition, the effectiveness (crash reduction) of related countermeasures for individual locations is often unknown. Despite these difficulties VDOT recognizes that a high potential for risk exists for non-motorized travelers and that some people may not bike or walk because of safety concerns. Consequently, starting in FY 2004 VDOT began to target programming 10 percent of HSIP funds for the non-motorized safety program.

VDOT uses a ranking system for evaluating BPS project proposals. The system ranks the proposals by assigning scores to a series of questions.

Almost 10 percent of the FY 2014 Section 148 (HSIP) funds were programmed on BPS targeted improvements, including sidewalks, bike lanes and intersection traffic control treatments in five separate projects.

Finally, the following three bicycle safety recommendations are included in the state Bicycle Policy Plan:

- VDOT should participate in roadway safety assessments for schools that are located on the state highway system, as requested. Where possible, school zone safety assessments should address bicycle access to schools, including street crossings and paved shoulders.

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<sup>7</sup> MAP-21 continues the activities of the Safe Routes to School Program (SRTS) under the Transportation Alternatives Program (TAP), 23 USC 213(b)(3). However, in contrast to the SRTS program prior to MAP-21, there is not dedicated SRTS funding. Under MAP-21, each state decides how much TAP funding to allocate to SRTS from among other eligible TAP programs and projects.

- VDOT should encourage biking and walking to school and provide opportunities for students to have access to bicycle safety education.
- VDOT should encourage college and universities to provide safety education classes similar to League of American Bicyclist education classes.

Virginia's Bicycle Policy Plan can be found at

[http://www.virginiadot.org/programs/bicycling\\_and\\_walking/bicycle\\_policy\\_plan.asp](http://www.virginiadot.org/programs/bicycling_and_walking/bicycle_policy_plan.asp).

#### Open Container-Penalty Transfer Projects

Similar to the Open Container (OC) - Penalty Transfer procedure in SAFETEA-LU, under MAP-21, Virginia is penalized for its existing OC law by having 2.5% of Virginia's apportioned highway funds transferred from surface transportation program and national highway performance program funds to behavioral and infrastructure safety improvement programs.<sup>8</sup> Of Virginia's total FY 2013 penalty amount, 53 percent, (\$11.2 million) will be used for HSIP eligible improvements. The remaining OC-Penalty Transfer funds are allocated to educational and enforcement safety programs administered by the Department of Motor Vehicles Virginia Highway Safety Office.

VDOT added available FY 2012 OC funds to the \$11.2 million from the FY 2013 OC-Penalty Transfer to program two active traffic management and safety (ATMS) improvement projects, one on I-64 (\$5.3M), the other on I-77 (\$8.5M). These ATMS projects will benefit traffic operations and safety during maintenance, weather and other incidents that impact travel.

Available previous transfers of \$2.9 million were programmed on a phase of the Virginia Capitals Trail in Henrico County near the City of Richmond.

#### Highway - Rail Grade Crossing Program

MAP-21 continues SAFETEA-LU's funding for safety improvements at highway/rail intersections through the H-RGC Program. In general, the federal share is 90 percent. However, certain projects as described in 23 USC Section 120(c) (1) may be eligible for 100 percent federal funding. The H-RGC program was implemented to reduce risk at public highway-rail grade crossings. Improvements have been initiated across several areas: upgrading gates; traffic control devices; and crossing surfaces.

#### *Greater Use of Rail Crossing Safety Equipment*

There are two Class I railroad companies operating in Virginia with more than 3,500 miles of track and over 1,873 public at grade highway/railroad crossings.

Since the inception of the H-RGC program, VDOT has evaluated and upgraded 1,493 (representing 80%) of these crossings with active warning devices. The remaining 380 crossings

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<sup>8</sup> The transfer was three percent under SAFETEA-LU. Also, under SAFETEA-LU these funds were transferred from apportionments under the National Highway System (NHS) program, the Surface Transportation program (STP), and the Interstate Maintenance (IM) program. MAP-21 absorbs the NHS and IM programs into the National Highway Performance Program. MAP-21 continues and expands STP. A more detailed comparison between SAFETEA-LU and MAP-21 is presented in Chapter IV.

remain passive.

All crossings are regularly condition reviewed so that possible upgrades, permanent closure or grade separation projects may be identified.

#### *Using Information in order to More Effectively Use Scarce Resources*

VDOT uses the Federal Railway Administration crash risk prediction methodology as a mathematical procedure to develop a prioritized ranking of grade crossing locations statewide. The priority listing is revised annually based on predicted crash risk. VDOT furnishes the listing to localities and railroads.

#### *Proactive Upgrades to Improve Safety and Operations*

In an effort to improve safety on the roadways (and railways), VDOT has completed projects at crossings with no previous crash history after conducting engineering reviews, receiving input from safety partners concerning “near misses” and evaluating the existing geometric and traffic control conditions.

#### *H-RGC Project Funding*

From 2005 to 2013 VDOT received from \$4.2 to \$4.5 million each year for rail grade crossing improvements, funding from 20 to 40 H-RGC projects each year. For FY 2014 VDOT was allocated approximately \$4.0 million for these projects.

VDOT received 94 project proposals, totaling \$22.4 million dollars for FY 2014 and programmed 21 projects, valued at \$6.9 million, using previous and FY 2014 allocations. Projects valued at \$5.6 million were programmed for VDOT maintained roads, and projects valued at \$1.3 million were programmed for urban roads.

Most of the FY 2014 H-RGC programmed projects added gates and flashing lights to provide active warning devices, some projects upgraded existing lights, and the remaining projects upgraded the crossing surface or signal preemption equipment.

## *II.2. Security*

### **Security Overview**

VDOT’s Transportation Critical Infrastructure (CI) is generally defined as systems and assets, whether physical or virtual, so vital to VDOT’s mission that the incapacity or destruction of any such system or asset would have a debilitating impact on mobility, security, economic security, public health or safety, or any combination of those matters.

VDOT provides security program oversight for VDOT’s Critical Infrastructure within the Commonwealth. Security strategies and initiatives to protect VDOT’s Critical Infrastructure are supported within the Department by the Operations Division’s (OD) Transportation Critical Infrastructure (TCI) program area. This program area oversees VDOT’s Critical Infrastructure security mission and other initiatives for VDOT’s protection and resiliency efforts by

identifying, prioritizing and assessing Critical Infrastructure on a statewide and regional/district basis. In addition, staff also assess and maintain physical security programs and equipment, evaluate mitigation strategies, prioritize security projects and develop security standards and policies.

The following section presents an overview of several of the programs and demonstrates the breadth of personnel and infrastructure security issues covered within this program area. The last subsection highlights the measures VDOT is taking to progress security efforts. The goal is to maintain current levels of support and align the program with industry standards and best practices to reduce operating costs and enhance security capabilities.

## **Program Areas and Initiatives**

### VDOT Infrastructure Physical Security Enhancement Program

The VDOT Infrastructure Physical Security Enhancement Program (VIPSEP) is the procurement mechanism utilized by VDOT to enhance the delivery of VDOT's Critical Infrastructure protection projects and initiatives. The VIPSEP contract is utilized to conduct physical security installation or enhancement projects at bridge/tunnel facilities, Transportation Operations Centers (TOCs), other Critical Infrastructure sites, and for security projects at non-designated facilities and structures. Enhancements include: access control systems, surveillance equipment, motorized gates, fencing, security lighting, and other physical security equipment or protective measures.

### Security Response Plan Program

In FY 2013, VDOT's TCI section developed Security Response Plans (SRPs) to replace the Critical Infrastructure Protection (CIP) plan program. Like the CIP plans, the SRPs are comprehensive documents focusing on specific tunnel facility responses to various natural or manmade security threats or incidents and, like the CIP program, the SRP program includes a yearly update process and a tabletop exercise component, which allows tunnel staff to become familiar with the SRP and to implement process changes on a regular basis.

In addition, the SRPs comply with National Fire Protection Association (NFPA) 502 requirements.<sup>9</sup> The NFPA 502 is the standard adopted by the Commonwealth Transportation Board for tunnel fire protection and safety requirements. The transition from the CIPs to SRPs is near completion. When the transition is completed, the SRP will serve as the controlling security response document for all NFPA 502 regulated tunnel structures in the Commonwealth, including the four underwater tunnels located in the VDOT Hampton Roads District and the two mountain tunnels located in the Bristol District.

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<sup>9</sup> The National Fire Protection Association (NFPA) is an international nonprofit organization whose stated mission is "to reduce the worldwide burden of fire and other hazards on the quality of life by providing and advocating consensus codes and standards, research, training, and education." [NFPA website <http://www.nfpa.org/about-nfpa/overview>] The NFPA 502 document promulgates standards for fire protection and fire life safety requirements for limited access highways, road tunnels, bridges, elevated highways, depressed highways and roadways that are located beneath air-right structures.



### Training Program

VDOT's TCI section routinely coordinates and facilitates training for Critical Infrastructure staff in an effort to maintain awareness of the latest security topics and practices. Courses include Terrorism Security Awareness Orientation, Incident Response to Terrorist Bombing, Surveillance Detection, Soft Target Awareness, and Improvised Explosive Device awareness and screening.

