2035 UPDATE

VTrans

SAFE • STRATEGIC • SEAMLESS

An Update to Virginia's Statewide Multimodal Long-Range Transportation Policy Plan

Draft for Public Review

December 4, 2012

Office of INTERMODAL Planning and Investment

CoSS	Corridor of Statewide Significance
CTB	Commonwealth Transportation Board
DOAV	Department of Aviation
DOT	Department of Transportation
DMV	Department of Motor Vehicles
DRPT	Virginia Department of Rail and Public Transportation
FHWA	Federal Highway Administration
IPROC	Intercity Passenger Rail Operating and Capital Fund
HMOF	Highway Maintenance and Operations Fund
HOV	High Occupancy Vehicle
MAP-21	Moving Ahead for Progress in the 21st Century
MARS	Mid-Atlantic Regional Spaceport
MMWG	Multimodal Working Group
MPO	Metropolitan Planning Organization
MTCF	Mass Transit Capital Fund
MTTF	Mass Transit Trust Fund
MVBD	Motor Vehicle Dealer Board
OIPI	Office of Intermodal Planning and Investment
OTP3	Office of Transportation Private Public Partnerships
PDC	Planning District Commission
PPTA	Public-Private Transportation Act
SAFTEA-LU	Safe, Accountable, Flexible, Efficient, Transportation Equity Act
SOV	Single Occupancy Vehicles
SYIP	Six Year Improvement Program
TIF	Tax Increment Financing
TTF	Transportation Trust Fund
TTI	Travel Time Index
VAMPO	Virginia Association of Metropolitan Planning Organization
VAB	Virginia Aviation Board
VDOT	Virginia Department of Trasnportation
VEC	Virginia Employment Commission
VEDP	Virginia Economic Development Partnership
VMT	Vehicle Miles Traveled
VPA	Virginia Port Authority
VSP	Virginia State Police
VSTP	Virginia Surface Transportation Plan

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Executive Summary

VTrans is the long-range, statewide multimodal policy plan that lays out overarching Vision and Goals for transportation in the Commonwealth. It identifies transportation Investment Priorities and provides direction to transportation agencies on strategies and programs to be incorporated into their plans and programs. The VTrans2035 Update is a unique update of the prior plan, VTrans2035. This is an interim update required by legislation – it relies on much of the information provided in VTrans2035 and focuses on moving statewide multimodal planning towards a focus on performance.

Performance-Based Planning

The VTrans2035 Update advances the Vision and Goals set forth in VTrans2035. The development of the update focused on first adjusting priorities and strategies based on an understanding of changes in the transportation planning and funding context since approval of VTrans2035. The update process then focused on developing a more cohesive, performance-based multimodal planning framework to guide agency plans and future VTrans updates. The performance-based planning framework includes the following elements:

- VTrans Vision and Goals, which were confirmed by stakeholders without change
- Investment Priorities
- Investment Strategies
- Rating of Investment Priorities
- Performance Reporting

The alignment of these elements is critical to the performance-based planning approach. The alignment begins with defining the Investment Priorities as measurable action statements for each Goal. Figure E-1 shows the alignment of VTrans Vision, Goals and Investment Priorities. The VTrans Goal statements are listed in full below.

VTrans2035 Goals

Safety and Security – to provide a safe and secure transportation system

System Maintenance and Preservation – to preserve and maintain the condition of the existing transportation system

Mobility, Connectivity, and Accessibility – to facilitate the easy movement of people and goods, improve interconnectivity of regions and activity centers, and provide access to different modes of transportation

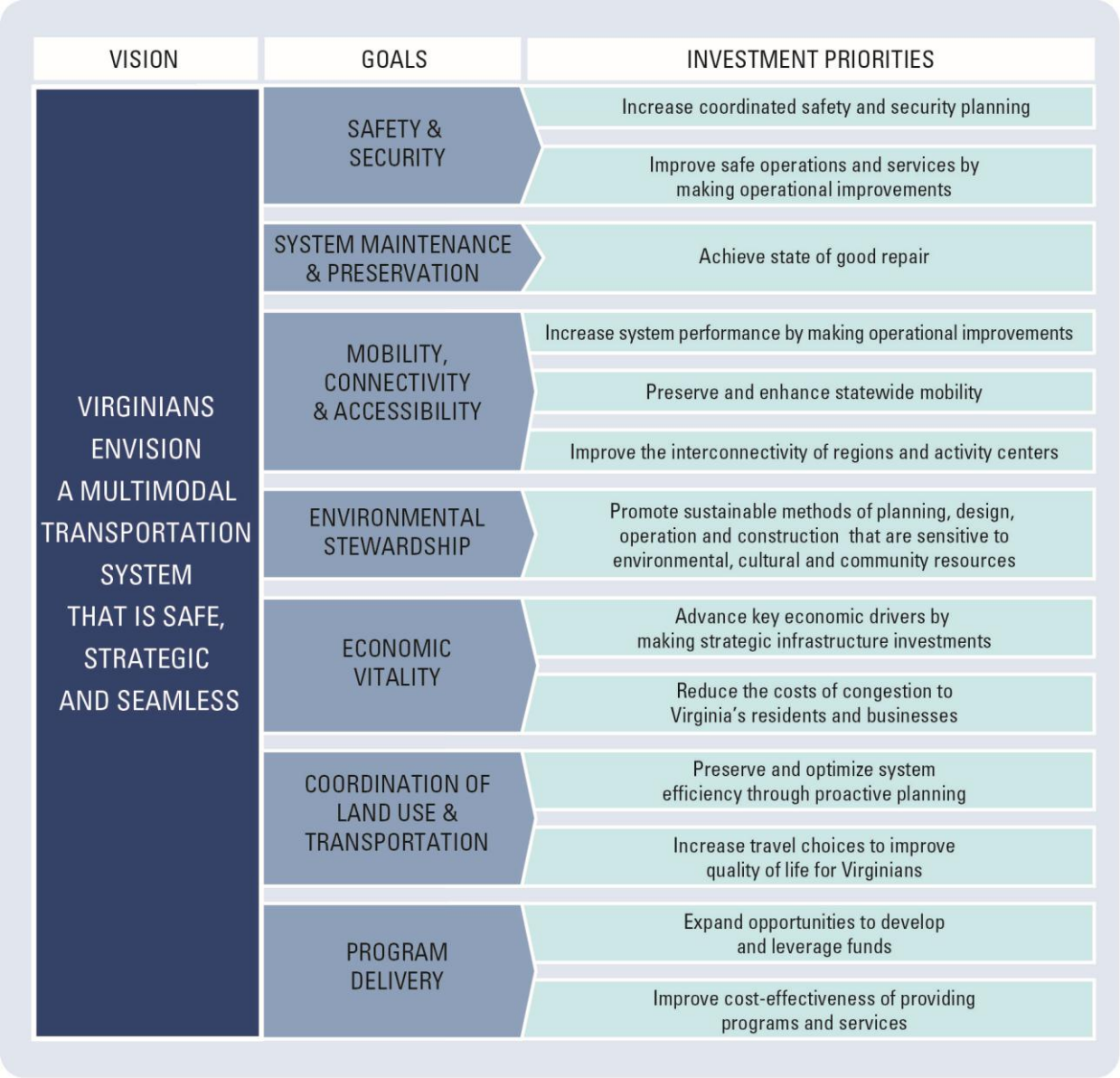
Environmental Stewardship – to protect the environment and improve the quality of life for Virginians

Economic Vitality – to provide a transportation system that supports economic prosperity

Coordination of Transportation and Land Use – to promote livable communities and reduce transportation costs by facilitating the coordination of transportation and land use

Program Delivery – to achieve excellence in the execution of programs and delivery of service

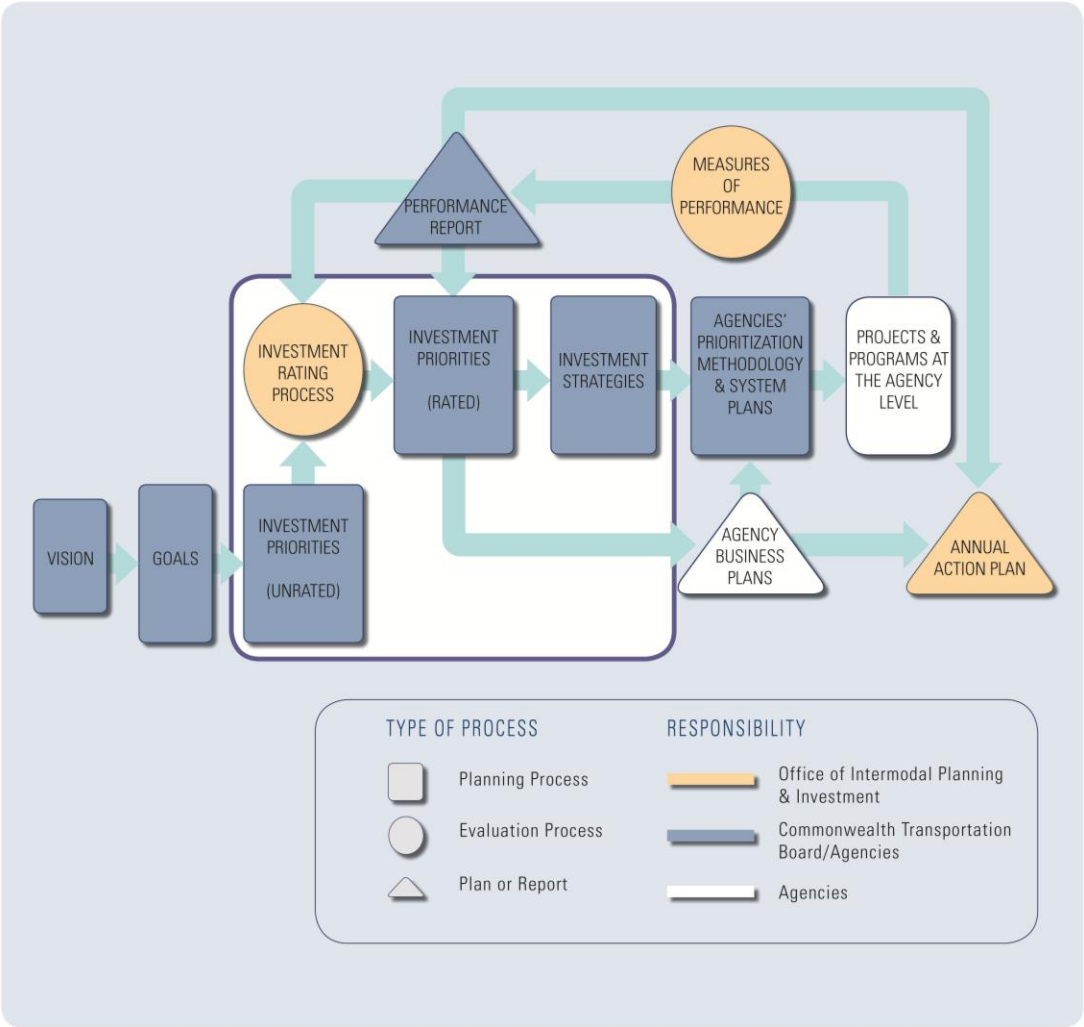
Figure E-1: VTrans Vision, Goals and Investment Priorities



Investment Priorities represent investment decisions – some describe programs such as education and planning, while others describe types of projects such as highway and transit improvements and intelligent transportation systems. Collectively, the Investment Priorities represent the range of activities necessary to achieve the VTrans Goals.

As a practical matter, transportation agencies need a basis for prioritizing among their transportation needs because of constrained transportation funding. Performance-based planning provides a data-driven approach to making these difficult choices. Figure E-2 shows the performance-based planning framework developed in the VTrans2035 update. The full cycle of identifying Investment Priorities, rating them, applying Investment Strategies to agency plans and programs, measuring performance, and feeding performance information back into the investment priority evaluation process is illustrated in

Figure E-2: Performance-Based Planning Framework and the VTrans Update



this diagram. The VTrans2035 Update, however, focuses primarily on the core of the diagram in which Investment Priorities are identified and rated.

The Investment Priority Rating Process supports the performance-based planning and programming framework by providing a transparent method for evaluating the urgency and relevance of the Priorities during each VTrans update. The rating of Investment Priorities will not alter the fundamental commitments to safety and maintenance, nor will they redirect investment from projects that are already obligated. Instead, the rating of investment priorities is intended to guide investment choices for future funding outside of those commitments.

The rating of Investment Priorities is based on need and cost-effectiveness. Need is a critical consideration in light of limited funding – even the most cost-effective investments should not be prioritized if they don't meet the most critical needs. The rating process thus begins with a Need evaluation that identifies the top tier of the Investment Priorities. These Investment Priorities are then evaluated on their affordability, ease of implementation, and the impact of not making the investment. The rating method also provides a broadly-applicable, flexible tool that can be used by the CTB and

other boards, transportation agencies, MPOs and other partners to target transportation investment decisions toward the most urgent Investment Priorities.

Corridors of Statewide Significance

The Corridors of Statewide Significance (CoSS) continue to be an important element of VTrans. The CoSS were originally developed under VTrans2025 and validated during the VTrans2035 Update process. One new Corridor was added by the CTB in 2011. Corridors identified as CoSS demonstrate all of the following characteristics:

- Multiple modes and/or an extended freight corridor,
- Connection among regions, states and/or major activity centers,
- High volume of travel, and
- Unique statewide function and/or fulfillment of statewide goal.

The discussion of CoSS in this VTrans Update focuses on the process for developing CoSS Master Plans and formalizing a process for adding, deleting, or modifying CoSS in the future.

Policy Recommendations

Trends in transportation funding indicate that existing revenue sources are insufficient for a 21st century transportation system. The per-gallon gas tax revenues are declining relative to the amount of population and travel due to trends in fuel efficiency, alternative fuels, and reduced per-person travel. Existing revenue sources for critical passenger rail and transit services will expire or be exhausted within the next few years. Maintenance needs for all modes of transportation are reducing the amount of funding available for needed improvements to operations and capacity. This VTrans update focuses on policy recommendations to increase funding and leverage greater partnerships with regional, local and private entities, as well as policies and agency initiatives that will support the Investment Priorities.

Planning Partners and VTrans

Shown at the right-hand side of Figure E-2 are the plans and programs of transportation agencies. These agencies include state transportation departments for rail and transit, aviation, ports, and highways. Also included are regional planning agencies and local governments. Project-level investments are identified and funded by these agencies. VTrans provides guidance to all of these planning efforts. A Planning Partner's Guide is included in the final chapter of this document to provide additional information on the alignment of state, regional and local agency planning processes with VTrans and the performance-based planning approach.

VTrans2040

VTrans2040 will more fully integrate the planning processes shown in Figure E-2, including updates to the performance measures that are used to evaluate progress and need. VTrans2040 will be developed over the next three years with adoption scheduled in 2015.

Chapter 1: Background

The VTrans2035 Update is a unique update of the prior plan, VTrans2035. This is an interim update required by legislation – it relies on much of the information provided in VTrans2035 and focuses on moving statewide multimodal planning towards a focus on performance. This chapter provides the background information necessary to understand the role and the components of VTrans in guiding the Commonwealth's multimodal transportation system. It includes the legislative requirements for multimodal transportation planning and a review of changes since the adoption of VTrans2035. In addition, this chapter reviews the recent developments in transportation policy, performance and funding, as well as a review of the latest forecasted social and economic trends that will shape long-term future needs in the Commonwealth.

What Is VTrans?

VTrans is the long-range, statewide multimodal policy plan that lays out overarching Vision and Goals for transportation in the Commonwealth. It identifies transportation Investment Priorities and provides direction to transportation agencies on strategies and programs to be incorporated into their plans and programs.