### Foreign Visitor Clearance Coordination Program

In accordance with the Federal Highway Administration Office of International Programs, VDOT confirms the suitability of foreign visitors and delegations, who are visiting VDOT assets, to ensure the visit does not contravene US restrictions on interaction with officials from a particular country.

### Continuity of Operations

VDOT maintains the agency's Continuity of Operations (COOP) program in compliance with Commonwealth of Virginia, Office of the Governor, Executive Order 41 (2011). The *Continuing Preparedness Initiatives in State Government and Affirmation of the Commonwealth of Virginia Emergency Operations Plan* requires all agencies to have and maintain a COOP plan. This COOP provides the framework to continue or rapidly restore essential functions in the event of an emergency that affects operations. The program addresses three types of extended disruptions that could occur individually or in any combination: loss of access to a facility, loss of services due to equipment or system failure and loss of service due to a reduced workforce. In FY 2013, the COOP program was transitioned out of the TCI section and into the Emergency Management section of the Operations Division's Field Operations program area. Though not a specific security initiative, the COOP is vital for ensuring operational security throughout VDOT and it is maintained and updated on an ongoing basis.

### Security Coordination

VDOT's TCI section provides a single point of contact for security issues at Transportation CI sites and works closely with the Virginia State Police Fusion Center<sup>10</sup> to receive transportation sector security related information. The Department provides infrastructure security domain awareness at VDOT CI sites to ensure compatibility of existing and future security systems, equipment and initiatives. Close coordination also exists between VDOT and our other security partners at the local, state and federal levels on all security related assessments, training and requests for information.

### Security Oversight

VDOT's TCI section provides a single point of contact for the design, type and performance of security projects and security management systems at CI sites. As an example, the section works directly with its traditional procurement offices and the Office of Transportation Public-Private Partnerships (OTP3) to ensure consistent and continuous application of VDOT security policies, security management systems and their maintenance.

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<sup>10</sup>The Virginia Fusion Center (VFC) was created as a partnership between the Virginia State Police and Virginia Department of Emergency Management to improve the Commonwealth of Virginia's preparedness against terrorist attacks and to deter criminal activity.

This coordination has already occurred at the Elizabeth River Tunnels Project, the Interstate-95 HOV/HOT Lanes Project, and VDOT's new Statewide TOC and ATMS Contract. The Statewide TOC Program will operate all five of VDOT's TOCs (Northern Virginia, Richmond, Hampton Roads, Salem, and Staunton) under one consolidated system, including the management of the Safety Service Patrol. This direct contact provides integration of existing and future CI sites and security programs to form a common and consistent level of security.

#### Continuing Efforts and Initiatives

The conversion from using legacy Digital Video Recorder (DVR) based operating platforms to manage security camera systems at Critical Infrastructure sites continues. Critical Infrastructure sites are being retrofitted with the current industry standard Video Management System (VMS) based operating platforms, which offer several operational benefits to VDOT, including the option for external multi-agency imagery sharing for emergency, security or incident management purposes.

### *II.3. Increasing Efficiency in Delivery of Agency Programs*

VDOT has implemented several strategies in recent years that are designed to increase efficiency in its operations and programs. In FY 2012, managed competition was introduced into the Turnkey Asset Maintenance Services (TAMS) contract solicitations. Managed competition provides VDOT the opportunity to compare itself to the market for improved service delivery and pricing of services by allowing both public and private entities to compete for the delivery of services. VDOT continued to leverage managed competition in FY 2013. Since introduction of managed competition, VDOT has taken over responsibility for maintaining four of the six TAMS project areas that were placed out for bid. The results are detailed in section II.4.

VDOT continues to use a two tiered approach to construction project development, which streamlines the process for simple, low risk projects. Tier 1 construction projects, which are valued at less than \$5 million and are considered to be smaller, less complicated projects with fewer risks, are developed by the districts using a streamlined process. Tier 2 construction projects are those valued over \$5 million or require federal oversight, are more complex and are higher risk. The Tier 2 projects follow a traditional development path, which includes Central Office reviews and approvals at several stages of the project development process.

VDOT regularly reviews, for improvement, key business processes based on an acceptable level of risk. Under a recent initiative, VDOT inventoried and prioritized the agency's top processes requiring improvements. A group of "top 10" processes were identified and addressed by teams of cross-functional subject matter experts, stakeholders and process owners. In 2013, the teams began evaluating and re-engineering each of the identified processes. The results, thus far, have had a statewide impact and include:

- streamlined procurement by increasing local procurement authority, resulting in a 72% reduction in procurement requests to the Central Office and an 84% reduction in the time to approve requests;

- streamlined consultant invoicing, which reduced VDOT review time and payment processing;
- streamlined environmental permitting processes, and implementation of new processes and financial reporting that facilitate closing projects in a timelier manner.

When all of the changes are implemented, these re-engineering efforts will improve administrative effectiveness and efficiency, and clarify roles and responsibilities, which should also facilitate better accountability throughout the organization.

The coordination of transportation and land use is one of VDOT’s overarching goals.<sup>11</sup> The main objective is to more effectively use available transportation funds, and the agency is pursuing specific Action Items to help achieve this objective. For example, by June 2014, the agency plans to conduct a transportation-planning and land-use forum with localities, regional transportation organizations and other key stakeholders to promote the important linkage between transportation and land use.

Another overarching agency goal is to achieve excellence in the execution of programs and delivery of service.<sup>12</sup> One objective developed in support of this goal is to accelerate and improve the project delivery process. The agency is implementing several Action Items in support of this objective, including achieving 76 percent “on time” and 85 percent “on budget” delivery of maintenance and construction projects.

## *II.4. Collaborating with the Private Sector*

### **Collaborating with the Private Sector – Overview**

VDOT continues to outsource and privatize where supported by good business practices. More than half of VDOT’s FY 2013 spending was with private sector vendors. This section summarizes VDOT’s spending with the private sector and its ongoing efforts to be more efficient by working with the private sector while maintaining management oversight to help ensure effective delivery of services. This section also provides a summary of revenue generated from asset sales and leases.

The 2012 General Assembly authorized the Commonwealth Transportation Board (CTB) to charge fees for naming rights on Virginia’s transportation facilities. VDOT’s progress towards developing the new naming rights program is summarized in the subsection, Revenue Generation from VDOT Assets.

### **VDOT Spending with the Private Sector**

In FY 2013, VDOT spent \$2.72 billion of its \$4.25 billion in expenditures with private sector vendors. This represents 64% of VDOT’s FY 2013 expenditure. Included in the \$2.72 billion of private sector spending was the outsourcing of over \$362 million in interstate maintenance.

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<sup>11</sup> *Virginia Department of Transportation Business Plan FY14 - FY15*, p14.

<sup>12</sup> *Ibid.*, p15.

## **Ongoing Efforts to Work with the Private Sector**

### Turnkey Asset Maintenance Services

TAMS contracts provide for ordinary and preventive maintenance services, including activities such as repair and replacement of right-of-way assets, and services such as emergency response, severe weather operations and management, and disposal of hazardous materials.

In FY 2013, VDOT solicited bids for the management and maintenance of two new TAMS contracts for \$101 million. The contracts were for Staunton North and Hampton Roads (De-bundled Services Contracts).

Both of the TAMS contracts were solicited under managed competition. The managed competition process increases the opportunity to award the work to the lowest responsible bidder and provides VDOT the opportunity to compare itself to the market. VDOT proved to be the low bid for the Staunton North TAMS contract, and, therefore, did not award the contract. VDOT will manage the subcontractors performing work under the TAMS contract in the Staunton District. VDOT also chose not to award the Hampton Roads TAMS. The Hampton Roads District will manage the work using subcontractors due to deterioration of pavement conditions in the District. VDOT plans to improve pavement conditions before soliciting bids for the contract again. VDOT also manages the subcontractors performing work under TAMS contracts in Richmond North-Richmond District and Bristol-Bristol District, having proven to be the low bidder for these contracts in 2012.

In FY 2014, VDOT will initiate new TAMS contracts valued in excess of \$52 million in Northern Virginia District to replace contracts which are scheduled to end in 2015. The current value of the 13 TAMS contracts is \$372 million.

### Safety Rest Areas and Welcome Centers

VDOT continues to administer property management contracts for the 24 hour, seven days a week staffing, preventative maintenance and repair of 43 Safety Rest Areas, and Welcome Centers (SRA/WC). In FY 2012, VDOT privatized the sale of on-site advertising, sponsorship of SRA/WC assets, and vending sales under the nation's first Sponsorship, Advertising, and Vending Enhancement (SAVE) contract.

### Regional Traffic Operations Centers

High-level screening of this project determined that services needed could be procured under the Virginia Public Procurement Act. The procurement was advanced by VDOT with assistance from the OTP3. The CTB awarded the contract to Serco Inc. in May 2013 for operation of the [Transportation Operations Center and Statewide Advanced Traffic Management System](#) at the state's five transportation operations centers and management of the Safety Service Patrol. The six-year contract is worth \$355 million.

### Project Delivery Utilizing Transportation Public Private Partnerships

VDOT has identified advancing public private partnerships as an important component in pursuing the Department's Business Plan. In FY 2011, the Office of Transportation Public-Private Partnerships (OTP3) was created to facilitate the Commonwealth's Public-Private Transportation Act (PPTA) program across all modes of transportation. OTP3 has facilitated the

development of several PPTA projects in FYs 2012 and 2013 and continues to work with our private sector partners to advance several on-going and proposed PPTA projects.