The VTrans2035 Report was accepted by the CTB in December, 2009. This interim update of VTrans2035 does not establish a new horizon year, nor does it include a fully updated analysis of anticipated long-range transportation needs. Rather, it is focused on transforming the existing components of VTrans2035 into a new framework for linking system-wide performance evaluations to planning, policy development, and funding decisions. Using this "performance-based planning" framework, transportation agencies and decision-makers can use information about projected transportation needs with assessments of current system performance to develop cost-effective strategies that simultaneously address existing transportation needs and anticipated future conditions.

Figure 1-1 shows the development of VTrans over the past decade.

Why Do We Have a Statewide Transportation Plan?

Virginia's transportation system is a complex network of highways, sidewalks, trails, rail corridors, transit systems, information systems, airports and runways, shipping ports and docks, intermodal connectors, and even a space port. This variety is the essence of a "multimodal" transportation system. The multimodal transportation system serves residents, businesses, tourists and other visitors, all of whom have different needs and desires. During the prolonged economic recession, Virginia has maintained economic growth and has attracted new residents, but has not escaped the national downward trends in publicly-generated revenues for transportation investments. Virginia's transportation providers are facing ever-increasing challenges to address growing demands for facilities and services with limited public funds. Consequently, it is more important than ever to identify the most critical needs and cost-effective means to operate, maintain and improve the Commonwealth's transportation systems.

Figure 1-1: History of VTrans Documents

	VTrans 2025	VTrans 2035	VTrans 2035 UPDATE	VTrans2040 (future)
MAJOR ACCOMPLISHMENT/ FOCUS	First unified, statewide multimodal policy plan	Extensive research to identify long-term trends & issues as a basis for policies and priorities	Transition to performance-based planning with an emphasis on rating priorities	Fully implement and integrate performance-based planning
VISION & GOALS	Established	Affirmed	Affirmed	Affirm
CORRIDORS OF STATEWIDE SIGNIFICANCE (CoSS)	Initial development and definition	Further developed in terms of issues; launch concept of corridor management plans (CMPs)	- Linked to investment priorities - Process to add/delete CoSS in the future - CMPs under development	CMP recommendations to be used for implementation of investment priorities
INVESTMENT PRIORITIES	Identified needs for each mode	Initially developed to identify key investments of statewide importance	Linked to goals, restructured and rated to help guide investing decisions	Realign investment priorities based on performance data
	2004	2009	2013	2015

What Are the Legal Requirements for this Plan?

VTrans is a policy document that guides the development of the long-range Virginia Surface Transportation Plan (VSTP) and statewide plans for Ports and Aviation. Combined, VTrans and these statewide modal plans provide the comprehensive, multimodal transportation planning documents that are consistent with state and federal regulations and guidelines. The following paragraphs summarize key federal and state requirements, about which more information is included in Appendix A.

Federal Requirements

Federal regulations for statewide long-range transportation planning and programming are spelled out in the United States Code Title 23, Chapter 1, Section 135 (Federal-Aid Highways) and Title 49, Chapter 53 (Public Transportation). The statutes require each state to develop a long-range plan and Statewide Transportation Improvement Program (STIP) that "provide for the development and integrated management and operation of transportation systems and facilities (including accessible pedestrian walkways and bicycle transportation facilities) that will function as an intermodal transportation system for the State and an integral part of an intermodal transportation system for the United States."

The federally required process for developing plans and programs are to consider "all modes of transportation" and be "continuing, cooperative, and comprehensive to the degree appropriate, based on the complexity of the transportation problems to be addressed." Key planning factors to be considered include economic vitality; safety and security; accessibility, mobility, and multimodal connectivity of people and freight; issues related to the natural environment, energy, and quality of life; consistency with local and regional plans; system efficiency; and preservation of existing transportation systems.

In July 2012, Congress passed a Federal Transportation Act to update the Safe, Accountable, Flexible, Efficient Transportation Equality Act: A Legacy for Users (SAFETEA-LU), (which expired in 2009) the Act under which previous VTrans documents were developed. Dubbed "Moving Ahead for Progress in the 21st Century" (MAP-21), the 2012 Act carries forward the key planning requirements and provisions of SAFETEA-LU with an added emphasis on performance-based planning and programming. The VTrans2035 Update anticipates the associated new federal regulations (currently in development) by including the performance-based planning framework described in this report. In tandem with the development of more detailed federal regulations, the VTrans2040 update (scheduled for completion by 2015) will include specific benchmarks and methods for evaluating system performance and updating Investment Priorities.

State Requirements

Virginia Code Section 33.1-23.03 calls upon the Commonwealth Transportation Board (CTB), with the assistance of the Office of Intermodal Planning and Investment (OIPI), to "conduct a [multimodal] comprehensive review of statewide transportation needs in a Statewide Transportation Plan setting forth an assessment of capacity needs for all corridors of statewide significance, regional networks, and improvements to promote urban development areas established pursuant to section 15.2-2223.1."

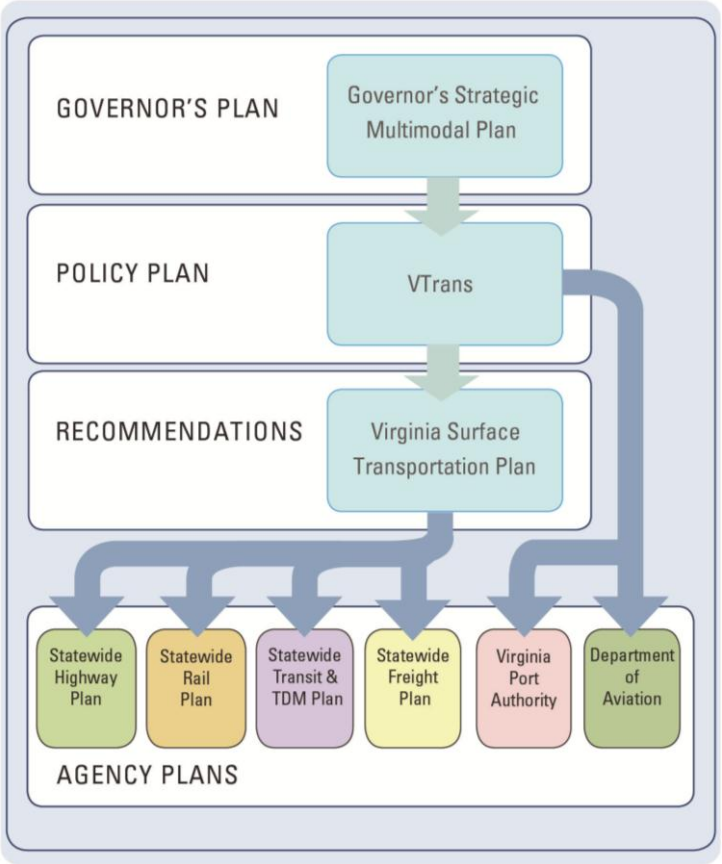
Key planning elements of the Virginia code include economic development, multimodal and intermodal connectivity, environmental quality, accessibility for people and freight, transportation safety, environmental concerns, local land uses, and coordination with regional plans. New state requirements call for plans and policies specifically related to mobility and accessibility for pedestrians and for people with disabilities. Recent state legislation (SB 639/HB 1248) also calls for local governments to address the Statewide Transportation Plan within local comprehensive plans by including maps of planned transportation improvements and identifying Corridors of Statewide Significance on the transportation element maps.

Other relevant bills approved by the 2012 Virginia Legislature include HB 1177, which includes a policy statement to lessen energy dependence through a variety of strategies that support the use of hybrid and electric vehicles and reducing per-capita energy use; HB 810, which establishes staffing and reporting for the joint Commission on Transportation Accountability; HB 1164, which establishes a regular review of the process for approving secondary and urban highway projects; SB 230, which establishes training for local governments to administer roadway maintenance and construction with minimal VDOT supervision; and sections of SB 639 / HB 1248 which calls for a coordinated effort by state, regional and local agencies to develop a proposal for the devolution of responsibility for secondary roads in major metropolitan counties from state to local governments.

How Do the Various Statewide Plans Fit Together?

Under the direction of the Secretary of Transportation and the Governor's Strategic Multimodal Plan, VTrans2035 serves as the "policy plan" – describing the investments, actions and public policies needed

Figure 1-2: Virginia's Statewide Transportation Plans



to advance the statewide Vision and Goals over a long period of time. As shown in Figure 1-2, several other statewide transportation plans fall under the VTrans policy plan, including the Virginia Surface Transportation Plan (VSTP), the Virginia Air Transportation System Plan, and the Virginia Port Authority Master Plan. Each plan provides an assessment of needs and recommendations for the subject transportation mode or modes. The modal plans evaluate current initiatives, assess critical needs and ultimately provide recommendations for specific projects, strategies, and areas of investment to meet future needs and achieve long-term transportation goals. The VSTP provides recommendations for public transportation, rail, and highway projects, as well as strategies for freight and to increase carpooling, biking, walking, and the use of other modes.

What Are the Recent Developments in Transportation Planning?

Governor's Strategic Multimodal Plan

VTrans2035 was accepted by the Commonwealth Transportation Board in January, 2010, the first month of the McDonnell Administration. In its first year, the McDonnell Administration completed the ***Governor's Strategic Multimodal Plan,*** a collaborative effort to identify priorities and critical actions to advance the strategic transportation objectives of the Administration. The Strategic Plan included goals and measures of success that corresponded to, but were not identical, to the Goals and Investment Priorities established in VTrans2035. Its focus on linking performance measures to policy actions provided a basis for updating VTrans2035 through the development and institutionalizing of a performance-based planning and programming framework.

Office of Intermodal Planning and Investment (OIPI)

In order to develop the Governor's Strategic Multimodal Plan, the Secretary of Transportation established a ***Multimodal Working Group*** that included the lead planners for each mode of transportation and the policy advisors of every agency within the Secretariat, including the Virginia Port Authority (VPA), the Virginia Department of Aviation (VPA), the Department of Rail and Public Transportation (DRPT), the Virginia Department of Transportation (VDOT), the Department of Motor Vehicles (DMV), the Motor Vehicle Dealer's Board (MVDB), and the Mid-Atlantic Regional Spaceport

(MARS). This group guided the establishment of a free-standing Office of Intermodal Planning and Investment (OIPI) that is housed independently within the Secretariat rather than within a particular modal agency. Led by OIPI, the Multimodal Working Group meets regularly to foster communication across transportation modes, including the development of a multimodal transportation training program. This emphasis on cross-agency communication and multimodal training has fostered a growing understanding and interdependency among the agencies. This approach can make the delivery of transportation services by all agencies more cost-effective through activities such as sharing study information and coordinating planning efforts within common areas of the state.

Corridors of Statewide Significance (CoSS)

Twelve ***Corridors of Statewide Significance*** (CoSS) were initially identified in VTrans2025 and further defined in VTrans2035. During 2010-2011, a master plan was completed for the "Seminole Corridor" along US 29; this process yielded several "lessons learned" that the OIPI is using to refine the approach for other CoSS plans to be developed over the coming years. In May of 2011, the Commonwealth Transportation Board (CTB) passed a resolution adding a 12th CoSS, the North-South Corridor in northern Virginia. This resolution also required the OIPI to work with the CTB to establish a standard process for adding, deleting or modifying CoSS between formal VTrans updates in the future. This topic is addressed in more detail in Chapter 5.

System Performance Assessments

In 2006, Chapter 942A of the General Assembly required the establishment of transportation ***performance measures*** that are updated annually. Over the years, the reports have shown some areas of improvement, some areas of reduced performance, and some notable variations from year to year. The process of collecting and assessing performance data over a period of several years has led to a growing understanding that the performance measures themselves require some refinement in order to better capture the effects of transportation investments that are made by the Commonwealth's transportation agencies. The annual performance results are provided on the www.vtrans.org website, and their role in establishing needs for the performance-based planning framework is discussed in Chapter 4. In addition to these performance measurement requirements, Chapter 733 of the 2010 Acts of Assembly requires annual reporting of the demographic trends reshaping Virginia; the passenger rail, transit, and transportation demand management initiatives recently launched to address these trends; and how these initiatives are advancing the Commonwealth's 21st Century multimodal transportation system.

Agency Transportation Plan Updates

In 2012, VDOT and DRPT began updating the multimodal ***Virginia Surface Transportation Plan, Statewide Rail Plan, and Statewide Transit and Transportation Demand Management Plan***. The VSTP includes the rail, transit and transportation demand modes as well as highway, freight, bicycle and pedestrian. All of these documents will be finalized shortly after this VTrans2035 Update is completed. Meanwhile, an update of the ***Virginia Air Transportation System Plan*** (VATSP) commenced in the fall of 2012, and the ***Virginia Port Authority Master Plan*** is expected to be complete in December 2012. In addition, the ***Statewide Freight Plan*** is expected to be developed sometime in the next fifteen months. Information from these plans will provide a basis for a complete update of anticipated long-range transportation needs to be included in VTrans2040.

Multimodal Freight Transportation and MAP-21

Beginning in 2012, the Virginia Multimodal Freight Transportation Study will be used to develop a state-wide freight plan that reflects the MAP-21 required elements. Virginia is well ahead of the curve and has already established an initial set of freight policies, strategies, performance measures, trends, needs and issues, all of which are required by MAP-21. Completed in 2009, the study has a complete inventory of bottlenecks and strategies that were developed to address heavy truck route conditions and improvements, as well as show evidence of Intelligent Transportation Systems (ITS) and innovative technology/operations. The update will encompass taking the study and:

- Incorporating additional analysis aligning inventory by industry to transportation facility and evaluating trends and growth opportunities for Virginia so freight transportation priorities are aligned with economic growth opportunities as stated in the legislation
- Distributing out to the public and soliciting feedback
- Updating the performance measures and the list of freight projects and policies listed in the 2009 study

Information from the update will provide a basis for documenting the latest thinking on freight planning and how Virginia meets national strategic freight goals, all of which will be a part of the new Multimodal Freight Plan and VTrans2040.

Regional Agency Engagement and Consultation

With respect to Metropolitan Planning Organizations (MPOs), the 2011 Virginia Legislature established a new Code section, §33.1-223.2:25, that directs the CTB, VDOT and DRPT to develop and implement a decision making process that gives MPOs and regional planning bodies a meaningful opportunity for input in the development of the Six Year Improvement Program. The bill also directs MPOs to forward updates of their regional long-range transportation plans (LRTPs) to the CTB. The Board of Directors for the **Virginia Association of Metropolitan Organizations (VAMPO),** established in October 2010, will provide recommendations to the General Assembly on strategies to improve statewide transportation planning and programming.

Virginia's **Rural Regional Long-Range Plans,** modeled after the federally mandated metropolitan transportation planning process, are intended to help state agencies focus rural transportation planning resources and to provide valuable information to local governments and state transportation decision-makers. Through its nationally recognized Rural Transportation Planning program, VDOT is working with 20 Planning District Commissions (PDCs) throughout the Commonwealth to evaluate the state's rural multimodal transportation system and to recommend a range of improvements that address existing and future needs.

The planning process for the Virginia Air Transportation System Plan involves both bottom-up and top-down coordination processes, with regional stakeholders represented by the **Virginia Airports Operating Council** closely engaged in the plan's Technical Committee.

What Are the Recent Developments in Transportation Funding?

Governor's Omnibus Transportation Bill

The **Governor's Omnibus Transportation Bill** made several transportation program changes during the 2011 General Assembly. The Governor's Funding Plan enabled VDOT to issue $1.8 billion in Capital Revenue Bonds earlier than originally planned and approved additional debt authority to issue $1.1 billion in direct GARVEE bonds in order to expedite projects meeting critical transportation needs. The Bill also made adjustments to the state Revenue Sharing Program by increasing the project cap for construction projects from $1 million to $10 million and adding the ability for localities to submit maintenance projects up to $5 million. The total program cap was increased from $50 million to $200 million. The Bill also established the Virginia Transportation Infrastructure Bank (VTIB).