**Public Private Partnership projects completed and/or open to traffic:**

[I-495 Capital Beltway Express Lanes](#) – Working with private sector partners Transurban/Fluor, this \$1.9 billion project opened to traffic in November 2012. Nearly \$1.5 billion in private equity and debt, combined with state investment of \$409 million, added 14 miles of new high occupancy toll lanes with open road tolling, congestion pricing and high occupancy vehicle (HOV) lanes. The project supported 31,000 short and long term jobs, and infused an estimated \$3.5 billion into the economy. The project also awarded over \$545 million to small and disadvantaged businesses, the largest single project award in Virginia’s history.

**Public Private Partnership projects under construction:**

1. [I-95 Express Lanes](#) – Working with private sector partners Transurban/Fluor, this project, which will add 29 miles of new high occupancy toll lanes with open road tolling and congestion pricing, including nine additional miles of HOV lanes into Stafford County, reached commercial/financial close in July 2012. Construction is scheduled for completion in 2014. A state contribution of \$71 million leveraged a total project valued at \$925 million. The project supports over 8,000 jobs, infuses nearly \$2 billion in economic activity, and awarded \$190 million specifically to small and disadvantaged businesses.
2. [US Route 460 Corridor Improvements](#) – A two-year competitive P3 procurement successfully reached commercial and financial close in December 2012 with award to US 460 Mobility Partners (a partnership of Ferrovial Agroman S.A. and American Infrastructure) for best value bid with lowest public subsidy. The transportation project, a top local, regional, and statewide priority for over a decade, will provide 55 miles of new limited access four lanes roadway in southeastern Virginia. The project capital value of \$1.393 billion is anticipated to offer southside Virginia 4,000 jobs during construction and more than 14,000 long-term jobs in an economically distressed region when the new road opens. The project will enhance travel safety and time efficiency, expand westbound hurricane-evacuation routes, stimulate business development in the region, enhance connections among the region’s military installations, and accommodate greater freight traffic from the Port of Virginia benefiting the entire Commonwealth of Virginia.
3. [Midtown Tunnel / Downtown Tunnel / MLK Extension](#) - Working with private sector partners Macquarie/Skanska, this P3 transaction reached financial close in April 2012 with construction completion scheduled for 2018. A state contribution of \$420.5 million, combined with private sector investment, leveraged a total project valued at \$2.1 billion, including a new immersed tube tunnel facility at the Midtown crossing, tunnel rehabilitation at the existing Midtown Tunnel and two Downtown Tunnels, as well as development of Martin Luther King Boulevard Extension to I-264. The project supports an estimated 1,700 jobs during construction with approximately \$308 million in work awarded to small and disadvantaged businesses. Overall, the project will generate an estimated annual increase in gross regional productivity of \$170-\$254 million for the Hampton Roads

area of Virginia. This project was awarded The “North American Toll Road Project of the Year 2012” by Project Finance.

4. [Coalfields Expressway](#) - From its origins in an agreement executed in 2002, the Commonwealth, in 2006, began working with private sector partners Alpha Natural Resources and Bizzack, Inc. (formerly Rapoca Group) to advance the coal synergy concept. The project has since advanced planned sections of new roadway using coal synergy and large-scale earth-moving techniques to extract the coal, while leaving a road bed suitable for paving as funds become available. This innovative partnership with coal companies will allow Virginia to advance the project using coal synergy innovation for \$2.8 billion, contrasted to an estimated cost of \$4.1 billion using traditional road building methods without the coal synergy savings. Segments of Hawks Nest, Pound Connector and Doe Branch are currently underway. During construction, the Project is estimated to create approximately 29,000 construction jobs over 17 years and \$4.1 billion in economic impact. Once completed, the project is estimated to create 372 service jobs and an annual impact of \$41.1 million plus \$28.3 million in annual savings from travel efficiencies.
5. [Route 58](#) – Working with private sector partners Branch Highways on the next section of Route 58, referred to as the Tri-County (3.2 miles) and Laurel Fork (5 miles) sections. Work on the entire 8.2-mile section is expected to be completed by fall 2015. Route 58 closed in December 2003 and has a total project value of approximately \$222.75 million. Phase 1 was completed in 2006, and Phase 2 was completed in 2011.
6. [Route 28](#) – Working with private sector partners Clark/Shirley, construction has been completed at Innovation Avenue Interchange and Atlantic Boulevard. A number of bridges over Dulles Toll road will be under construction by late 2013. A study supporting an eight lane widening is also underway. Route 28 closed in 2002 with state funds and revenue bonds backed by the Route 28 Tax District to finance high capacity interchanges and widening projects in Fairfax and Loudoun Counties valued at \$351 million. The partnership continues to plan, develop and construct improvements in the corridor.

Figure 11 shows the benefits associated with just four PPTA projects that have helped Virginia leverage over \$6 billion in critical transportation infrastructure improvements with a state investment of \$2.05 billion. For 33% of the total project costs, Virginians are, or shortly will be, driving on these facilities and seeing jobs, economic growth, and increased travel choices.

**Figure 11 Summary of Economic Impact of Selected PPTA Projects**

Projects	Project Cost	State Investment	% of total cost	Jobs Supported	Economic Activity
<i>495 Express Lanes</i>	\$1.9 billion	\$409 million	22%	31,000	\$3.5 billion <sup>13</sup>
<i>95 Express Lanes</i>	\$925 million	\$71 million	7.6%	8,000	\$2 billion <sup>14</sup>
<i>US Route 460 Corridor</i>	\$1.393 billion	\$1.15 billion	83%	18,000	\$5.7 billion <sup>15</sup>
<i>Midtown Tunnel / Downtown Tunnel / MLK Extension</i>	\$2.1 billion	\$420.5 million	20%	1,700	\$170-\$254 million <sup>16</sup>
<b>Total</b>	<b>\$6.318 billion</b>	<b>\$2.05 billion</b>	<b>33%</b>	<b>58,700 jobs</b>	<b>\$11.4 billion economic activity</b>

Additionally, in July 2013, the OTP3 released the draft “2013 PPTA Pipeline” document, [http://www.vappta.org/ppta\\_pipeline.asp](http://www.vappta.org/ppta_pipeline.asp), containing identified candidate PPTA projects as well as conceptual projects. Eleven candidate PPTA projects were identified such as the I-73 Corridor, the I-64 Peninsula Improvements, as well as the I-66 Corridor Improvements Project. In addition, eleven conceptual projects were also identified for further scope development, including Weigh-in-Motion truck validation systems, parking privatization opportunities, and the concept of an availability payment financial structure.

The OTP3 sought public and private sector comments for a 30-day period in the development of the “PPTA Pipeline” document to ensure the viability and desirability of the proposed projects, and to gauge market reaction to the projects. Public sector transparency will remain an important focus as the candidate projects are evaluated during 2013 - 2014 for PPTA procurement opportunities.

<sup>13</sup> Stephen Fuller, *Economic Impact of Construction Outlays for the Capital Beltway HOT Lanes*, George Mason University, November 2008.

<sup>14</sup> Virginia Economic Development Partnership – Sept. 28, 2011 IMPLAN Model Results; *Economic Benefits of Road Improvement of I-95 Toll Revenues*, Chmura Economics and Analytics, 2012 (10 projects, include HOV extension); *Population and economic projection of I-95*, Chmura Economics and Analytics, 2012.

<sup>15</sup> *Economic Impact of the U.S. Route 460 Corridor Improvement Project*, Chmura Economics and Analytics, December, 2011; *Population and economic projection of US-460*, Chmura Economics and Analytics, 2012.

<sup>16</sup> See “Downtown Tunnel/Midtown Tunnel/MLK Extension Project,” presentation to the Hampton Roads Transportation Planning Organization by Frank Fabian, Virginia Department of Transportation, January 4, 2012, citing the Hartgen Group.

## **Revenue Generation from VDOT Assets**

VDOT generates revenue from the Department's assets where prudent, and where consistent with the VDOT mission. A new naming rights program is being developed pursuant to authority granted to the CTB by the 2012 General Assembly to charge fees for transportation facility naming rights. A brief summary of VDOT's efforts to develop this program is presented at the end of this subsection.

In FY 2013, revenues generated from VDOT assets exceeded \$89 million. This revenue was derived from four main sources:

1. Right-of-Way Land Sales
2. Tenant Revenues on Right-of-Way Property
3. Cell Tower Leases at VDOT Sites
4. Sponsorship, Advertising, and Vending Enhancement (SAVE)

The \$89 million total represents a substantial increase when compared to 2012. The increase is primarily the result of a large land sale transaction. In addition, this year's total also includes income to VDOT from the SAVE contract.

### Right-of-Way Land Sales

VDOT offers highway right-of-way properties for sale that were previously purchased but are no longer needed. VDOT offers any properties suitable for independent development to the public via the VDOT web site and by advertising locally. Properties not suitable for independent development are offered for sale to owners of adjoining land. In FY 2013, VDOT executed 62 deeds comprising 34.9 acres and received \$82.6 million, a dramatic increase when compared to right-of-way land sales in 2011 and 2012. The increase was largely due to the \$78 million sale of the Hunting Point on the Potomac apartment complex in Northern Virginia.