Virginia Transportation Infrastructure Bank

The Virginia Transportation Infrastructure Bank is a special non-reverting, revolving loan fund created for the purpose of making loans and other financial assistance to localities, certain private entities and other eligible borrowers and grants to localities to finance transportation projects. The purpose of the bank is also to encourage the investment of both public and private funds in the development of eligible transportation projects and to provide an alternative source of financing for present and future transportation needs.

Office of Public-Private Partnerships (OTP3)

The Office of Public Private Partnerships (OTP3), established by the McDonnell Administration in 2011, is charged with developing and implementing a statewide program to enhance multimodal transportation project delivery under the Public-Private Transportation Act of 1995 (PPTA). The mission of this office is to take a highly proactive role in leveraging private sector engagement in order to advance projects through the PPTA process in a consistent, transparent, and cost-effective manner.

Commonwealth Transportation Fund (CTF)

The Commonwealth Transportation Fund (CTF), based on official state transportation revenue forecasts, reflects the funding provided by the Governor's Omnibus Transportation Funding Bill. Fiscal year (FY) 2012 CTF Revenues totaled $5.3 billion, a 41% increase from 2011 levels. FY 2013 CTF revenues totaled $4.7 billion, an 11% decrease compared to FY 2012. The relative spike in the 2012 budget is primarily due to the GARVEE bonds provided by the Governor's Transportation Funding Plan.

Six-Year Improvement Programs (SYIP)

The statewide Six-Year Improvement Programs (SYIPs) allocate funds for transportation projects proposed for construction, development or study for the next six fiscal years. The program is updated annually. The 2013-2018 SYIP, budgeted at $11.8 billion, represents a $400 million increase from the 2012-2017 program.

Intercity Passenger Rail Operating and Capital Fund (IPROC)

IPROC was established by the General Assembly in 2011 as a strategy to sustain Virginia's share of Amtrak Virginia's operating budget in preparation for the Passenger Rail Investment and Improvement

Act of 2008 (PRIIA). PRIIA requires that state governments be responsible for operating costs for regional rail routes of under 750 miles starting in 2013.

While a steady funding stream is yet to be identified for IPROC, the legislation, the CTB and General Assembly are providing flexibility to allocate existing transportation revenues into the fund. In 2012 the General Assembly provided $28.7 million of the FY2011 General Fund surplus for the operating and capital needs of Virginia intercity passenger rail services, and authorized a transfer of $26.1 million of Rail Enhancement Funds for passenger needs for 2013 and 2014.

How Have Demographic and Economic Trends Changed?

VTrans2035 summarized forecasts for socioeconomic activity, travel demand, information impacting travel demand, and related policies. *An Interim Update to the 2035 Socioeconomic and Travel Demand Forecasts for Virginia* was prepared to update and expand on the description of socioeconomic and travel activity and trends that impact transportation policy.[1] The update provides new forecasts and trends to consider with respect to transportation decisions and policy. Results are reported on the basis of modified planning district commission (PDC) boundaries where each county was allocated to one PDC. (See Figure 1-3.) The report was supplemented with Virginia Employment Commission (VEC) data.

As a result of the trends described on the following pages, several key issues and opportunities are important to consider in developing plans for the future of transportation in Virginia:

Intermodal facilities and connections are needed to handle increasing volumes of ***freight movement*** through Virginia marine ports, inland ports, rail lines, highways, and airports.

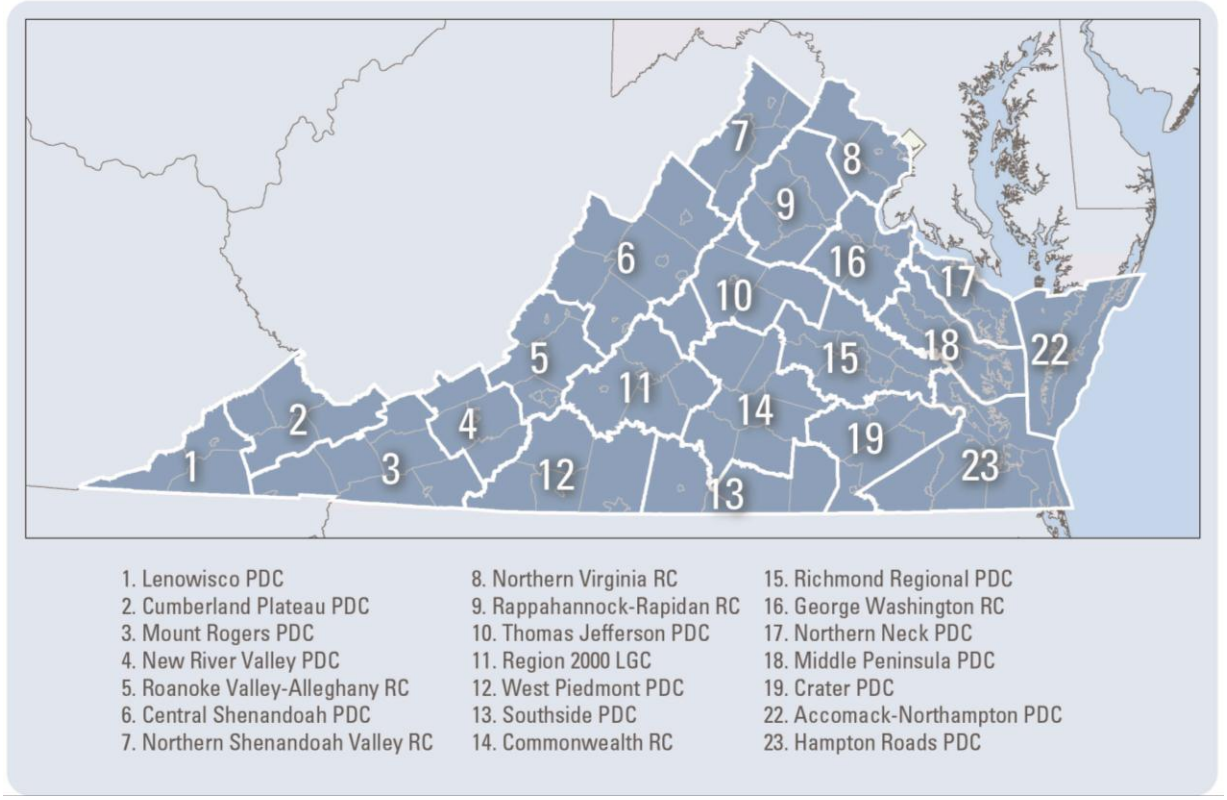
A balanced array of transportation investments for passenger and freight movement is needed to reduce ***traffic congestion*** in fast-growing urban and suburban areas statewide, and especially in the highly-congested Washington DC metro area.

More ***travel choices***, including increased public transportation options and pedestrian facilities, are needed to serve growing urban, suburban, and rural populations of people who cannot or choose not to drive, including older adults and people with disabilities.

Strategic ***rural connections*** are needed to support the revitalization of small cities and communities that struggle with persistent unemployment and poverty rates, especially along Virginia's southern and western borders.

[1] Miller, J.S. *An Interim Update to the 2035 Socioeconomic and Travel Demand Forecasts for Virginia,* VA Transportation Research Center, Charlottesville, June 12, 2012.

Figure 1-3: Virginia's Planning District Commissions



Virginia's Population Continues to Grow, Especially in Urban Regions

The 2010 US Census data was released in the Spring of 2012. This allows forecasted 2010 estimates to be replaced with actual 2010 population. According to the Census, Virginia's 2010 population was 8,001,024, a figure similar to forecasts by NPA Data Services, Inc. (8,057,350) and the Virginia Employment Commission (8,010,340).

Updated forecasts for 2035 fall within the range of previous forecasts both statewide and for nearly all of the Planning District Commission (PDC) regions. Statewide population is expected to increase by 2,268,604, to a total population of 10,269,628 in the year 2035. The Region 2000 Local Government Council 2035 forecast for the Lynchburg region is slightly higher (1.8%) than the high VEC forecast, while the Hampton Roads regional forecast is slightly lower (-0.3%) than the low VEC forecast. The only significant difference is for the Accomack-Northampton PDC on the Eastern Shore, where the updated forecast is 12% lower than the VEC forecast.

Projected growth is highly concentrated along the Commonwealth's eastern "urban crescent:" PDC's in Northern Virginia, Richmond, Hampton Roads, and the George Washington (Fredericksburg) regions account for 76% of the population change forecasted for 2035. In general, the PDCs with the highest projected population growth rates (2010-2035) are also the PDCs with the highest per capita incomes in 2011 (Figure 1-4).

In addition to general population growth over time, the American military's Base Realignment and Closure (BRAC) program is expected to draw an additional 355,000 people to 18 bases throughout Virginia. The largest increases will be in eastern Virginia at Fort Belvoir, Fort Lee, and the Marine Corp Quantico Base. Traffic congestion is likely to increase as jobs grow and commuting travel rises in the vicinity of expanded bases.

Virginia's Population Is Aging

Across America, ten thousand people celebrate their 65th birthday every day, a trend that is expected to continue for the next 20 years. The proportion of people with a disability is also likely to increase, since, according to the 2011 American Community Survey, one-third of people over 65 have a disability. The proportion of Virginians older than 65 is forecasted to increase from 12% in 2010 to more than 18% in 2035. In fact, 2035 projections indicate that the population over 65 will account for as much as 27% of the total population in select PDCs (Figure 1-5). Meanwhile, the current proportion of the population with a disability is highest (28%) in the rural Cumberland Plateau PDC. However, the greatest numbers of people with a disability are found in the urban regions of Hampton Roads and Northern Virginia.

Wealth Is Concentrated in North-Central Areas and Urban Regions

Household income data from 2009 indicated that Northern Virginia, Rappahannock-Rapidan, Richmond, Hampton Roads, Thomas Jefferson, and George Washington were the wealthiest PDCs. According to updated information from the Congressional Budget Office, the same PDCs had the highest per capita incomes in 2011 (exceeding $40,000 average per household), with proportional increases forecasted for 2035, as shown in Figure 1-6. The forecasts indicate a notable consolidation of wealth in northern Virginia.

The Virginia General Assembly's oversight arm, the Joint Legislative and Audit Review Commission (JLARC), indicates that as of 2011, 10.5% of Virginians were living in poverty. The six PDCs with the greatest proportions of people living in poverty are clustered along the rural southern and western borders of Virginia: Southside, Lenowisco, Cumberland Plateau, West Piedmont, Mount Rodgers, and New River Valley.

Employment Rates Are Generally Higher than the National Average

Virginia employment increased by 4.3% (170,475 jobs) from June 2009 to June 2012, while national employment increased by 1.7% over the same time period. Meanwhile, Virginia's unemployment rate has gradually declined since June 2009, settling at 6% in June 2012 (Figure 1-7). Unemployment rates in two rural regions (Southside and West Piedmont) were higher than the US average; at 9.8% and 8.5%, respectively. Northern Virginia had the lowest unemployment rate (4.4%) in the Commonwealth, followed by the Thomas Jefferson PDC (5.5%) (Figure 1-8).

Virginia Is Becoming More Ethnically Diverse

Although projections are not specifically available for Virginia, 2010 Census data indicate that 35% of Virginia's total population is comprised of minorities; this estimate is similar to the proportion of the U.S. population that are minorities (36%). When examining national trends, the proportion of the minority population in the US is projected to increase from 36% in 2010 to 47% by 2035 and to 54% by 2050. This national trend is likely to be reflected in Virginia. According to the 2010 Census, six

percent of people in the Commonwealth speak English less than "very well," many of whom are concentrated in the Northern Virginia region, where the proportion is 13%.

Figure 1-4: Percent Change in Population (2010-2035) and Per Capita Income (2011)

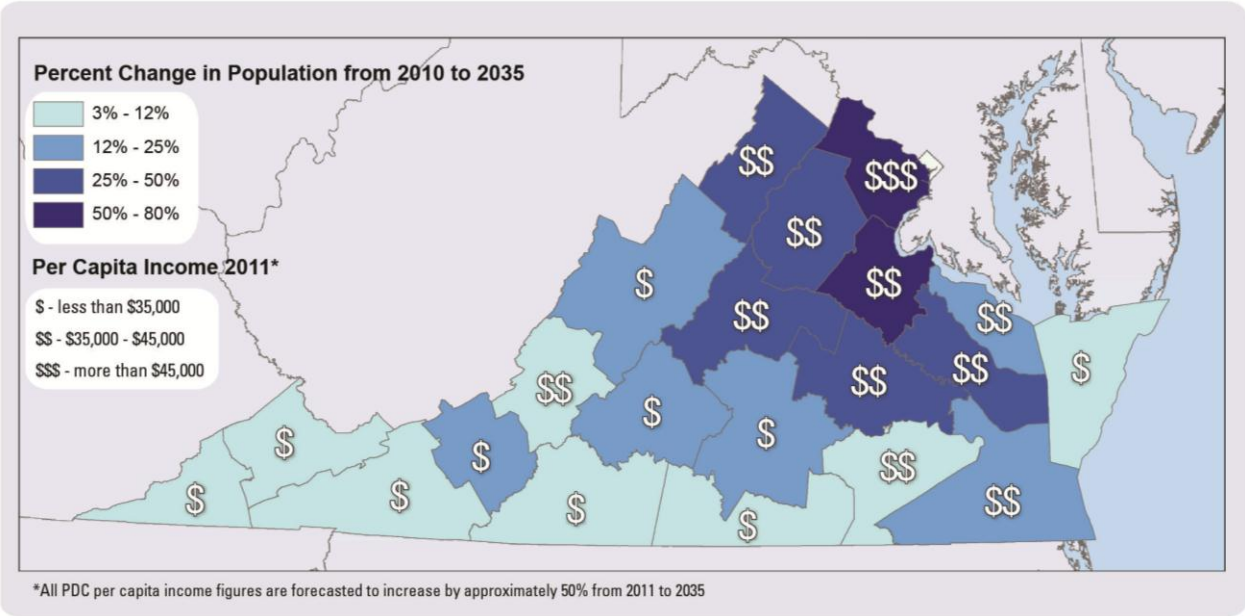


Figure 1-5: Percent of Population Age 65 and Older (2035)

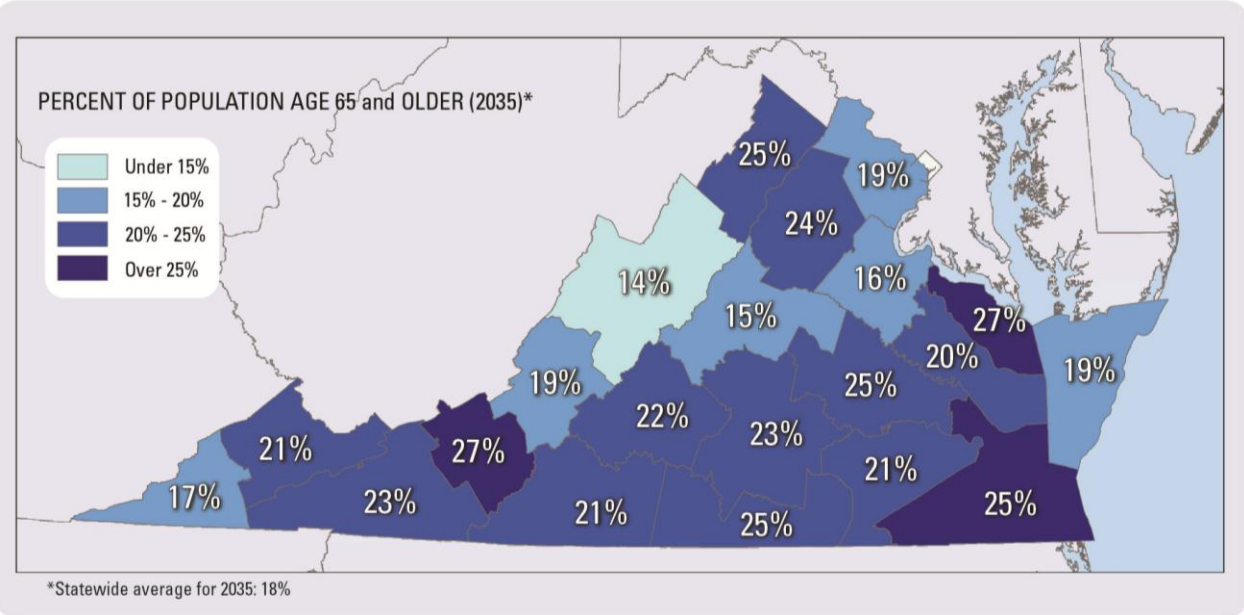


Figure 1-6: Current and Forecasted Per Capita Income in Virginia's PDCs

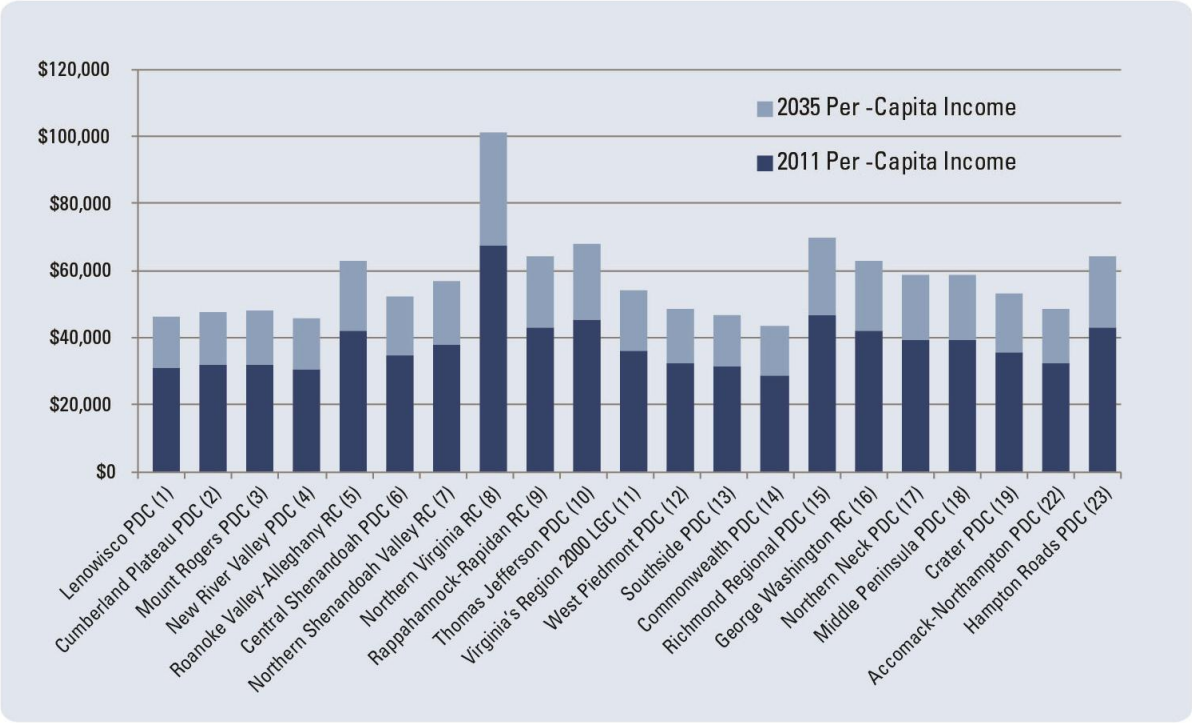


Figure 1-7: Unemployment: Virginia and the U.S.
June 2009 – June 2012

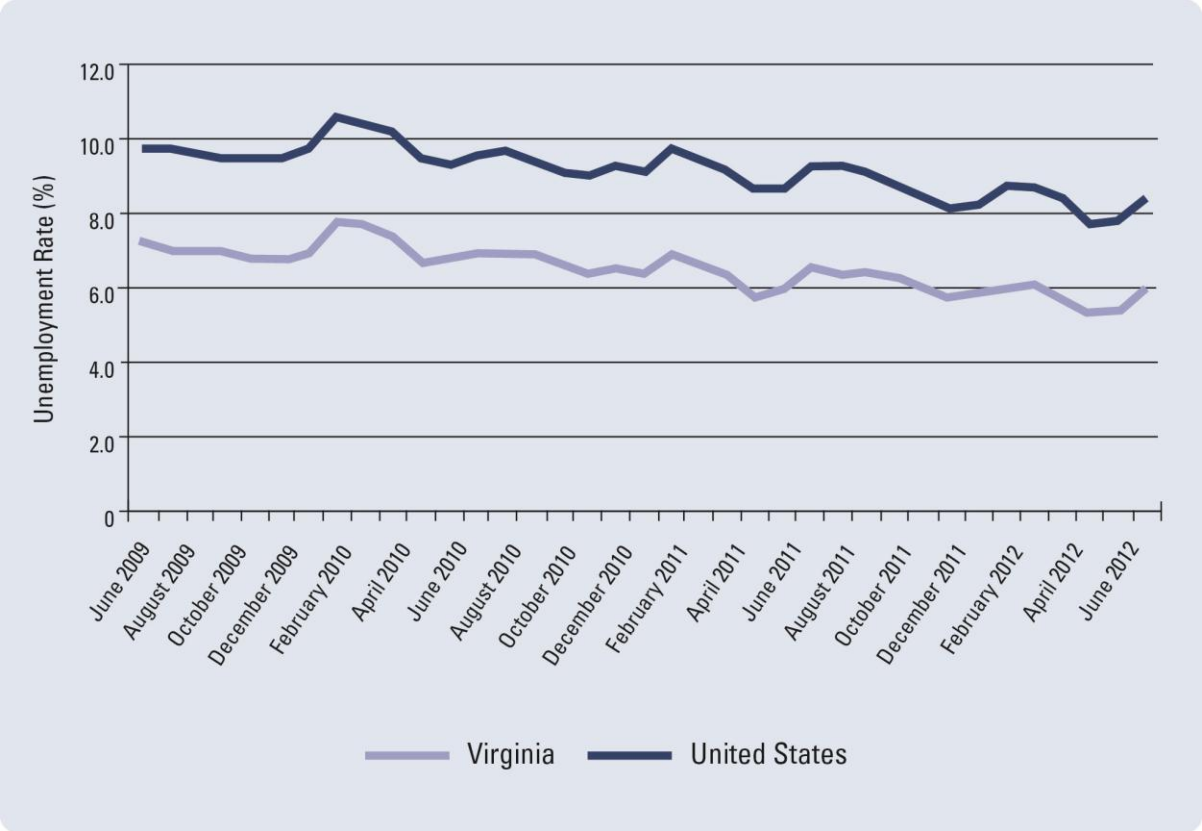
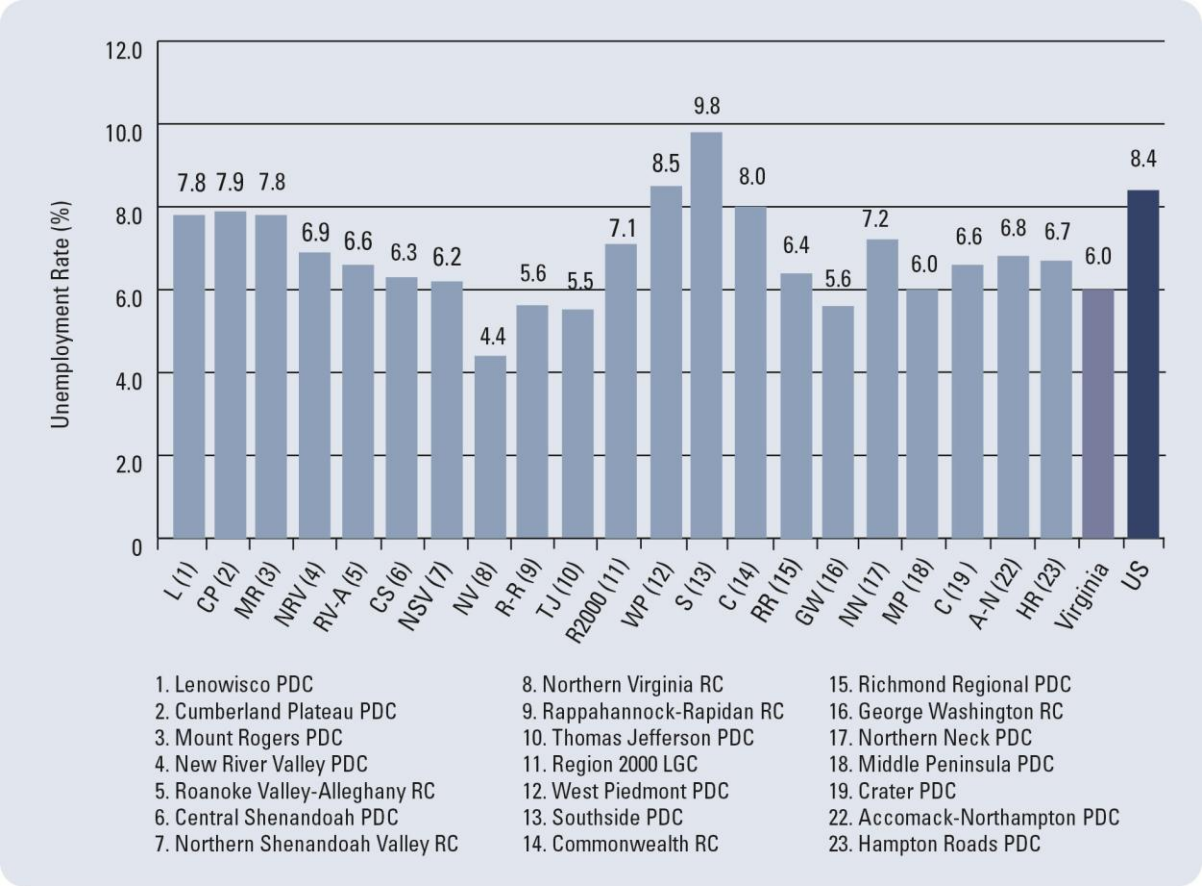


Figure 1-8: Unemployment Rates in Virginia's PDCs: June 2012



Driver Characteristics Vary by Location, Age, Gender, and Income

The number of households without a vehicle is concentrated in urban regions around Northern Virginia, Hampton Roads, and Richmond, all of which provide robust public transit systems. However, at least five percent of households in every region do not own a vehicle, even in the most rural areas where public transportation is not always available.

The percentage of Virginians (aged 15 and older) with a driver's license decreased by 6% between 1990 and 2010. This overall trend varies, however, within different age and gender groups. For example, the percentage of women over the age of 65 with a driver's license increased by 14% over the same period.

Walking and carpooling behavior tends to decrease as household income increases. However, the proportion of commuters that work from home or use public transportation is higher at both ends of the income spectrum. Commuters making $25,000 to $65,000, compared to people making less or more than these figures, are more inclined to drive alone and less likely to use public transportation or work from home.

What Are the Recent Travel Trends?

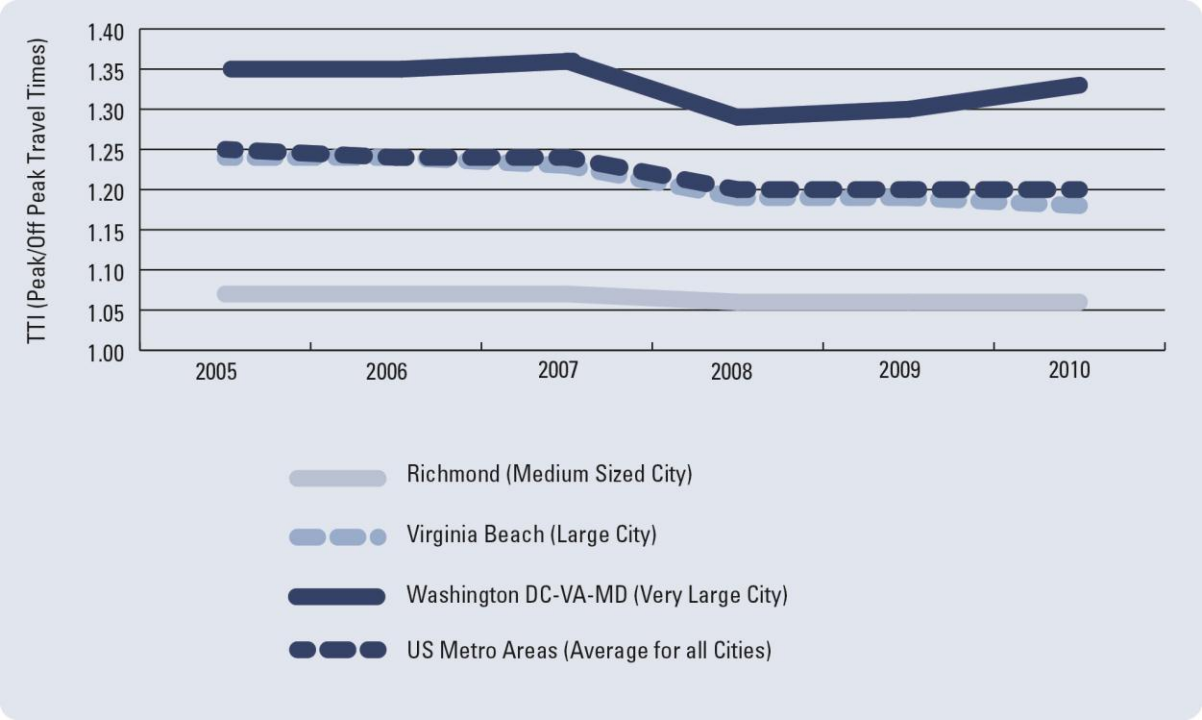
Urban Highway Congestion Drains Productivity and Costs Billions

In 2010, Virginia's highways supported 82.2 billion vehicle miles of travel. Roughly 64% of this volume occurred on urban road segments. Interstates accommodated nearly 30% of the miles traveled, while local roads supported about 11% of statewide travel.

Travel Time Index (TTI), widely cited in national traffic studies, represents the ratio of peak (rush-hour) travel times to off-peak travel times. A ratio of 1.0 means traffic is not delayed during peak periods, while a TTI of 1.20 indicates that travel times are 20% longer during the rush-hour period.

The Urban Mobility Report, published by the Texas Transportation Institute, uses TTI to measure relative congestion in urban areas. The 2011 report, evaluating 2010 indicators, provides data on three of Virginia's metropolitan areas. Richmond, classified as a medium sized metro area, had a TTI of 1.06, which was below the average (1.11) for comparably sized cities. Virginia Beach, classified as a large metro area, had a 1.18 TTI, making it the 26th most congested urban area in the nation. The Washington DC-VA-MD metro area, which includes the cities of Arlington and Alexandria, had a 1.33 TTI rating, making it the nation's second most congested urban area (trailing only Los Angeles, CA). The average commuter in the DC metro-area experiences 74 hours of travel delay per year; this equates to nearly two full work weeks sitting in traffic. Figure 1-9 shows TTI trends in three of Virginia's metropolitan areas (Richmond, Virginia Beach, and Washington DC-VA-MD) and compares these trends to the average TTIs in U.S. metro areas.

Figure 1-9: Travel Time Index (TTI): 2005-2010



The costs of traffic congestion include excess fuel, delay time, and greenhouse gas. The Virginia Center for Transportation Innovation and Research reports that annual congestion-related costs may reach $4.9 billion by 2035. [2]

Passenger Air Enplanement Rates Are Stable; Air Cargo Activity Is on the Rise

Virginia's Primary Airports (commercial service airports with more than 10,000 annual passenger boardings) had 24.4 million enplanements in 2011, a marginal 1.8 percent decrease from 2010. Across the nation, Virginia ranked 9th in total passenger enplanements during 2011. Washington Dulles International and Ronald Reagan Washington National are both among the nation's top 30 busiest airports in terms of passenger enplanements, ranking 23rd and 26th, respectively. Norfolk International and Richmond International rank 68th and 69th, respectively, among 387 primary U.S. airports.