### Tenant Revenues on Right-of-Way Property

When VDOT determines that property purchased for highway right-of-way will be needed in the future, but not the near future, the Department leases such land and improvements. For example, if funding for a highway construction project is delayed, VDOT will seek tenants for any houses on the associated right-of-way properties. In FY 2013, VDOT collected \$849,521 from the lease of right-of-way land and improvements.

### Cell Tower Leases at VDOT Sites

VDOT leases sites for cell towers at the request of telecommunications companies where alternatives are not commercially available. Cell tower revenue in FY 2013 was \$4.8 million; the FY 2014 projection is \$4.9 million.

### Sponsorship, Advertising, and Vending Enhancement

When awarded in September 2011, VDOT's Safety Rest Area/Welcome Center (SRA/WC) Sponsorship, Advertising, and Vending Enhancement (SAVE) contract was the first of its kind. The SAVE contract privatized the sale of on-site advertising, sponsorship of SRA/WC assets, and vending sales in exchange for a guaranteed \$2 million annual rights fee and a percentage of gross revenue from sales.



VDOT's revenue from the SAVE contract will be used to fulfill VDOT's memorandum of agreement between the Virginia Department for the Blind and Vision Impaired (DBVI) where fifty percent of VDOT's vending sales revenue will be paid to DBVI. VDOT's SAVE contract revenue will also be used to fulfill a commitment to the Virginia Tourism Corporation (VTC), where VDOT must pay a minimum of \$400,000 annually to the VTC.

This is the second year of the SAVE contract, which runs from September to September. In FY 2013, income to VDOT was \$849,742.

#### Fees for Naming Rights on Transportation Assets

In 2012, the Virginia General Assembly amended § 33.1-12 of the *Code of Virginia*, granting the CTB authority to name not only bridges and highways but also interchanges and other transportation facilities with the names of private entities. More importantly, the statute also requires the CTB to establish and charge private entities annual fees for such naming rights. Pursuant to this new authority, in June 2013, VDOT awarded a contract for services to assist the agency in determining the market value of a variety of assets and facilities with potential to generate revenue. Once implemented, revenue from the naming rights program will be used to offset the cost of maintaining and operating state transportation infrastructure.

## *II.5. Collaborating with Local Government*

### **Role of the Local Assistance Division**

VDOT's Local Assistance Division (LAD) develops and interprets policy dealing with local roads and serves as liaison with local government organizations. LAD also manages several special funding programs, manages urban system changes, prepares local assistance payments, provides oversight for locally administered projects and facilitates the delivery of the statewide urban program.

### **Communications, Partnering and Performance**

LAD maintains regular communications with local government and citizens of the Commonwealth in order to provide general information, updates, and changes about locally administered projects and other items affecting local programs. LAD distributes a newsletter at least three times annually to provide information to VDOT's partners and the public on a variety of local programs. Furthermore, LAD has partnered with the University of Virginia Transportation Training Academy to provide regular training opportunities for local governments. In addition to producing special publications and seminars to educate the Commonwealth about various transportation programs, LAD also maintains a public website that is regularly updated, <http://www.virginiadot.org/business/local-assistance.asp>.

The Local Assistance Division hosted the first annual Local Programs Workshop in October 2012. The workshop brought together more than 350 representatives from local governments, VDOT, FHWA and private sector staff to discuss delivery of the local transportation program.

LAD held the second annual Local Programs Workshop in September 2013, hosting approximately 370 participants.

LAD produces a biennial report on local performance measurements for bridges and pavements. This report was last prepared in 2011 and is included as the last chapter in the *Biennial Report On the Condition of and Investment Needed to Maintain and Operate the Existing Surface Transportation Infrastructure for FY 2011 and FY 2012*, [http://leg2.state.va.us/dls/h&sdocs.nsf/By+Year/RD2382009/\\$file/RD238.pdf](http://leg2.state.va.us/dls/h&sdocs.nsf/By+Year/RD2382009/$file/RD238.pdf).

LAD continues to report local bridge condition (from the VDOT Dashboard) on a quarterly basis through “Virginia Performs,” <http://vaperforms.virginia.gov/indicators/transportation/infrastructure.php>. (The link to the VDOT Dashboard is located on the right hand side of the webpage.)

As of June 30, 2013, 99.0% of the bridges on the county maintained system and 87.0% of the bridges on the city/town maintained system were rated in “fair or better” condition.

## **Targeted Funding to Achieve Safety and Efficiency in the Local Road System and to Assist in Local Economic Development**

VDOT administers several programs, both federal and state, to assist localities with funding for their road programs. The goal is to help localities implement projects that are safe, enhance community quality of life and to encourage local economic development. Projects approved under each of these programs must meet VDOT and federal standards if federal funds are utilized.

### The Transportation Alternatives Program

MAP 21 established a new program, “Transportation Alternatives,” and eliminated the Transportation Enhancement program. The Transportation Alternatives program funds many of the activities previously eligible under the Transportation Enhancement and the Safe Routes to School programs and incorporates the funding set aside for the Recreational Trails programs, wrapping them into a single funding source.

MAP-21 requires 50 percent of each state’s Transportation Alternatives apportionment to be sub-allocated by population, with the remaining 50 percent available for use in any area of the state. As a result of these changes, LAD introduced an interim project selection policy for FY 2014, which was approved by CTB resolution. LAD coordinated this effort with the Metropolitan Planning Organizations (MPOs) that will be selecting projects within the four regional Transportation Management Areas (TMAs).<sup>17</sup>

Applicant outreach efforts for FY 2014 allocations resulted in the receipt of 64 applications. Based on the interim policy, the CTB only considered existing projects for funding. A total of 51 projects were selected for funding with 10 of these projects selected by the MPOs in TMA areas. In total, approximately \$18 million was allocated. Increasing funding on existing projects

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<sup>17</sup>Transportation Management Area is an urbanized area with a population over 200,000. Urbanized areas are geographic regions with populations of 50,000 or more as designated by the Census Bureau.

has been a specific goal of recent policy changes in order to facilitate moving the large backlog of projects forward toward completion. As a result of the policy changes and emphasis on fully funding requests, VDOT continues to see an increase in the overall program reimbursement rate.

Through continued efforts and coordination with the MPOs, LAD has developed a new application, website program guidance, and program manual to complete the transition to the Transportation Alternatives program. Applicant workshops were held during August 2013, with applications for FY 2015 due November 1, 2013.

### Revenue Sharing

Under the Revenue Sharing program the CTB may match state highway funds dollar-for-dollar with local funds for improvement, reconstruction, construction or maintenance projects on highway systems within the locality. For improvement, reconstruction, or construction projects, the maximum matching allocation per locality is \$10 million, where up to \$5 million may be used for maintenance. Application for program funding must be made by local jurisdiction resolution.

The FY 2013 Revenue Sharing Program was approved for 149 projects with \$132 million in state allocations.

### Access Programs

VDOT administers three local Access programs.

1. The Airport Access Roads Program provides for the construction, improvement, or maintenance of roads serving new or expanding airports.
2. The Economic Development Access Roads program provides for roads serving new or expanding economic development sites.
3. The Recreational Access program provides funding for roads and bicycle facilities to new or expanding non-federal public parks.

In FY 2013, VDOT allocated \$840,000 to assist localities with projects to access three recreational areas and \$1.2 million for projects to access seven economic development sites.

### The Rural Rustic Roads Program

The concept for the Rural Rustic Roads Program began with legislation passed during the 2002 General Assembly. The program attempts to ensure responsible environmental and financial stewardship while providing basic paved access to more of the Commonwealth's rural countryside.

Since the program was established VDOT has completed 801 rural rustic road projects, which includes 79 rural rustic road projects completed in 2012. These projects have been completed at an estimated cost savings of approximately \$258 million when compared to the cost of traditional construction methods.

Statistics for the Rural Rustic Roads Program have been added to the Local Assistance Division webpage. The statistics can be found at [http://www.virginiadot.org/business/local-assistance-programs.asp#Rural Rustic](http://www.virginiadot.org/business/local-assistance-programs.asp#Rural%20Rustic).

The program continues to be very popular with rural counties though its use has been impacted by a loss of funding for the unpaved road program.

## **VDOT's Efforts to Assist Localities in Administering their Local Road Program**

### The Urban Construction Initiative

The Urban Construction Initiative (UCI) program provides that a municipality may decide to assume the responsibility for their construction program by notifying the CTB. Municipalities express their intent to join the initiative by resolution.

The Urban Construction Initiative (UCI) has 14 localities under agreement to administer their entire construction program. The cities of Virginia Beach, Hampton, Richmond, Charlottesville, Harrisonburg, Lynchburg, Colonial Heights, Newport News, Danville and Chesapeake, and the towns of Blacksburg, Bridgewater, Purcellville, and Dumfries currently participate in the program.

The UCI Certification Program, approved by the Federal Highway Administration (FHWA) for implementation in 2009, is an opportunity for qualified UCI participating localities to proceed with delegated authority by VDOT for project administration and development. The certified locality operates with streamlined VDOT oversight on federal and state funded projects, similar to FHWA's oversight of VDOT. Currently, the City of Virginia Beach is the only locality that has qualified under the certification program, having successfully demonstrated their ability to deliver state and federally funded projects.