Meanwhile, Dulles Airport ranked 45th in the United States in terms of air cargo tonnage, accounting for 446.6 million pounds of landed weight in 2011. Within Virginia, Richmond International Airport (RIC) is the state's second largest airport-freight contributor, shuttling 354 million pounds of landed weight in 2011 -- a 4% increase over 2010 figures.

Marine and Inland Port Activity Is Rising

The Port of Virginia, with its naturally deep harbor, is the only East Coast port capable of handling large, post-Panamax vessels as first port of call. In addition, the Virginia Inland Port in Front Royal serves as an intermodal collection point for containers from West Virginia, Ohio, Pennsylvania, Northern Virginia, and elsewhere. Finally, the Port of Richmond, a multimodal freight and distribution center located on the James River, adjacent to I-95, offers monthly service to Canada, Iceland, the Mediterranean, South America, Mexico and the Caribbean.

In 2011, the Port of Virginia at Hampton Roads represented 12% of the East Coast market share, accounting for roughly 1.9 million twenty-foot equivalent units (TEUs). While 2011 cargo is down from pre-recession (2008) levels, traffic has increased over the last three years. In addition, Virginia Port Authority data indicate that 2012 cargo operations are outperforming 2011 operations (through August) by 54,464 TEUs. According to the Virginia Port Authority (2011), 68% of the port's containers are moved via trucks, however the proportion of transfers to and from rail lines is growing. Strong intermodal connections among ports, rail lines, and highways will be increasingly important over the years to come. The port's unloading capacity was tested in the fall of 2012 as Hurricane Sandy diverted traffic (3,500 automobiles and roughly 5,800 containers) from New York/New Jersey to Hampton Roads, giving the port an opportunity to unload 4,700 boxes from one vessel – more than twice the amount that the port had unloaded from one vessel in the past. In addition to unloading the largest amount of cargo from a single ship, the diversion helped prepare the port for what the future holds – bigger vessels, larger volumes of cargo and higher productivity demands.

[2] Calculations by John Miller, VCTIR, based upon the following report: Schrank, D., Lomax, T., and Eisele, B. *2011 Urban Mobility Report*. Texas Transportation Institute, Arlington, 2011. http://tti.tamu.edu/documents/mobility-report-2011.pdf.

Rail Lines Are a Critical Resource for Freight Movement

Virginia's rail system dates back to the 1800s and has evolved continually since then. Today, it consists of more than 3,200 route miles, most of which are operated by two Class I railroads—the Norfolk Southern Railway Company (NS) (1,972 miles) and CSX Transportation (CSX) (800 miles). Major lines run north-south and east-west, and important rail lines converge at key nodes: Norfolk, Richmond, Lynchburg, Roanoke, and Alexandria. The Commonwealth's rail system is operated by 11 freight railroads and two passenger railroads. Of the 11 freight railroads, two are Class I national railroads (line-haul freight railroads exceeding $398.7 million in 2010 annual operating revenue). The remaining nine freight railroads are Class III (shortline) railroads (line-haul carriers with annual revenues less than $31.9 million in 2010 revenues), two of which are primarily switching railroads serving marine terminals and industrial facilities. There are no Class II Railroads in Virginia. Two passenger systems—Amtrak and Virginia Railway Express (VRE)—provide service over this private freight railroad system.

As shown in Table 1-1, the Commonwealth generated over 500,000 carloads (37 million tons) of commodities transported by rail during 2010. Virginia was the nation's 12th largest coal producer in 2010 and the sixth largest originator of coal transported by rail.

Table 1-1 Rail Traffic Originated in 2010 – Virginia

Commodity	Tons	Carloads
Coal	24,728,000	233,200
Stone, Sand, Gravel	5,087,000	49,000
Intermodal	1,211,000	116,800
Chemicals	1,199,000	15,400
Coke & Metallic Ores	1,104,000	15,400
Other	3,680,000	72,400
Total	**37,009,000**	**502,200**

Source: Association of American Railroads, 2010.
http://www.aar.org/Railroads-States/Virginia-2010.pdf

Passenger, Commuter and Light Rail Services and Ridership Are Growing

In October 2009, Amtrak, partnering with DRPT, initiated service between Lynchburg and Washington, D.C., into Amtrak's Northeast Corridor. After increasing by 28.5% from FY 2010 to FY 2011, Amtrak ridership on the Washington-Lynchburg route hit a record high of almost 185,000 passengers in 2012, a 14.1% increase from the previous year. Meanwhile, ridership on the Washington – Newport News route increased at a comparable pace, increasing by 19.1% from FY 2010 to FY 2011 and by 33.3% from FY 2011 to FY 2012. DRPT is also working to extend service to Norfolk by December 2012, thereby providing direct intercity passenger rail service from Norfolk as far north as Boston, Massachusetts.

The Tide, Virginia's first light rail system, began service in Norfolk on August 19, 2011. While the Tide was projected to carry an average of 2,900 daily passengers, actual ridership has surpassed initial expectations – currently, the light-rail system is averaging roughly 4,900 riders each weekday. Expansion of the Washington, D.C region's Metrorail system will extend service 23 miles to Dulles Airport and a western terminal station in Ashburn, Loudoun County. The extension will serve the state's two largest employment concentrations – Tyson's Corner and the Reston/Herndon area.

Chapter 2: Vision, Goals and Investment Priorities

The VTrans2035 Update advances the Vision and Goals set forth in VTrans2035. The public input events and technical analyses conducted for this update focused on two major topics: 1) adjusting priorities and strategies based on an understanding of changes in the transportation planning and funding context over the past two years; and 2) developing a more cohesive, performance-based multimodal planning framework to guide agency plans and future VTrans updates.

Participants in stakeholder meetings and public events conducted for the VTrans2035 Update, including transportation planners, transit providers, interest groups, and members of the public, reviewed the draft Vision, Goals, Investment Priorities, and Investment Strategies, and discussed the overall performance-based planning approach. Based upon input from these participants and from representatives of Virginia's various transportation agencies, the investment priorities established in VTrans2035 were reorganized into an updated set of Investment Priorities and Investment Strategies that is more clearly linked to the VTrans2035 Vision and Goals.

What Are the Vision and Goals?

VTrans2035 Vision

Virginians envision a multimodal transportation system that is safe, strategic, and seamless.

Travel for people and goods will be safe and uninterrupted. Transportation improvements will consider the environment and the quality of life in Virginia's communities while enhancing economic opportunity. Transportation improvements will respect and reflect the varied needs of Virginia's diverse communities and regions. Investments in transportation will be adequate to meet current and future needs. Transportation decisions will be guided by sustained, informed involvement of Virginia's community leaders and citizens. Full accountability and enduring trust will be the hallmarks of transportation planning and investment decisions throughout the Commonwealth.

VTrans2035 Goals

Safety and Security – to provide a safe and secure transportation system

System Maintenance and Preservation – to preserve and maintain the condition of the existing transportation system

Mobility, Connectivity, and Accessibility – to facilitate the easy movement of people and goods, improve interconnectivity of regions and activity centers, and provide access to different modes of transportation

Environmental Stewardship – to protect the environment and improve the quality of life for Virginians

Economic Vitality – to provide a transportation system that supports economic prosperity

Coordination of Transportation and Land Use – to promote livable communities and reduce transportation costs by facilitating the coordination of transportation and land use

Program Delivery – to achieve excellence in the execution of programs and delivery of service

What Are Investment Priorities and Investment Strategies?

Investment Priorities represent investment decisions – some describe programs such as education and planning, while others describe types of projects such as highway and transit improvements and intelligent transportation systems. Collectively, the Investment Priorities represent the range of activities necessary to achieve the VTrans Goals.

VTrans2035 included 22 Investment Priorities that ranged from broad initiatives such as "Improve Rural Connectivity" to specific projects such as "Tunnels and Bridges in Hampton Roads." Participants in stakeholder and public outreach efforts, described in the next chapter, helped to identify ways to make the wide-ranging set of Investment Priorities more concise, more consistent, better balanced in addressing travel modes and urban/rural issues, and more strongly aligned with the VTrans Goals.

The VTrans2035 Update provides a framework for this realignment, which retains all of the original priorities but re-arranges them into a more succinct set of definable Investment Priorities with supporting Investment Strategies. In this new alignment, some additional Priorities and Strategies are added for completeness, while some redundant recommendations are consolidated.

The updated Investment Priorities serve as broad objectives for the Goals by taking the form of measurable action statements. The Investment Strategies are more specific, providing examples of the types of investments and programs needed to accomplish the objectives stated in the Investment Priorities. Some of the Investment Strategies could be described as "what" statements that lay out specific types of investments. Others are "how" statements that describe proposed changes in agency planning practices and decision-making procedures.

How Are Investment Priorities Linked to Goals?

In the updated framework, the Investment Priorities, and thus their supporting Investment Strategies, are clearly linked to the seven VTrans Goals, as shown in Figure 2-1.

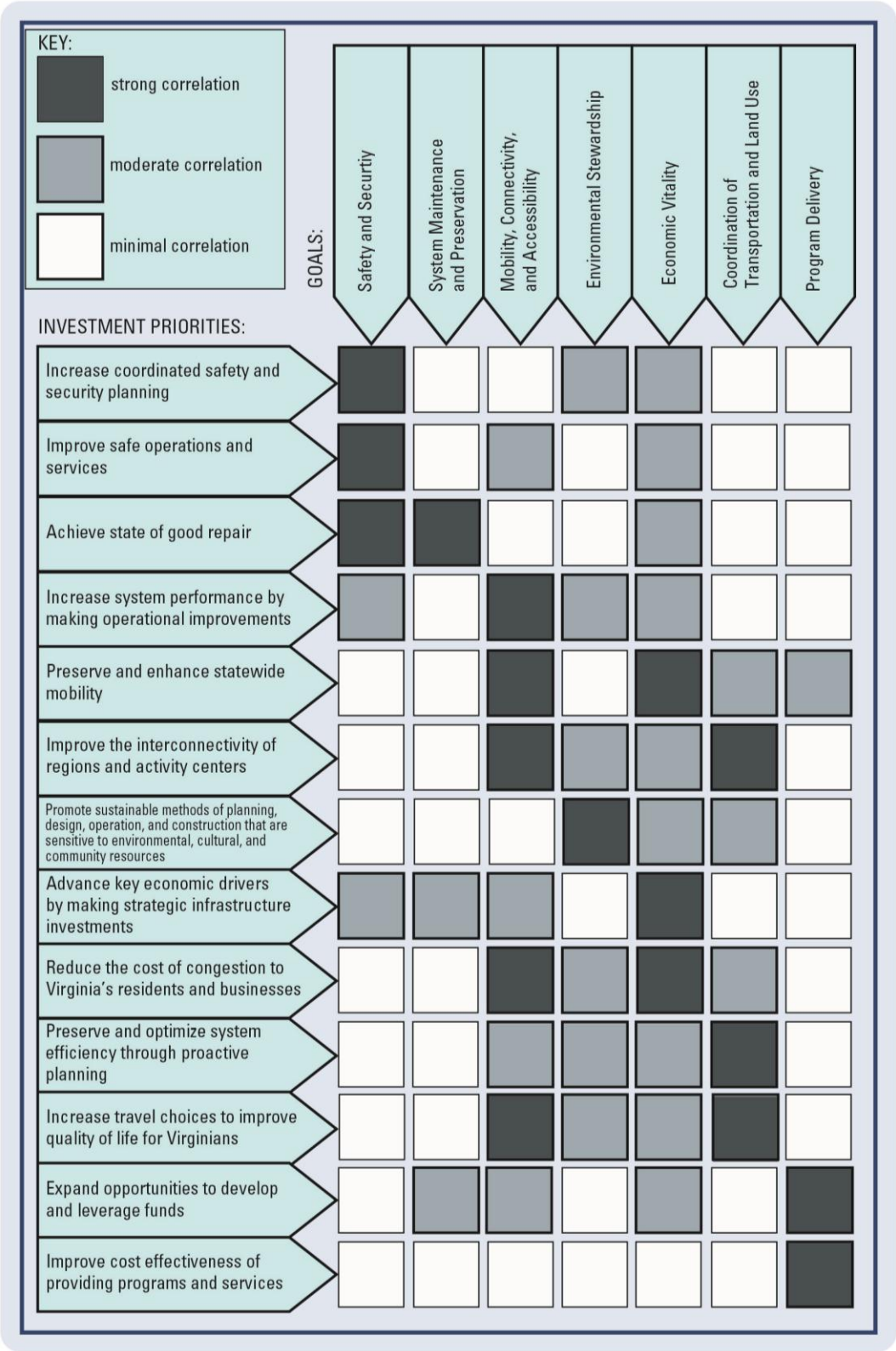
These linkages were initially identified by participants in stakeholder workshops that identified each Investment Priority's capacity to "move the needle" toward achieving each goal. The final correlations shown in Figure 2-2 were developed by the Multimodal Working Group after reviewing stakeholder ideas and suggestions.

The process yielded linkages that have a "strong influence," indicating Investment Priorities that would significantly help the Commonwealth to achieve given Goals, and those with a "moderate influence," acknowledging Investment Priorities that indirectly support the Goals. For example, the Investment Priority "Achieve State of Good Repair" primarily influences the goal of System Maintenance and Preservation, but at the same time, it is critical to Safety and Security and highly supportive of the Economic Vitality Goals. These relationships illustrate how taking action on one Investment Priority serves not only the primary goal identified with that Investment Priority, but it may have a secondary positive effect on a second or even third Goal. The Investment Priorities that serve multiple goals may in turn rise to a higher level of consideration.

Figure 2-1: Vision, Goals, and Investment Priorities

VISION	GOALS	INVESTMENT PRIORITIES
VIRGINIANS ENVISION A MULTIMODAL TRANSPORTATION SYSTEM THAT IS SAFE, STRATEGIC AND SEAMLESS	SAFETY & SECURITY	Increase coordinated safety and security planning
		Improve safe operations and services by making operational improvements
	SYSTEM MAINTENANCE & PRESERVATION	Achieve state of good repair
	MOBILITY, CONNECTIVITY & ACCESSIBILITY	Increase system performance by making operational improvements
		Preserve and enhance statewide mobility
		Improve the interconnectivity of regions and activity centers
	ENVIRONMENTAL STEWARDSHIP	Promote sustainable methods of planning, design, operation and construction that are sensitive to environmental, cultural and community resources
	ECONOMIC VITALITY	Advance key economic drivers by making strategic infrastructure investments
		Reduce the costs of congestion to Virginia's residents and businesses
	COORDINATION OF LAND USE & TRANSPORTATION	Preserve and optimize system efficiency through proactive planning
		Increase travel choices to improve quality of life for Virginians
	PROGRAM DELIVERY	Expand opportunities to develop and leverage funds
		Improve cost-effectiveness of providing programs and services

Figure 2-2: Correlation of Goals and Investment Priorities



What Are the VTrans2035 Investment Priorities and Strategies?

The following section describes the thirteen Investment Priorities. For each, the blue box lists the example Investment Strategy or Strategies, and the text explains how the Investment Priority and the Investment Strategies together address the performance based planning and programming process developed in the VTrans2035 Update.

Safety & Security: Increase Coordinated Safety and Security Planning

Safety is a concern for all modes. Highway safety incidents frequently affect the everyday lives of many Virginians. Air and rail crashes and hazardous materials incidents, while much less frequent, can have devastating impacts on many lives at one time.