## **Locally Administered Projects**

A total of 225 Locally Administered Projects (LAP) Agreements were executed in FY 2013. In addition, 109 supplemental agreements were completed.

At the end of FY 2013, 12% of VDOT's construction program dollars were dedicated to LAPs. Further, 37% of all active VDOT projects are locally administered.

Together, the UCI and LAP programs have represented about 1/3 of VDOT's 36 month advertisement schedule for the past several years. Any change in manpower associated with these programs was addressed through the organizational changes in the Blueprint.<sup>18</sup>

### Performance Tracking – Improving Efficiency and Effectiveness

This year, VDOT added two tools to the existing toolkit for assessing the performance of locally administered projects. These tools include the monthly LAP Advertisement report, which tracks

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<sup>18</sup> The "Blueprint" was a Comprehensive Plan developed and implemented by VDOT, pursuant to Item 462.05 of Chapter 781 of the 2009 Acts of Assembly (Appropriation Act), to address reductions in appropriations. By July 2010, VDOT had reduced staffing to fewer than 7,500, a substantial decrease when compared to over 10,000 in 2002.

LAP advertisements against a baseline established in January 2013, and a Scoping Date metric, which reports completions of planned scoping dates identified in the local project agreement against the Project Schedule actual scoping date. Additional areas are being reviewed to establish a complete toolkit for District and local staff use in order to provide consistent and meaningful assessment of locality performance.

#### VDOT's Efforts to Ensure Local Compliance

This year, Local Assistance Division (LAD) played a significant role coordinating the FHWA-Virginia Division's process review initiative of 14 locally administered projects throughout the state. The process reviews consisted of reviewing Construction Contract documentation, Quality Assurance/Quality Control, and Right of Way processes.

In conjunction with the process reviews, LAD selected eight of the projects to conduct project level compliance assessment "desk reviews" on preliminary engineering documentation. The desk reviews assess local governments and VDOT on compliance with federal and state laws, regulations and other requirements as outlined in Chapter 7 of the Locally Administered Projects Manual. The findings resulting from these assessments will aid project coordinators and managers in identifying trends and noncompliance issues, which can be used in developing future training.

### **Urban Construction and Maintenance Program**

LAD provides assistance to District staff and local governments in establishing priorities for potential funding under the Urban Six Year Improvement Program. LAD also provides the Districts with assessments of the urban program on a biannual basis – comparing allocations to project estimates and current expenditures. LAD continues to work with the VDOT Steering and Technical Committees for the development and implementation of the new Roadway Network System.<sup>19</sup>

### **Collection of Pavement Condition Data on the Local System**

The CTB, at their December 2011 meeting, adopted a resolution to reconvene the Local Government Working Group in partnership with the Virginia Municipal League and the Virginia First Cities Coalition to advance the collection and analysis of system condition and performance data on the locally maintained system.

After several meetings of the Local Government Workgroup, the group concluded and recommended to the June 20th, 2012 CTB Workshop the following:

- Maintenance activities in localities that maintain their own systems are substantially different than that on rural county roads;

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<sup>19</sup> The VDOT Steering and Technical Committees are composed of VDOT representatives from throughout the agency, in addition to members from VITA and the consultant community. This group oversees the development and implementation of the Roadway Network System (RNS) Program, which consists of multiple projects developed to replace the legacy mainframe, Highway and Traffic Records Information System (HTRIS), while also enhancing and geo-enabling core business data.

- Performance measures must be developed with these differences in mind when implementing statewide standards;
- Utilize the VDOT Pavement Data Collection Contract to collect/analyze pavement conditions for arterial routes within localities that maintain their own systems (would provide a consistent standard/protocol that would be used statewide).

*(Note: the CTB Workshop presentation is available at:  
<http://www.ctb.virginia.gov/meetings.asp>.)*

Based on these recommendations, VDOT collected data on all arterial routes maintained by local governments and presented the summary to the Commonwealth Transportation Board in June 2013. Detailed data was provided to the respective localities. Additional information on the Local Government Workgroup and data collection process is available on the LAD webpage under Urban Highways at <http://www.virginiadot.org/business/local-assistance.asp>.

### III.

## Operating and Financial Activities

The information included in this chapter provides budget performance data on the operating and financial activities of the Virginia Department of Transportation for the reporting period FY 2013 (July 1, 2012 – June 30, 2013).

Section III.1 begins with a summary of the state revenue collections to the Commonwealth Transportation Fund (CTF). The Highway Maintenance & Operating Fund and the Transportation Trust Fund are two of the main subfunds under the CTF. This is followed by an overview of the FY 2013 VDOT federal revenue.

Section III.2 presents a summary of VDOT allocations and expenditures. VDOT spent \$4.25 billion in FY 2013. This represents an overall expenditure increase of 4 percent or \$157 million in FY 2013 compared to the prior year.

Highway maintenance, which, under *Code of Virginia* § 33.1-23.1, is the Department's highest spending priority for funds allocated by the CTB for highway purposes, accounted for the largest single spending category, totaling \$1.63 billion. Construction spending totaled \$1.58 billion in FY 2013. This amount includes \$87.5 million in spending on federal stimulus projects pursuant to the American Recovery and Reinvestment Act of 2009.

Section III.3 presents fiscal year-end cash balances for the major fund categories.

### III.1 State and Federal Revenue Collections

#### Commonwealth Transportation Fund State Revenue Collections

Figure 12 displays Commonwealth Transportation Fund (CTF) revenue from state sources for FY 2013 and FY 2012. FY 2013 CTF revenues were 2.3 percent greater than the prior year. Revenue performance at year end was 0.5 percent less than the annual growth rate target of 2.8 percent.

- Motor Fuel Tax collections were forecast to grow by 0.6 percent, but actual collections were down 1.4 percent from the previous year.
- Motor Vehicle Sales and Use Tax receipts ended the year 7.3 percent greater than in FY 2012, exceeding the forecasted annual growth rate of 6.7 percent.
- State Sales and Use tax collections were 3.6 percent greater than the previous year, but less than the forecasted growth of 5.9 percent.

**Figure 12 Commonwealth Transportation Fund  
(Highway Maintenance & Operating Fund and Transportation Trust Fund Revenues)**

(Dollars in Thousands)

Revenue	FY 2013 Estimate	Year-to-Date -June			% Annual Growth Required by Estimate
		FY 2013	FY 2012	% Change	
Motor Fuel Taxes	\$ 838,100	\$ 821,789	\$ 833,200	(1.4)	0.6
Priority Transportation Fund (PTF)	150,100	150,064	157,297	(4.6)	(4.6)
Motor Vehicle Sales and Use Tax	619,200	622,749	580,526	7.3	6.7
State Sales and Use Tax	533,000	521,180	503,070	3.6	5.9
Motor Vehicle License Fees	237,300	245,611	235,604	4.2	0.7
International Registration Plan	63,800	61,774	62,566	(1.3)	2.0
Recordation Tax	40,500	46,336	39,140	18.4	3.5
Interest Earnings	9,900	9,284	13,982	(33.6)	(29.2)
Misc. Taxes, Fees and Revenues	14,800	14,815	12,349	20.0	19.8
<b>Total State Taxes and Fees</b>	<b>\$ 2,506,700</b>	<b>\$ 2,493,602</b>	<b>\$ 2,437,734</b>	<b>2.3</b>	<b>2.8</b>

Note: The columns labeled “FY 2013” and “FY 2012” in Figure 12 represent Fiscal Year 2013 and 2012 total collections.



## VDOT Federal Revenue

Figure 13 presents a summary of federal revenue collections by VDOT Program. The line item listed as “Other Programs” includes Financial Assistance to Localities (Metro Planning) and Administrative and Support Services (Training and Civil Rights Grants).

- VDOT’s federal revenue collections through June 2013 were \$269 million greater than in FY 2012.
- The increase was driven by an 89 percent growth in the revenues generated by maintenance program activity.