Increase Coordinated Safety and Security Planning

Investment Strategy:

- Ensure coordination of state, regional, and local plans for evacuation, hazmat transport and other safety/security issues.

Highway crashes, emergencies, and evacuations affect transportation operations by causing congestion and travel delays that ultimately impact the movement of goods and people. The impact of these events can also have substantial economic implications. The 2011 American Automobile Association study, *Crashes vs. Congestion: What's the Cost to Society?*, indicated the cost of traffic crashes in urbanized areas is more than three times the cost of congestion. The study ultimately highlighted the importance of proactive safety and security planning and resource management – not only to save lives and prevent injuries, but also to reduce congestion.

Regional security and emergency operations are also a widespread concern for Virginians, given that some areas of the Commonwealth, such as the coastal Hampton Roads region with its many military bases, are susceptible to natural and/or security-related disasters but have limited evacuation options. To minimize the costs of safety and emergency incidents, as well as maximize the security of our transportation system, preparation and planning are key.

Safety & Security: Improve Safe Operations and Services

Safety associated with the infrastructure of the transportation network involves the design and construction of the system, its maintenance, and the use of technology to improve its operation. Driver education also plays a key role. Furthermore, emergency response is one of the most important responsibilities of the state. It includes communication with the public and media to guarantee they are informed about the impacts incidents have on transportation safety.

Improve Safe Operations and Services

Investment Strategies:

- Address causes of accidents through physical improvements and educational programs.

Safe operations include not only emergency response, but also traffic detection and surveillance, traffic incident management, traveler information services, freeway and arterial management, work zone management, roadway weather management, commercial vehicle operations, and freight management.

For example, Virginia monitors road weather information through a range of innovative sources, including mobile units. Monitoring stations collect an array of atmospheric observations as well as pavement temperatures and conditions and convey the data through a secure mechanism. This information allows VDOT to de-ice the roads before the temperatures have reached freezing. Similar technology is being implemented at the airports around Virginia to ensure that pilots are aware of the weather conditions at airports.

Mobile video data units provide ITS platforms in emergency/hurricane evacuation efforts. Lane reversals of major highways out of Hampton Roads require coordination of VDOT, Virginia Department of Emergency Management, Virginia State Police, and the Virginia National Guard. Annual exercises test the Commonwealth's reversible-lane plan and allow agencies to evaluate the effectiveness of communications tools, inter-agency procedures and the incident-command structure.

System Maintenance & Preservation: Achieve State of Good Repair

All components of the Commonwealth's transportation system are evaluated routinely regarding condition, safety, and need for rehabilitation or replacement. From bridges to buses, from airport runways to Metro stations, all transportation agencies are actively seeking cost-effective ways to monitor and plan for the financial commitment to a state of good repair.

Achieve State of Good Repair

Investment Strategies:

- Repair deficient pavement.
- Rehabilitate structurally deficient bridges.
- Conduct targeted preventive maintenance for all transportation modes.

For example, Virginia has a large and growing need to replace transit vehicles to meet the Federal Transit Administration's State of Good Repair requirements. Approximately 1,700 buses per year require replacement now, and once the backlog is met, nearly 1,000 new vehicles will be needed annually. That figure will grow as systems expand to meet future needs. The state of pavement repair on roadways varies in performance: interstates are meeting performance targets and primary roads will meet performance targets by 2013, but 30% of secondary roads are substandard and will not meet performance targets in the immediate future. The Virginia Aviation Board (VAB) has an asset allocation model that has been used since 1986 to prioritize projects on the basis of safety, preservation and maintenance to ensure that available funds are spent fully each year on the most needed projects throughout the system.

Mobility, Connectivity & Accessibility: Increase System Performance by Making Operational Improvements

The most cost-effective means to improve system performance involve making the most of the existing transportation capacity. For example, highways have a fixed capacity that is over-utilized at some times of the day and under-utilized at others. "Transportation

Increase System Performance by Making Operational Improvements

Investment Strategies:

- Invest in smart system technologies.
- Implement travel demand management strategies.

Demand Management" (TDM) strategies, which reduce congestion by providing incentives for commuters to take transit, carpool, and travel at non-peak periods, can boost system performance without adding highway capacity.

Simple operational improvements that improve traffic flow are also cost-effective ways to reduce automobile congestion and to improve bus travel times and reliability. These strategies include real-time traffic information that helps travelers avoid congested areas, "adaptive" traffic signals that respond to real-time traffic conditions, and dedicated turning lanes that cut down on intersection backups.

Mobility, Connectivity & Accessibility: Preserve and Enhance Statewide Mobility

The Commonwealth has made tremendous investments in transportation infrastructure. The mobility created by these investments should be preserved through strategies that enable local, regional, and interstate travelers to meet their needs without having to compete with one another. The Master Plans for the Corridors of Statewide Significance will give particular attention to strategies that preserve statewide mobility along these corridors while providing regional accessibility. These could include, for example, access management and the development of parallel grid streets and transit networks or development of higher quality rapid transit options.

Preserve and Enhance Statewide Mobility

Investment Strategies:

- Develop master plans to improve access to Corridors of Statewide Significance.
- Reduce freight related congestion.
- Complete in-progress PPTAs.

Travel has grown rapidly in many parts of the state for many types of modes. Infrastructure investments are needed in some cases to improve mobility where other solutions cannot fully resolve the congestion. Bottlenecks in the freight rail system are a good example – sections of parallel track are needed in key corridors to reduce delays that affect freight and, in some cases, passenger rail service.

Mobility, Connectivity & Accessibility: Improve the Interconnectivity of Regions and Activity Centers

The economic prosperity and quality of life in Virginia depend in part on people's ability to move reliably and seamlessly among regions and activity centers of the state. This aspect of Mobility and Connectivity is critical to the success of statewide economic engines such as shipping and tourism, as well as local and regional economies and societies.

For example, business travelers who have the option to use rapid, reliable commuter bus or rail service between major cities can check email, work on laptops, get some rest, and otherwise improve their productivity in ways that are not possible while

Improve the Interconnectivity of Regions and Activity Centers

Investment Strategies:

- Provide high speed or intercity passenger rail in major intercity travel corridors.
- Connect high speed and intercity rail with regional transit systems.
- Provide effective regional transit systems in concert with supportive land uses and bike/ped connections.

driving. This type of travel option would vastly improve the lives of people in places like the Washington DC region, who, according to the U.S. Urban Mobility Report, spend the equivalent of nearly two full work weeks per year sitting in traffic. It is important to consider that the success of regional rail services depends on the travelers' ability to reach their ultimate destinations by walking or using local transit systems. These systems, in turn, depend on the design of local streets and the proximity and mix of local land uses. Bikeshare programs, for example, are proving to enhance transit use by expanding the range of destinations accessible from transit stops. The DRPT *SUPER NoVa* study (www.supernovatransitvision.com) identifies a full array of strategies to enhance transit use and transportation demand management in the greater northern Virginia region to enhance mobility.

Environmental Stewardship: Promote Sustainable Methods of Planning, Design, Operation and Construction That Are Sensitive to Environmental, Cultural and Community Resources

While Virginia works to preserve and enhance its transportation system, it must do so using sustainable and environmentally sensitive methods that preserve and protect the natural and built environment. These methods allow for the assessment of alternative transportation investments in terms of long-term costs, impacts and benefits to financial, environmental, and social systems. The ultimate aim is to select investments that minimize impacts and maximize benefits simultaneously in terms of public finances, the natural environment, and community quality of life.

Promote Sustainable Methods of Planning, Design, Operation and Construction That Are Sensitive to Environmental, Cultural and Community Resources

Investment Strategies:

- Expand non-Single-Occupant-Vehicle (SOV) travel options.
- Address energy conservation in all phases of project development and implementation.
- Incorporate community input to achieve environmental justice and context-sensitive solutions.

In transportation design and construction, for example, evaluating the full costs and benefits of recycling materials and using locally-generated supplies can provide both environmental and economic benefits while reducing costs. The social component of sustainability is equally important: context-sensitive projects that rely on active community participation and that provide social benefits and have been shown to experience fewer delays in implementation, which can significantly reduce costs.

Economic Vitality: Advance Key Economic Drivers by Making Strategic Infrastructure Investments

Virginia has strong ties to the rest of the world through two major global gateways: the Port of Virginia and Washington Dulles International Airport. In 2010, Hampton Roads ranked third in the U.S. in terms of exports (by short tons) – sending 42.8 million short tons abroad. It is the third largest port on the East Coast of the United States, with direct service to more than 80 foreign ports. A 2010 study, completed by William and Mary, estimated that the Port's total contribution to Virginia's economy is 343,000 direct and indirect jobs with wages of $50.5 billion.

Meanwhile, the Dulles Metrorail Project, connecting Washington D.C. with Tysons Corner and Washington Dulles International Airport, will help the Dulles Corridor remain a key economic generator for the Commonwealth. According to the Metropolitan Washington Airports Authority, Dulles can potentially handle 55 million passengers per year at full build-out – double its current level of operation.

Access to world markets through Dulles for passengers and air freight, and through Hampton Roads for waterborne freight, provides opportunity for economic development near and along major corridors throughout the state. These types of transportation facilities help to position Virginia as a major player in the global economy.

Other critical transportation investments supporting economic vitality include statewide freight movement along key spines such as the I-81 corridor and the Norfolk Southern Heartland Corridor, multimodal investments providing access to jobs, and investments supporting the vibrant tourism industry in Virginia.

Advance Key Economic Drivers by Making Strategic Infrastructure Investments

Investment Strategies:

- Support the economic growth potential of Washington Dulles International Airport through local and regional multimodal access improvements.
- Support major military facilities throughout the Commonwealth and leverage private sector growth through enhanced mobility.
- Implement improvements to all types of freight movement along the I-81 corridor.
- Expand the Port, related intermodal facilities and market access through investments including tunnels and bridges in Hampton Roads.
- Make strategic investments to support statewide economic drivers in rural areas such as freight and tourism.

Economic Vitality: Reduce the Costs of Congestion to Virginia's Residents and Businesses

Many of VTrans2035 strategies are aimed at managing congestion to support improved safety and travel options. Another critical reason to address congestion problems is the tremendous economic cost they impose on businesses whose freight and employees are delayed by traffic. Service employees, for example, suffer a direct loss in productivity as a result of traffic congestion and ultimately have to transfer the cost of their travel times to their clients. As noted in Chapter 1, the annual costs of traffic congestion to Virginia's people and businesses could reach nearly $5 billion by the year 2035.

For this reason, the economic value of a project's congestion-reduction impacts should be a key component of evaluating proposed transportation investments in the Commonwealth. It is important to consider multimodal alternatives when conducting these types of analyses. Freight rail capacity improvements along the I-81 corridor, for example, could help to the reduce highway congestion that

Reduce the Costs of Congestion to Virginia's Residents and Businesses

Investment Strategies:

- Conduct annual economic analysis of congestion-reduction projects for inclusion in the Six-Year Improvement Program.

costs trucking companies and their clients millions of dollars every year. Transit options in urban areas reduce congestion by moving more people in fewer vehicles.

Coordination of Land Use & Transportation: Preserve and Optimize System Efficiency through Proactive Planning

As noted under the mobility discussion, one key to preserving mobility is maintaining the functional capacity of the transportation system we already have. The classic cycle of degenerating highway mobility occurs when growing suburban populations attract commercial development to major thoroughfares, which in turn generates local trips that make the high-volume roadway congested and less efficient for through traffic.

Preserve and Optimize System Efficiency through Proactive Planning

Investment Strategies:

- Integrate regional land uses and transportation system capacity to improve long-term system performance.
- Consider local land use objectives in statewide plans through coordinated outreach and planning.

Transportation strategies such as access management and development of parallel or grid street networks allow suburban development to occur in a way that allows local and regional trips to share major corridors efficiently. At the same time, land use and urban design strategies that allow people to walk instead of driving between residential, office and retail destinations reduce vehicle travel. Together, these strategies allow economic development to continue while optimizing transportation efficiency. These same strategies also support the viability of transit, which can further reduce the need to add vehicle capacity on roadways.

Coordination of Land Use & Transportation: Increase Travel Choices to Improve Quality of Life for Virginians

Providing a variety of efficient, effective, "first-class" connections for passengers and goods within Virginia and to other states keeps Virginia competitive by reducing travel times and increasing mobility options. Investment in passenger and freight rail systems is key to making this array of first-class connections a reality.

Increase Travel Choices to Improve Quality of Life for Virginians

Investment Strategies:

- Improve multimodal rural connectivity.
- Increase transit and passenger rail usage and supporting land uses.
- Provide pedestrian and bicycle facilities to create interconnected networks.

Improving regional and local multimodal connections and services, particularly public transit and pedestrian facilities, also helps to preserve mobility options for the growing share of Virginia's population that chooses not to drive or is unable to drive due to age and/or disability, as discussed in Chapter 1. This is a particular concern in rural areas, whose proportions of aging residents tend to be higher than urban areas. Improved connectivity in rural areas, both through

transportation investments as well as communications technologies (e.g., broadband access), also increases their potential for revitalization and new development.

Program Delivery: Expand Opportunities to Develop and Leverage Funds

Virginia has made great use of public-private partnerships to finance projects. PPTA projects that are in progress should be completed and new ones should be considered according to their overall benefits to the Commonwealth as a whole. PPTA projects leverage private sector funding and thus bring new sources of capital for financing needed projects. Few large projects can be completed without some state financial aid. When any public money is put into a project, it is scrutinized to the same degree as those that are fully funded with public dollars.

Expand Opportunities to Develop and Leverage Funds

Investment Strategies:

- Review and refine PPTA process to effectively leverage private capital that provides a public benefit.
- Develop sustainable funding commitments based on leveraging existing/new funding sources.

Public-private projects can produce innovative project delivery strategies, and are often completed more quickly than projects funded solely with public monies. A key component of any successful partnership is the assignment of risks. Public agencies must spend a significant amount of up-front resources to negotiate balanced, long-term contractual agreements with high termination costs that spread the risk appropriately among public and private partners. Therefore, the PPTA process is not appropriate for every project. Chapter 6 includes a more detailed discussion of public and private funding options.

Program Delivery: Improve Cost-Effectiveness of Providing Programs and Services

The administrative cost of providing transportation systems and services is significant. It is incumbent on every agency to improve the cost-effectiveness of service delivery. Success requires vigilant attention to transportation system performance, service needs, customer satisfaction, and opportunities to streamline costs through innovative technology and collaborative efforts.

Improve Cost-Effectiveness of Providing Programs and Services

Investment Strategies:

- Develop action plans related to issues identified in annual customer surveys.
- Encourage innovative resource optimization strategies.

Chapter 733 of the Virginia Acts of Assembly requires the Secretary of Transportation to report annually on actions taken to reduce highway congestion and SOV use and increase transit use statewide. This annual report generates a critical assessment of transit and transportation demand management performance in the state, encouraging a strong focus on program delivery. Also, under the Senate Joint Resolution 297 (SJ297) from 2011, DRPT is developing strategies to improve the cost-effectiveness of transit service delivery. A key recommendation by DRPT is a shift towards incorporating performance in the allocation criteria for the operating assistance

program for transit providers. Performance would be combined with the existing criteria based on system size, so that providers of all sizes will have an incentive to demonstrate cost-effectiveness in service delivery.

As noted under system maintenance, the VAB uses an asset allocation model to prioritize aviation projects statewide. This approach is combined with a grant program administered by DOAV to provide small but meaningful supplemental funds to high-impact projects at smaller airports in the state. This combined approach provides highly cost-effective program delivery.

How Do the Investment Priorities shape Virginia's Future Transportation System?