**Figure 13 Federal Revenue Collections**

(Dollars in Thousands)

Program	FY 2013		FY 2012		Difference
	Revenue	% of Total Revenue	Revenue	% of Total Revenue	
Construction	\$ 738,774.0	52.2%	\$ 652,847.7	56.9%	\$ 85,926.3
Maintenance	518,897.6	36.6%	274,955.7	24.0%	243,941.9
ARRA	87,502.5	6.2%	180,526.8	15.7%	(93,024.3)
Planning & Research	17,105.2	1.2%	17,303.6	1.5%	(198.4)
Debt Service	41,654.8	2.9%	8,280.1	0.7%	33,374.7
Other Programs	12,120.8	0.9%	12,971.7	1.1%	(850.9)
<b>Total VDOT Programs</b>	<b>\$ 1,416,054.9</b>	<b>100.0%</b>	<b>\$ 1,146,885.6</b>	<b>100.0%</b>	<b>\$ 269,169.3</b>

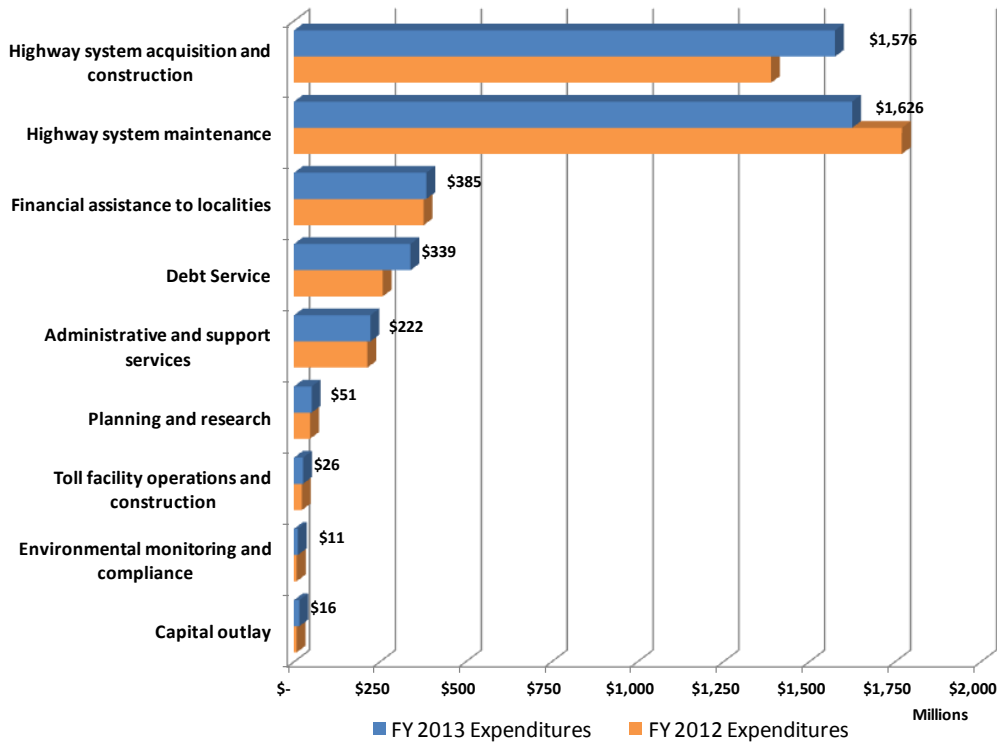
### III.2 Allocations and Expenditures

#### FY 2013 Spending

Figure 14 displays expenditures by program for FYs 2013 and 2012. Maintenance spending continues to dominate overall performance. The reported Highway System Acquisition and Construction spending includes expenditures from American Recovery and Reinvestment Act of 2009 (ARRA) projects.

- Across all programs, VDOT expended \$4.25 billion in FY 2013, \$157 million more than the previous year.
- Approximately 38 percent of VDOT spending was related to maintenance. This percentage is increased to 47 percent when maintenance payments to localities are included.
- Construction spending, including ARRA projects, accounted for approximately 37 percent of expenditures.

**Figure 14 FY 2013 Expenditures by Program**



## Maintenance Program Spending

Figure 15 displays a comparison of allocations and expenditures within the Maintenance Program for FYs 2013 and 2012. The Maintenance Program expenditures were slightly lower than in the previous fiscal year, resulting in 95 percent of allocations being spent.

- Maintenance program expenditures in FY 2013 totaled \$1.63 billion, a 9 percent decrease, or \$145 million less than the previous year.
- Actual spending for FY 2013 was within \$20.4 million of the anticipated spending forecast of \$1.65 billion.
- FY 2013 resulted in an \$88.9 million allocation balance, a significant reduction from the \$176.7 million FY 2012 balance and the \$485 million balance in FY 2011.<sup>20</sup> (2011 data not shown.)

**Figure 15 Maintenance Program Comparison by Service Area**

(Dollars in millions)

Service Area	FY 2013			FY 2012			Difference
	Allocations	Expenditures to Date	% Expended	Allocations	Expenditures to Date	% Expended	
Interstate Maintenance	\$ 481.5	\$ 361.7	75%	\$ 585.2	\$ 419.6	72%	\$ (58.0)
Primary Maintenance	530.5	510.2	96%	678.7	574.1	85%	(63.9)
Secondary Maintenance	434.2	465.5	107%	454.7	493.2	108%	(27.7)
Transportation Operations Services	180.8	188.0	104%	144.9	206.6	143%	(18.6)
Program Management & Direction	87.5	100.1	114%	83.4	76.5	92%	23.6
<b>TOTAL</b>	<b>\$ 1,714.4</b>	<b>\$ 1,625.5</b>	<b>94.8%</b>	<b>\$ 1,946.9</b>	<b>\$ 1,770.1</b>	<b>90.9%</b>	<b>\$ (144.6)</b>
	<b>Anticipated Spending Year to Date</b>	<b>\$ 1,645.9</b>					
	<b>Variance</b>	<b>\$ (20.4)</b>					

Note: The data under the columns labeled FY 2013 Expenditures to Date and FY 2012 Expenditures to Date show FY 2013 total expenditures and FY 2012 total expenditures, respectively. The column labeled Difference displays the difference between FY 2013 Expenditures to Date and FY 2012 Expenditures to Date.

<sup>20</sup> Allocation balance is calculated as Total Allocations minus Total Expenditures to Date.

## Construction Program Spending

Figure 16 shows construction spending by Construction Program Service Area.

- Total construction spending was \$1.58 billion in FY 2013, an increase of 13 percent over the prior year. The construction spending total includes \$20.9 million in construction management (Program Management & Direction).
- Actual spending was \$3 million dollars greater than the forecast.
- Year-end expenditures for ARRA projects were \$84 million, a decrease of \$67.5 million in ARRA construction spending compared to FY 2012. The decrease was due to ARRA projects being completed.

**Figure 16 Construction Program Comparison by Service Area**

	(Dollars in millions)					
	FY 2013		FY 2012		Difference	
	Expenditures to Date	Expenditures to Date	Expenditures to Date	Expenditures to Date	Amount	Percentage
<b>ARRA</b>	\$ 84.0	\$ 151.5	\$ (67.5)			-44.6%
<b>Dedicated &amp; Statewide Construction</b>	632.0	321.4	310.7			96.7%
<b>Interstate Construction</b>	263.0	368.2	(105.2)			-28.6%
<b>Primary Construction</b>	258.9	245.9	13.0			5.3%
<b>Secondary Construction</b>	124.2	104.5	19.7			18.9%
<b>Urban Construction</b>	192.7	179.3	13.4			7.5%
<b>Total Systems Construction</b>	<b>1,554.7</b>	<b>1,370.7</b>	<b>184.0</b>			<b>13.4%</b>
<b>Program Management &amp; Direction</b>	20.9	18.8	2.1			11.2%
<b>Total</b>	<b>\$ 1,575.6</b>	<b>\$ 1,389.5</b>	<b>\$ 186.1</b>			<b>13.4%</b>
<b>Anticipated Spending Year to Date</b>	<b>\$ 1,572.6</b>					
<b>Variance</b>	<b>\$ 3.0</b>					

Note: The data under the columns labeled FY 2013 Expenditures to Date and FY 2012 Expenditures to Date show FY 2013 total expenditures and FY 2012 total expenditures, respectively.

## FY 2013 Anticipated Spending

Figure 17 shows the anticipated spend plan by program for all of VDOT's programs. This table displays a comparison between the forecasted spend plan and year-end expenditures for FY 2013.

- Fiscal year-to-date expenditures for most programs were in line with the forecasted spend plan.
- Most of the difference between the VDOT Current Operating Budget total of \$4.5 billion and the FY 2013 Expenditures total of \$4.25 billion can be attributed to “Bond financed projects.” The use of Grant Anticipation Revenue Vehicle bond proceeds, in terms of expenditure, will be spread beyond FY 2013. Additionally, Capital Projects Revenue bonds allocated to projects are also being spent in subsequent fiscal years.

**Figure 17 Anticipated Spending**

(Dollars in millions)

Program	Original					Variance
	Current Operating Budget	Forecasted Annual Spending	Forecasted Annual spending	Forecasted Spending to Date	FY 2013 Expenditures to Date	
Administrative and support services	\$ 240.7	\$ 242.4	\$ 220.2	\$ 220.2	\$ 222.5	\$ 2.2
Planning and research	67.2	50.2	60.3	60.3	51.4	(9.0)
Highway system acquisition and construction						
Construction Funding	1,111.9	854.3	1,192.4	1,192.4	1,130.4	(62.0)
Bond-financed projects	524.2	378.5	380.2	380.2	445.2	64.9
Highway system maintenance	1,714.4	1,619.6	1,645.9	1,645.9	1,625.5	(20.4)
Financial assistance to localities	390.9	376.2	386.5	386.5	385.2	(1.2)
Environmental monitoring and compliance	15.1	12.4	8.9	8.9	11.0	2.1
Toll facility operations and construction	37.3	31.4	21.4	21.4	26.1	4.7
Capital outlay	11.6	27.5	15.0	15.0	15.7	0.8
Debt Service	348.4	300.0	339.3	339.3	339.3	-
<b>Total Expenditures</b>	<b>\$ 4,461.7</b>	<b>\$ 3,892.5</b>	<b>\$ 4,270.1</b>	<b>\$ 4,270.1</b>	<b>\$ 4,252.2</b>	<b>\$ (17.8)</b>

Note:

- The Original and Adjusted Forecasted annual spending does include PPTA arrangements. Anticipated spending for Design-Build Projects is not included.
- “Current Operating Budget” displays the Operating Budget for FY 2013.

### III.3 Major Fund Cash Balances - June 30, 2013

At the end of FY 2013, a decrease in the overall cash balance from FY 2012 was primarily due to the use of Capital Project Revenue (CPR) bond proceeds and the use of Grant Anticipation Revenue Vehicle (GARVEE) bond proceeds.

The year-end cash balance in the Highway Maintenance & Operating Fund and Construction Fund represents 30 to 60 days of daily expenditures

**Figure 18 Major Fund Cash Balances**

(Dollars in millions)

Fund	FY 2013	FY 2012 Year End Balance	Difference
Highway Maintenance and Operating	\$ 240.5	\$ 210.0	\$ 30.5
Tran Partnership Opportunity Fund	43.0	61.3	(18.3)
Concession Fund	16.3	16.1	0.2
Transportation Trust Funds			
Construction	\$ 277.6	\$ 162.8	\$ 114.8
Priority Transportation	92.0	99.2	(7.2)
Federal Reimb. Anticipation Notes	0.1	0.1	(0.0)
Toll Facility Revolving	135.0	145.6	(10.6)
Virginia Transportation Infrastructure	318.7	315.3	3.4
Total Transportation Trust Fund	823.4	723.0	100.4
ARRA	8.8	8.8	(0.0)
CPR Bonds Fund	502.1	929.5	(427.4)
GARVEE Bonds Fund	216.3	289.4	(73.1)
<b>Grand Total</b>	<b>\$ 1,850.4</b>	<b>\$ 2,238.1</b>	<b>\$ (387.7)</b>

## IV. Other Matters of Importance to Transportation in the Commonwealth

Section 33.1-13.03, subdivision iv, directs the Commissioner of Highways to also report on other matters of importance to transportation in the Commonwealth. Although not specifically identified as reportable in the legislation, VDOT believes that agency activities, as they relate or contribute to multimodal systems, warrant mention in this report and are discussed in this chapter. In addition, Chapter IV presents VDOT's success in securing transportation revenue through the U.S. Department of Transportation competitive Discretionary grant program. The final section of Chapter IV presents an overview of the new federal transportation authorization, the Moving Ahead for Progress in the 21<sup>st</sup> Century Act (MAP-21).

### *IV.1 Multimodal Systems*

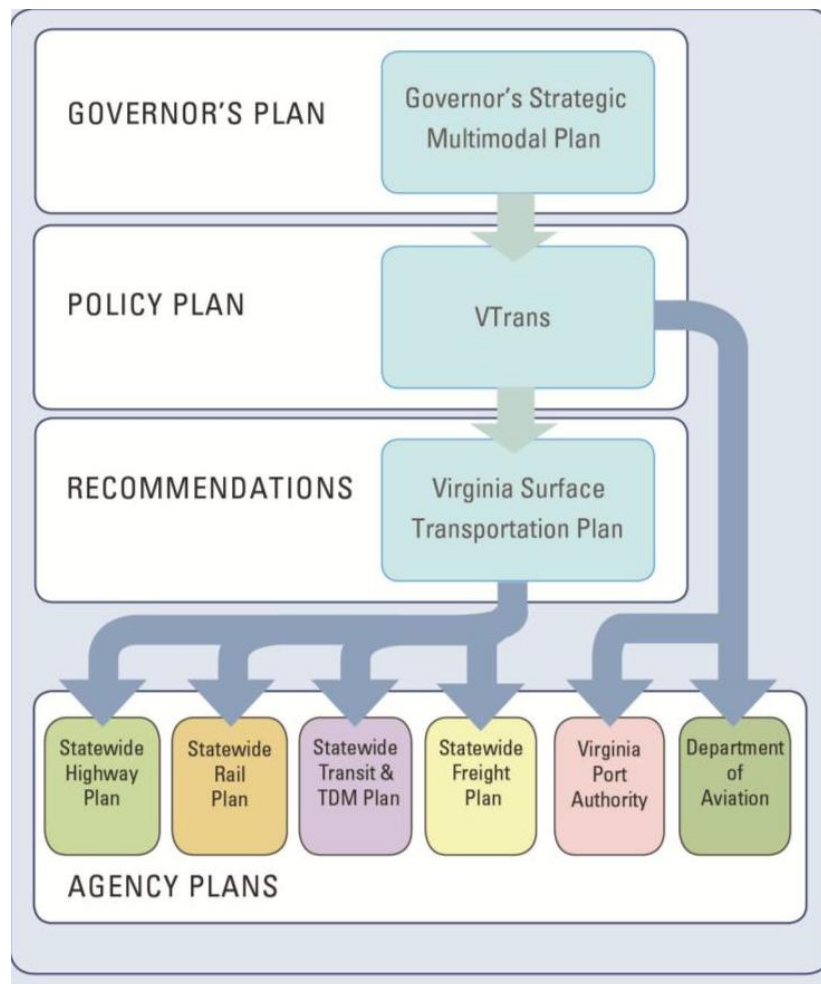
A multimodal approach is critical to modern day transportation systems, and an important component to that approach is the development of a comprehensive multimodal policy and planning document. An update to the Commonwealth's long-range multimodal transportation plan, VTrans 2035, was completed in February 2013. The Vtrans 2035 Update identifies transportation investment priorities and provides direction to transportation agencies on strategies and policies to be incorporated into their plans and programs. The Secretary of Transportation's Office, through the Office of Intermodal Planning and Investment, led the development of the VTrans2035 Update that involved the following state transportation agencies:

- Virginia Department of Aviation
- Virginia Department of Motor Vehicles
- Virginia Department of Transportation
- Virginia Department of Rail and Public Transportation
- Virginia Port Authority
- Virginia Motor Vehicle Dealer Board
- Virginia Commercial Space Flight Authority

In addition to and in support of the update of VTrans 2035, VDOT and the Virginia Department of Rail and Public Transportation (DRPT) have updated the 2035 Surface Transportation Plan, which incorporates changes from the Statewide Rail Plan, Statewide Highway Plan, and the Statewide Transit & Transportation Demand Management Plan.

The following schematic, showing the relationship of Virginia's transportation plans, is reprinted from the VTrans 2035 Update.

**Figure 19 Virginia’s Statewide Transportation Plans**



The VTrans 2035 Update can be found at: [http://www.vtrans.org/vtrans\\_2035\\_update.asp](http://www.vtrans.org/vtrans_2035_update.asp). A link to the 2035 Surface Transportation Plan Update is located on the VTrans 2035 main web page under “VSTP.”

Transportation projects will often lead to substantial economic, environmental and land-use impacts. This very consequential characteristic of many transportation projects coupled with their complexity and expense suggests that robust and comprehensive planning processes are needed, and, indeed, they are required by state and federal law. Among the agency’s core values is a commitment to continuous improvement in everything the agency does, including planning as evidenced by the following agency objectives, reprinted from the FY 2014-2015 Business Plan.<sup>21</sup>

<sup>21</sup> *Virginia Department of Transportation Business Plan for FY14 – FY15*, p14, p15.



Objective 6.1: To strengthen planning and programming processes for construction, maintenance and operations to maximize the use of available funding.

Objective 7.1: To ensure development of a Six-year Improvement Program that effectively leverages available revenues and efficiently programs projects to meet CTB goals.

These objectives are supported by several Action Items, including a plan to meet with VDOT construction districts and their CTB members to discuss the planning process as it relates to Vtrans 2035, the Surface Transportation Plan and maintenance projects to show their link to the development of projects in the Six-Year Improvement Program. The revised planning process will also include changes resulting from MAP-21, such as the federal emphasis on incorporating performance metrics and targets into the planning and project selection process. For purposes of the SYIP, VDOT identified \$130 million in the annual construction program for the preliminary-engineering phase of new project starts beginning July 1, 2013. The new PE starts for subsequent years of the SYIP are being identified based on performance metrics, including the presence of deficient pavement and structures, safety issues and planned improvements included in the Virginia Surface Transportation Plan. (Action Item 7.1.7).

Another of VDOT's overarching goals emphasizes the agency's role in improving interconnectivity of regions and activity centers and providing access to different modes of transportation. Action Items are also being implemented in support of this goal.<sup>22</sup>

## *IV.2 VDOT Efforts in Securing U.S. Department of Transportation Grants*

Under the direction of the Commissioner of Highways and the Chief of Planning and Programming, VDOT aggressively pursued competitive grant opportunities sponsored by the U.S. Department of Transportation (US DOT) during FY 2013. Congress initially authorized US DOT's competitive "Discretionary" grant program with passage of the American Recovery and Reinvestment Act of 2009.

In September 2013, VDOT was awarded a \$12 million Transportation Investment Generating Economic Recovery (TIGER) 2013 discretionary grant to rehabilitate the Lexington Delta Frame Bridges along I-64 in Rockbridge County. The existing bridges carry an estimated 9,115 vehicles per day, and serve as the gateway to the Appalachian and Alleghany Highland regions.