As discussed in Chapter 1, the top priority by law is maintenance of the existing transportation system. Virginia's strong economic and population growth require additional investments to support continued prosperity and meet the increased – and changing – travel needs of our residents, businesses and visitors. The Investment Priorities describe the array of strategies needed to meet all of the VTrans statewide transportation Goals. However, the resources to meet all of the goals equally do not exist today, nor are they anticipated to be available in full in the future. An evaluation of the need for and cost-effectiveness of investment priorities, combined with evaluation of the current performance in meeting the Goals, is the focus of the performance-based planning framework described in Chapter 3. This framework will enable transportation decision-makers to use the Investment Priorities strategically to guide future investment choices.

Chapter 3: Performance-Based Planning Framework

Why Develop a Performance-Based Planning Framework?

Performance measures are used by government agencies to benchmark, assess, and guide improvements on many issues and goals including: investment choices and results, internal business operations, system conditions (e.g. mobility, safety, maintenance, etc.), project delivery, and employee and user satisfaction. As a practical matter, transportation agencies need a basis for prioritizing among their transportation needs because of constrained transportation funding. Performance measures provide a data-driven approach to making these difficult choices.

The Moving Ahead for Progress in the 21st Century Act (MAP-21) was signed into law by President Obama on July 6, 2012 and seeks to address transportation challenges through a streamlined performance-based planning framework. Ultimately, MAP-21 shows a national commitment to performance-based planning, a commitment that has been concurrently cultivated in the Commonwealth through the VTrans Update process. In Virginia, measures of transportation performance are reported annually to track progress on long-range goals. Furthermore, performance-based planning is used in the programming of transportation projects. Virginia uses performance as one of several factors that influence the selection of projects in the transportation program. However, there is currently a need to better link the project selection and the performance metrics under each long-range goal.

This need, coupled with increasing national emphasis on performance-based planning, creates an opportunity to develop a framework to better align performance measurement with planning and programming. The Update seeks to do just that – revising the current framework to establish clear links between Goals, Investment Priorities, and the selection of programs and projects by partner agencies. The general public and stakeholders contributed greatly to this realignment, providing critical feedback at public meetings, regional forums and through interactive online channels.

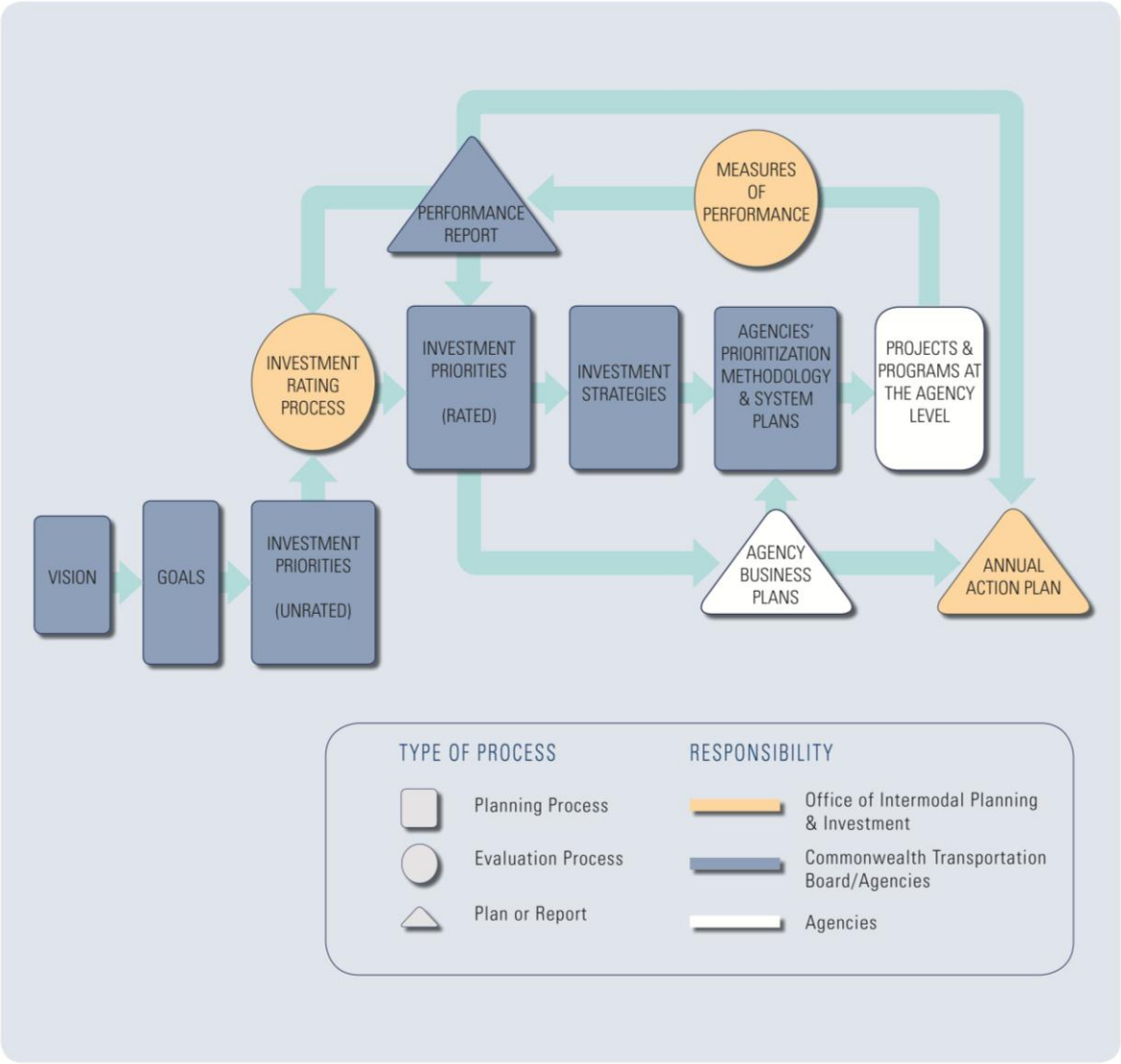
What Are the Components of the Framework?

The VTrans2035 Update focuses on creating a framework that links Goals, Investment Priorities, project and program selection by state and regional agencies, and ongoing performance measurement so that we can direct our investments to be most effective and adjust our priorities according to performance results. As shown in Figure 3-1, the framework is organized around five iterative components: Vision and Goals; Investment Priorities; Investment Strategies; Agency Plans and Programs; and Performance Evaluation.

- ***Vision and Goals:*** The performance-based planning process begins with the VTrans Vision and Goals, shown on the far left of the diagram. With each update of VTrans, the Vision and Goals are revisited. Generally they are confirmed through the review and are unlikely to change very much over time.

- ***Investment Priorities:*** To accomplish the Goals, VTrans includes a set of Investment Priorities, shown on the diagram to the right of the Goals. The Investment Priorities are rated during each VTrans cycle on the basis of need, as reflected by performance measures, and cost-effectiveness. [3]
- ***Investment Strategies:*** Each Investment Priority is supported by Investment Strategies, which describe key tactics that modal transportation agencies can implement through their plans and program for specific projects and services.

Figure 3-1: Performance-Based Planning Process



[3] The proposed rating process, described in Chapter 4, is based on criteria such as need, affordability, ease of implementation, and impacts of neglecting a particular investment. The Investment Priorities listed in this VTrans2035 Update have not been run through this rating process, given that its development is just getting underway. However, in VTrans2040 and subsequent updates, the highest-rated Investment Priorities will be the focus of planning and decision-making efforts by the Commonwealth Transportation Board, the Virginia Port Authority, the Virginia Aviation Board, and by state and regional agencies.

- ***Agency Plans and Programs:*** As shown on the far right of the diagram, the agencies work together to develop annual action plans, to assess progress toward achieving the VTrans Goals, and to develop refinements to the process of measuring performance and setting priorities.
- ***Performance Evaluation:*** Ultimately, the information provided by the agencies' collaborative work "loops back" to provide a strong technical basis for evaluating system performance and updating VTrans Goals, rating the Investment Priorities, and identifying appropriate strategies accordingly.

How Will the Framework Inform our Transportation Decision-Making Process?

Shown at the right-hand side of Figure 3-1 are the plans and programs of transportation agencies. These agencies include state transportation departments for rail and transit, aviation, ports, and highways. Also included are regional planning agencies and local governments. These planning partners and their roles in applying the performance-based planning framework are described in Chapter 7.

Project-level investments are identified and funded by these agencies. While some of these plans rise to the Commonwealth Transportation Board (CTB) for approval, others are approved by different bodies such as the Virginia Port Authority, the Virginia Aviation Board, other agency boards or local elected officials. VTrans provides guidance to all of these planning efforts, but the strongest opportunities for improving planning-programming linkages are with plans whose recommendations are implemented through the CTB's Six-Year Improvement Program (SYIP).

Under the VTrans2035 performance-based planning framework, specific projects from these agency plans can be linked to the VTrans Investment Priorities. Agency processes such as needs evaluations, performance rating, and project prioritization can be shaped in terms that relate directly to VTrans. This consistency will promote the alignment among policies, plans, and funding programs that is necessary to gauge accurately the effects of transportation decisions on system performance.

How Will the Framework Incorporate System Performance Evaluation?

The upper "loops" of the framework diagram depict the use of performance measurement to evaluate and guide both VTrans and agency plans. These performance linkages are the core of the performance-based planning approach. While they are simple in concept, implementing them is a challenge that will require an effective performance management system.

Specifically, the results of transportation investments are evaluated through performance measures associated with VTrans Goals. The VTrans2035 Update process includes an evaluation, or rating, of the Investment Priorities based, in part, on current needs, which are indicated by the performance evaluations. Thus, for example, if the current levels of transportation investments are improving mobility but not making as much progress with safety, the VTrans2035 Update will give more weight to Investment Priorities that address safety improvements.

How Will We Measure Performance in the Future?

The recently adopted MAP-21 includes requirements for states and regional planning bodies to establish performance measures and targets. Virginia has been tracking, since 2006, more than 40 transportation performance measures to assess progress, or lack thereof, in meeting transportation goals. As the stakeholders and citizens involved in this VTrans Update were quick to point out, these measures are effective only if they measure progress toward the VTrans Investment Priorities. Consequently, the

performance measures are being re-evaluated to add measures more clearly related to the VTrans Investment Priorities, and a new reporting system is being developed that will make the performance measures more transparent and easier to update on a more frequent basis.

MAP-21 Performance Goals

- Safety
- Infrastructure Condition
- Congestion Reduction
- System Reliability
- Freight Movement and Economic Vitality
- Environmental Sustainability
- Reduced Project Delivery Delays

This performance evaluation system is key to implementing the performance-based planning approach presented in this VTrans2035 Update. This emerging system will be developed to meet forthcoming planning requirements under MAP-21. Based on the national performance goals included in MAP-21 (above), it appears that VTrans is already positioned for strong alignment with MAP-21.

MAP-21 will also require states to specify performance criteria and targets for MPOs to use in their planning processes. VDOT has already worked with large MPOs to meet similar requirements stipulated in recent state legislation. The VTrans2035 framework enables further alignment of state and regional performance-based planning while moving in the direction of the anticipated MAP-21 requirements.

How Did the Public Help Shape the Framework?

The purpose of public involvement efforts was to engage people pro-actively in ways that encouraged a sense of ownership and provided meaningful insights for the plan update. Ideas and suggestions from the public and key stakeholders were gathered in several ways throughout the VTrans2035 Update process. Ultimately, the public input was critical in helping develop the framework for a performance-based planning approach – an approach that is consistent with the Commonwealth's goals.

General public information sessions were held concurrently with meetings for other statewide planning projects during the autumn of 2011 to introduce the effort, and again during the summer of 2012 to present the draft plan update. Public comments were solicited via the project website consistently throughout the process. In addition, the project team conducted a series of highly interactive forums and discussions during the winter of 2011 and the spring of 2012 that generated more than 530 person-hours of effort volunteered by a broad spectrum of representatives from public agencies and private sector organizations across the Commonwealth. These events are briefly described below; more information on outreach activities is included in Appendix B.

The first of two regional planning forums was a half-day session held on December 14, 2011. A total of 47 participants, representing local, regional and state planning agencies and transportation-related organizations, worked in facilitated small groups at five locations across the state, linked via WebEx technology to one another and to Richmond-based presenters from the project team. Participants provided insights on regional and statewide issues that had arisen during the two years following the adoption of VTrans2035, evaluated the linkages between VTrans Goals and Investment Priorities, and provided ideas for the development of an update built around a performance-based planning framework.

Two rounds of two-hour stakeholder meetings were held February 22-23, 2012, engaging 26 representatives from public agencies and private organizations across the state. Participants provided generally positive feedback on the first draft of the proposed performance-based planning framework, which was structured, in part, around the ideas from the December 2011 forum. They offered comments on the restructured list of Investment Priorities and the new list of Investment Strategies.

At the second regional planning forum (Figure 3-2), held on March 29, 2012, 74 people worked in facilitated small groups at five locations across the Commonwealth, using WebEx technology to share information and ideas. Participants evaluated the proposed performance-based planning framework, which had been updated in response to comments from the February stakeholder meetings. Particular emphasis was placed on the newly proposed Investment Strategies.

Ideas for improving the framework included suggestions such as clarifying how it would be used; explaining its relationship to other state, regional and local plans; and discussing the overall approach to addressing funding issues, such as the balance between prioritizing for scarce resources and making the case for additional funds. Participants highlighted the need to maintain consistent levels of specificity across the Investment Priorities and Strategies, and provided general insights on the Goals and performance measures, which had not changed as much as the Investment Priorities. Participants also provided insights generated through an experimental priority-setting exercise to link Investment Priorities with Corridors of Statewide Significance.

Figure 3-2: Regional Forums. Salem, Virginia (Left) and Hampton Roads, Virginia (Right). March 29, 2012

In August 2012, members of the public provided valuable feedback through a series of events, held in various locations throughout the state in coordination with public outreach for the VSTP2035 Update. Four separate meetings, drawing over 100 total attendees, were held in Roanoke, Chesapeake, Richmond, and Arlington.

The public meetings (Figure 3-2) offered various opportunities for feedback, opening the floor for verbal remarks and providing modal-specific comment cards. The verbal comments were documented, but not officially transcribed. The comment cards asked participants to identify the most important

transportation priorities, suggest ways in which to improve decision-making, and comment on the multimodal statewide plans. The written comments were categorized by location.

In all, the public comments touched on a variety of issues and highlighted a range of transportation needs and deficiencies. Some of the recurring themes and heavily emphasized issues are summarized below.

- Follow clearly definable goals
- Recognize that needs vary across regions
- Look to other states and cities for guidance
- Focus growth in existing communities
- Invest in a multimodal transportation system
- Increase connectivity between various modes
- Maintain infrastructure including sidewalks and trails
- Invest in bicycle and pedestrian facilities
- Invest in public transportation and TDM programs and increase access to transit
- Increase awareness of carpooling, vanpooling and Telework

Figure 3-3: Public Meeting. Arlington, Virginia. August 9, 2012.

In addition to on-site meetings, a virtual open house was made available through the Office of Intermodal Planning and Investment website from August 2, 2012 through August 31, 2012. The virtual site included all materials available at the on-site meetings and provided interactive features to help guide participants through the site. Finally, the Office of Intermodal Planning and Investment hosted a web portal that allowed the public to submit electronic feedback throughout the planning process. Documentation of each public outreach effort and all comments received is available on www.vtrans.org. Appendix B provides a relatively brief summary of the outreach activities and comments.

Chapter 4: Evaluating Investment Priorities

Why Rate Investment Priorities?

Prior to the development of a performance-based planning process for this VTrans2035 Update, the VTrans Investment Priorities were not clearly linked to VTrans Goals, performance reports, or funding decisions. The Investment Priority Rating Process supports the performance-based planning and programming framework by providing a transparent method for evaluating the urgency and relevance of the Priorities during each VTrans update. The rating method also provides a broadly-applicable, flexible tool that can be used by the CTB and other boards, transportation agencies, MPOs and other partners to target transportation investment decisions toward the most urgent Investment Priorities.