The FHWA fact sheet summarizing the Delta Frame award notes that I-64 is an important, major freight corridor and provides the only interstate access to the Port of Virginia. "This project will

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<sup>22</sup> Ibid, pp10-11.

ensure the bridges continue to serve as critical links joining the exchange of goods and services across the United States.”<sup>23</sup>

The FHWA also recognized the project’s innovation, noting that it is “highly innovative because it incorporates numerous techniques to minimize project cost, environmental impact, and schedule..., (including) the use of 3D modeling techniques, lightweight concrete, and methods to monitor the condition and structural health of the bridges. These techniques were developed through a research study conducted by Virginia Tech.”<sup>24</sup> The study was sponsored by the Virginia Center for Transportation Innovation and Research.

### *IV.3 Moving Ahead for Progress in the 21st Century Act, the Federal Transportation Reauthorization*

In July 2012, Congress enacted the Moving Ahead for Progress in the 21st Century Act (MAP-21, P.L. 112-141), the new long-term highway authorization. MAP-21 replaced the Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), which had been extended several times after expiring in 2009.

MAP-21 is a two year authorization, funding surface transportation programs at over \$105 billion for federal fiscal years (FFYs) 2013 and 2014, and though it represents a substantial change in the federal transportation program, it builds on and refines many of the prior highway, transit, bike, and pedestrian programs and policies.

The FHWA has developed a web site with links to fact sheets, webinars and other useful information describing MAP-21, <http://www.fhwa.dot.gov/map21>. The following overview highlights several of MAP-21’s key components and the differences when compared to SAFETEA-LU.

#### Consolidation of Core Programs and Changes to Discretionary Programs

MAP-21 substantially consolidates the complex array of programs established or extended by SAFETEA-LU into the following new core formula programs:

- National Highway Performance Program (NHPP)
- Surface Transportation Program (STP)
- Congestion Mitigation and Air Quality Improvement Program (CMAQ)
- Highway Safety Improvement Program (HSIP)
- Railway-Highway Crossings (set-aside from HSIP)
- Metropolitan Planning

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<sup>23</sup> TIGER 2013 Awards, US Department of Transportation, web citation: [http://www.dot.gov/sites/dot.dev/files/docs/TIGER\\_2013\\_FactSheets\\_2.pdf](http://www.dot.gov/sites/dot.dev/files/docs/TIGER_2013_FactSheets_2.pdf), p32.

<sup>24</sup> Ibid.

MAP-21 also creates two new formula programs:

- Construction of Ferry Boats and Ferry Terminal Facilities – replaces a similarly purposed discretionary program.<sup>25</sup>
- Transportation Alternatives (TA) – a new program, with funding derived from the NHPP, STP, HSIP, CMAQ and Metropolitan Planning programs, encompassing most of the activities previously funded under SAFETEA-LU’s Transportation Enhancements, Recreational Trails, and Safe Routes to School programs.

Though many of the previous smaller programs are eliminated, including most discretionary programs, the eligibilities are generally continued under the MAP-21 core programs. In addition, MAP-21 creates a new discretionary program – Tribal High Priority Projects (THPP) – and continues the following prior discretionary programs:

- Projects of National and Regional Significance (PNRS)
- On-the-Job Training Supportive Services
- Disadvantaged Business Enterprise (DBE) Supportive Services
- Highway Use Tax Evasion (Intergovernmental enforcement projects)
- Work Zone Safety Grants

#### The Planning Process and Performance Management

In MAP-21, the metropolitan and statewide transportation planning processes are continued, but now include performance goals, measures, and targets as components in the process of identifying needed transportation improvements and in project selection.

Indeed, the cornerstone of MAP-21’s highway program transformation is the transition to a performance and outcome-based program. National goals will be established and states will invest resources in projects to achieve individual targets (to be set by the state) that collectively will make progress toward the national goals.

Public involvement remains a hallmark of the planning process.

#### Accelerating Project Delivery and Streamlining the Environmental Review Process

Several changes in MAP-21 are designed to accelerate project delivery and streamline the environmental review process. As an example, under MAP-21 states may exercise the option to use the construction manager/general contractor (CMGC, also referred to as Construction

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<sup>25</sup> Discretionary programs are special funding categories under which FHWA solicits candidate projects and selects projects for funding based on pre-established criteria. Each program has its own eligibility and selection criteria that are established by law, by regulation, or administratively. Web citation: Federal highway Administration 2012 Discretionary Grant Programs, <http://www.fhwa.dot.gov/discretionary/>

Manager-at Risk [CMR]) method of contracting. Prior to passage of MAP-21, a state was required to request approval from the FHWA to use CMGC contracting on a project by project basis. CMGC contracting is also designed to expedite project delivery.

To encourage the use and development of innovative techniques and methods, MAP-21 provides for increased federal share (up to 100 percent) for some projects where the US DOT Secretary has determined that the project utilizes innovative techniques and methods.

In an effort to streamline the environmental review process, MAP-21 allows the Final Environmental Impact Statement (FEIS) and the Record of Decision (ROD)<sup>26</sup> to be combined under certain conditions, eliminating the normal 30 day waiting period between submission of the FEIS and return of the ROD by the FHWA.

Other environmental streamlining changes include giving the state the ability to seek approval of a programmatic mitigation plan, rather than requiring approval of mitigation strategies project by project. MAP-21 also provides expanded authority for categorical exclusions (CE). For example, a CE can be shared by several agencies working on a multi-modal project.

### Funding

MAP-21 authorized for FFY 2013 a total combined amount of \$37.5 billion in contract authority to fund the core formula programs, slightly lower than the FFY 2012 total apportionment of \$37.6 billion. MAP-21 authorizes contract authority of \$37.8 billion in FFY 2014. However, on October 25, 2013, the FHWA released a Notice to advise the states of obligation levels and obligation limitation distribution to the states under the Continuing Appropriations Act, 2014. (“Obligations” are federal funds that can now be spent by the states.) The Continuing Appropriations Act, 2014 covers the period from October 1, 2013 through January 15, 2014.

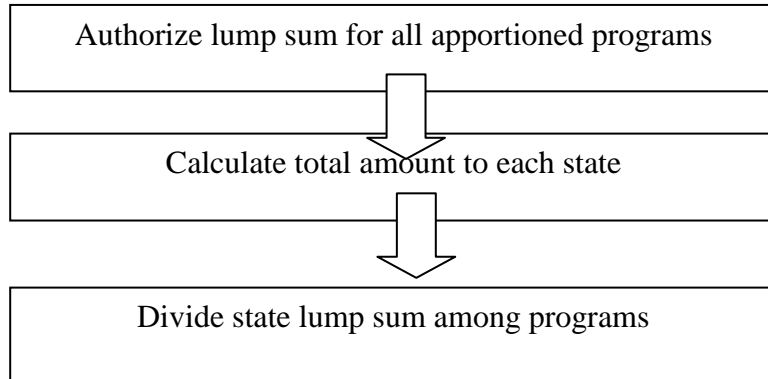
Virginia’s total FFY 2013 apportionment was \$981.4 million, a decrease when compared to Virginia’s FFY 2012 apportionment of \$985.9 million. For FFY 2014, the estimated apportionment is \$982.1 million. Virginia funding under the Continuing Appropriations Act is \$257,558,279.<sup>27</sup>

Prior to MAP-21, each apportioned program had its own formula for distribution, and each state’s total was the sum of the amount it received for each program. MAP-21’s new approach to distribution of formula funds is now based on the amount of formula funds each state received under SAFETEA-LU. The FHWA uses the following flow chart to summarize the new approach.

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<sup>26</sup> The Record of Decision signals formal federal approval of an Environmental Impact Statement or Environmental Assessment concerning a proposed highway project.

<sup>27</sup> Data Source: Federal Highway Administration. The FFY 2012 apportionments are from <http://www.fhwa.dot.gov/legisregs/directives/notices/n4510758/n4510758t1.htm>. The FFY 2013 and 2014 web reference is <http://www.fhwa.dot.gov/map21/apportionment.cfm> - use “Funding Tables” link. The web link for FHWA Notice 4520.227 regarding Distribution of Obligation Limitation is <http://www.fhwa.dot.gov/legisregs/directives/notices/n4520227.cfm>.



There are no earmarks in MAP-21 and the size of the safety program is doubled.<sup>28</sup>

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<sup>28</sup> Even though all states will realize an increase, the safety program apportionment will not necessarily double for every state compared to their 2012 apportionment under SAFETEA-LU.

## Appendix

### Chapters 36 and 152 of the 2011 Acts of Assembly

This report is submitted in response to Chapters 36 and 152 of the 2011 Acts of Assembly, which among other things, amended the *Code of Virginia* by adding § 33.1-13.03, requiring the Commissioner of Highways to submit a written annual report to the Governor and General Assembly. The code section reads:

#### § 33.1-13.03 Code of Virginia

*The Commissioner of Highways shall annually report in writing to the Governor and General Assembly, no later than November 30 each year, on (i) the condition and performance of the existing transportation infrastructure, using an asset management methodology and generally accepted engineering principles and business practices to identify and prioritize maintenance and operations needs and to identify performance standards to be used to determine those needs, and funding required to meet those needs, (ii) the Department's strategies for improving safety and security, increasing efficiency in agency programs and projects, and collaborating with the private sector and local government in the delivery of services, (iii) the operating and financial activities of the Department including, but not limited to, the construction and maintenance programs, transportation costs and revenue, and federal allocations, and (iv) other such matters of importance to transportation in the Commonwealth.*