The rating of Investment Priorities will not alter the fundamental commitments to safety and maintenance, nor will they redirect investment from projects that are already obligated. Instead, the rating of investment priorities is intended to guide investment choices for future funding outside of those commitments. Note, however, that if performance in safety or maintenance were lacking, this process would guide the investment decision-makers to provide even more resources to those areas.

What Is the Purpose of the Rating Process?

The purpose of this Investment Priority Rating Process is to provide support for performance-based planning and funding decisions by indicating which Investment Priorities are most needed given current performance conditions. The method also serves to identify criteria that should be considered when making funding decisions.

This Investment Priority Rating Process --

- Suggests the types of investments that, if funded, are most likely to improve performance;
- Is not a formula-driven prescriptive process that makes the decision; and
- Does not suggest redirecting spending away from core functions, which could degrade performance or legislatively mandated priorities.

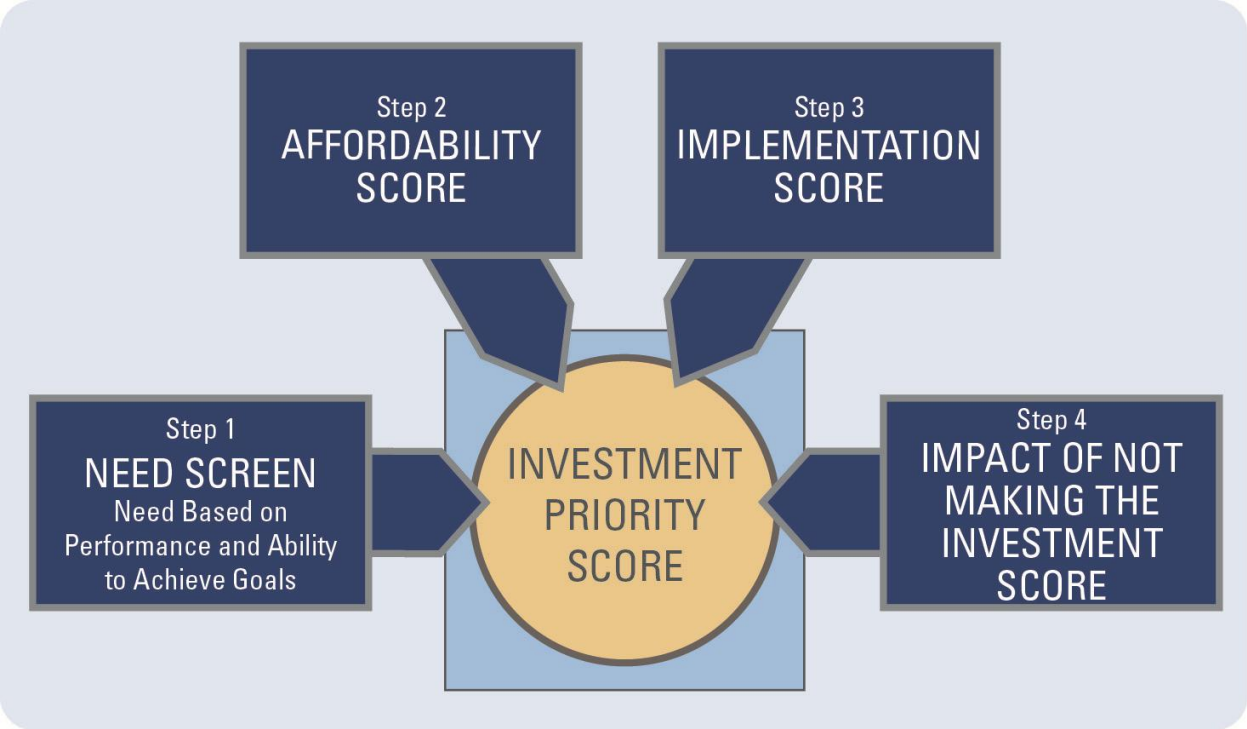
This Investment Priority rating Process will be useful to --

- MPOs and modal agencies in developing their funding requests;
- The OIPI in conducting comparative analyses of requested projects and expenditures by Investment Priority; and
- The CTB and other boards with funding decision responsibilities in assessing the relationship of funding requests for the Six-Year Improvement Program to the VTrans Goals and Investment Priorities to ensure discretionary funds are being directed cost-effectively to the most critical needs.

How Does the Rating Process Work?

As illustrated in Figure 4-1, the method described in this chapter rates each Investment Priority according to the following four criteria:

Figure 4-1: Investment Priority Rating Process Inputs



1. Current transportation needs as revealed by system performance reports;
2. Affordability given available revenue sources and the ability to leverage other sources;
3. Ease of implementation given existing policies and procedures; and
4. The potential negative effect of not investing in projects that support the given Priority.

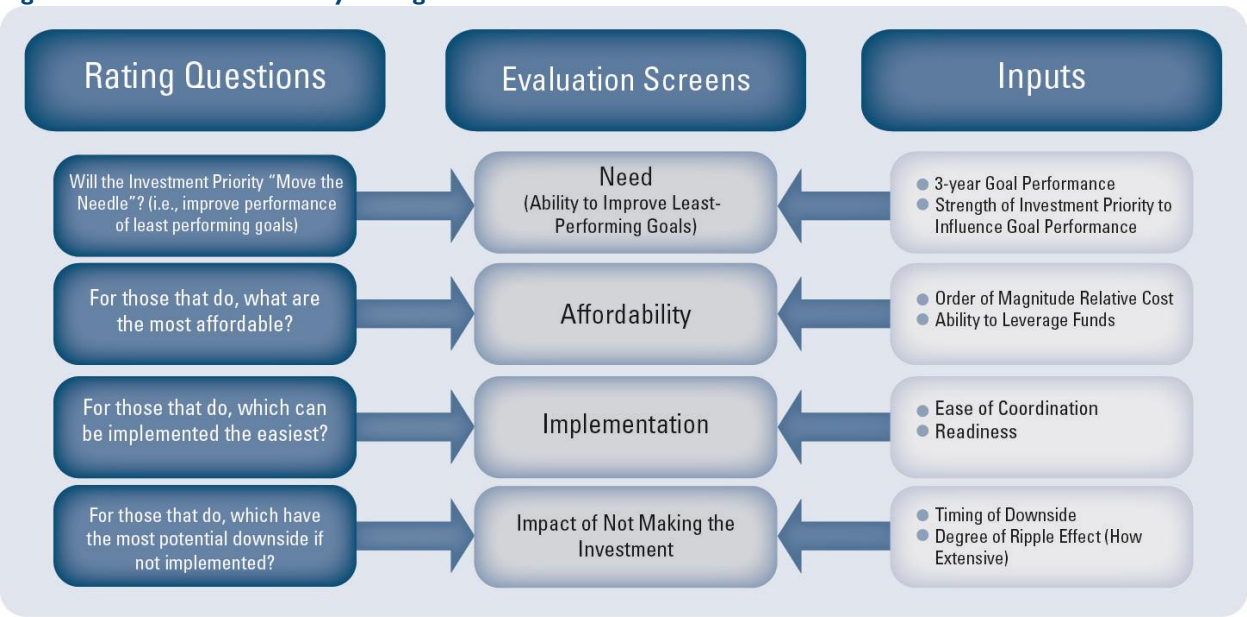
This framework allows for a dynamic process that reflects changing conditions in the Commonwealth. Using performance as a major determinant of need allows for the realignment of Investment Priorities as conditions and performance change over time.

How Is Each Criterion Considered?

The rating process depicted in Figure 4-2 involves four steps:

> Step 1 is the most important step, the *Needs* Screen. It considers how well Goals have been achieved over the last three years of available performance data, what the current performance trend is for each goal, and how the Investment Priorities can influence the performance of the Goals. The premise is that Virginia should focus its resources on the Investment Priorities that are not performing as well as others, given a solid understanding of the Priorities' relevance to the VTrans Goals and the system performance related to those Goals. The remaining steps are followed for those Investment Priorities that pass the Need Screen.
>
> Step 2, *Affordability*, considers the level of financial support for the Investment Priorities from a two perspectives. First, what is the cost to the Commonwealth? Second, what level and type of funds could be leveraged from other sources to pay for the project?

Figure 4-2: Investment Priority Rating Process Framework



Step 3, *Implementation*, assigns a score based on the anticipated extent of coordination with non-transportation agencies and also whether policy changes might be required for implementation.

Step 4 considers the potential *Impact of Not Making the Investment* in projects associated with the Investment Priority.

The following sections provide a high-level description of each step. More detail can be found in Appendix C – Investment Priorities Rating Process Technical Report.

Step 1 - Assessing the Level of Need

Current Virginia law requires the OIPI to develop transportation performance measures and provide an annual transportation performance report. This report, organized around the seven VTrans Goals, evaluates the condition and performance of the overall transportation system rather than that of a particular transportation agency. Therefore, in the context of this performance-based process, needs relate to poor Goal performance. The example rating process described in this chapter draws upon data from this report. The results for the past three years, currently years 2009, 2010, and 2011 are used for the rating process.

Assessing General Performance In Support of Each Goal

The scores for each goal from the annual transportation performance reports are averaged over the three-year period and rated according to the following six performance levels:

- Considerable Improvement – considerable improvement (greater than 10%) in performance compared to a 3-year historical average;
- Slight Improvement – slight improvement (5 % to 10%) in performance from the 3-year historical average;
- Little or No Improvement – little or no improvement (0% to 5%) in performance from the 3-year historical average;

- Little Decline – little decline (0% to -5%) in performance from the 3-year historical average;
- Slight Decline – slight decline (-5% to -10%) in performance from the 3-year historical average; and
- Considerable Decline – considerable decline (less than -10%) in performance from the 3-year historical average.

Since the intent of this activity is to identify the Goals for which improvement is most needed, the highest rating scores are allocated to the Goals with the lowest performance. In other words – the higher the performance, the lower the needs rating.

Acknowledging the Influence of the Investment Priorities on the Goals

The Need screening next scores the relative importance of each Investment Priority based upon the extent to which it influences the performance of the Goals.

In the illustrative chart of Vision, Goals and Investment Priorities (Figure 2-1), each Investment Priority was linked to just one Goal. This simplified linkage made the charts easier to read, for the purpose of getting across the general concepts of Investment Priorities and Strategies. As shown in Figure 2-2, however, most of the Investment Priorities have a strong or moderate influence on several Goals. These more complex relationships between Investment Priorities and Goals were discussed at the Regional Forums as described in Chapter 3. The insights from those workshops provided a basis for the chart shown in Figure 2-2 and Figure 4-3, which further depicts the scoring used in this rating process to reflect the general level of influence of each Investment Priority on all of the Goals.

The Need screening concludes by applying the weights from the performance assessment to the correlation information to develop a score for each Investment Priority. The weighted score is then totaled and the top seven Investment Priorities (and ties) identified. The results of this tally are shown in Figure 4-4.

Selecting the Highest-Need Priorities for Further Assessment

In this example, the seven highest-need Investment Priorities are carried forward for further assessments through the next steps of the Investment Priority Rating process. As discussed in the following section, and fully explained in Appendix C, the influence of the selected Investment Priorities on the remaining three criteria is rated on a scale of one to five.

In sum, this initial Needs screen, which narrows the full rating process to the highest-need Investment Priorities, reflects the importance of the first criterion (performance) over the other three criteria (affordability, ease of implementation, and impacts of not making the investment). The screening helps to lessen the likelihood of skewing the overall results toward Priorities that may be easy to achieve, but do not serve the greatest needs. For example, the overall rating of an Investment Priority that is relatively affordable or easy to implement will be significantly lower if it will not make a substantial difference in "moving the needle" toward success for an underperforming goal.

Figure 4-3: Correlation between Investment Priorities and Goals

KEY:

- IP has strong influence on goal performance
- IP has moderate influence on goal performance
- IP has minimal influence on goal performance

INVESTMENT PRIORITIES (IPs): / GOALS:	Safety and Securtiy	System Maintenance and Preservation	Mobility, Connectivity, and Accessibility	Environmental Stewardship	Economic Vitality	Coordination of Transportation and Land Use	Program Delivery
Increase coordinated safety and security planning	5	1	1	2	2	1	1
Improve safe operations and services	5	1	3	1	2	1	1
Achieve state of good repair	4	5	1	1	3	1	1
Increase system performance by making operational improvements	3	1	5	3	3	1	1
Preserve and enhance statewide mobility	1	1	5	1	4	2	2
Improve the interconnectivity of regions and activity centers	1	1	5	2	3	4	1
Promote sustainable methods of planning, design, operation, and construction that are sensitive to environmental, cultural, and community resources	1	1	1	5	2	3	1
Advance key economic drivers by making strategic infrastructure investments	2	2	3	1	5	1	1
Reduce the cost of congestion to Virginia's residents and businesses	1	1	4	2	5	2	1
Preserve and optimize system efficiency through proactive planning	1	1	3	2	2	5	1
Increase travel choices to improve quality of life for Virginians	1	1	4	2	2	5	1
Expand opportunities to develop and leverage funds	1	2	2	1	3	1	5
Improve cost effectiveness of providing programs and services	1	1	1	1	1	1	5

Figure 4-4: Final Output of Need Screen

Investment Priority (IP)	Needs Score
Increase coordinated safety and security planning	43
Improve safe operations and services	48
Achieve state of good repair	57
Increase system performance by making operational improvements	60
Preserve and enhance statewide mobility	58
Improve the interconnectivity of regions and activity centers	57
Promote sustainable methods of planning, design, operation, and construction that are sensitive to environmental, cultural, and community resources	44
Advance key economic drivers by making strategic infrastructure investments	55
Reduce the cost of congestion to Virginia's residents and businesses	57
Preserve and optimize system efficiency through proactive planning	47
Increase travel choices to improve quality of life for Virginians	51
Expand opportunities to develop and leverage funds	56
Improve cost-effectiveness of providing programs and services	40

Top seven IPs and ties relative to need

Step 2 – Assessing Affordability

Factors in the Affordability assessment include the relative overall costs of each Investment Priority, as well as the Commonwealth's ability to leverage funds for the given Priority. The Investment Priorities with the highest Affordability scores have the least cost and/or the greatest potential for leveraged funds. Specifically, the Affordability considerations include:

- **Order of magnitude relative costs.** For this exercise, estimated costs for each Investment Priority from the original VTrans2035 plan were reviewed by modal agencies and updated as needed. The Priorities represent classes of projects, not individual projects. Each Investment Priority falls into one of the following three categories:

  Level 1: typically costing less than $200 million per year on average;
  Level 2: typically costing $200-$500 million per year on average; or
  Level 3: typically costing more than $500 million per year on average.

- **Ability to leverage funds.** The Commonwealth's ability to leverage funds for each Investment Priority is summarized in one of the following three categories:

High: a relatively high ability to leverage funds from sources such as PPTA participation, user fees or federal participation;

Medium: some ability to leverage funds including federal participation; or

Low: relatively few opportunities for funding partnerships.

An example of an Investment Priority for each category is provided to better illustrate the differences in the categories. More detail can be found in Appendix C.

Order of Magnitude Relative Costs:

- Level 1: *Improve safe operations and services* – Safety-related improvements are estimated to be less than $200 million per year.
- Level 2: *Increase travel choices to improve quality of life for Virginians* – Transit needs alone are on average $150 million/year, when ped/bike and rural connectivity projects are included estimate exceeds Level 1 threshold.
- Level 3: *Achieve state of good repair* – Costs to address pavement and bridge needs alone are estimated to be on average over $500 million per year.

Ability to Leverage Funds:

- High: *Advance key economic drivers by making strategic infrastructure investments* – Significant PPTA and user fees associated with bridges/tunnels and other major projects.
- Medium: *Preserve and enhance statewide mobility* – Some federal funding, PPTA participation and user fees in major corridors.
- Low: *Achieve state of good repair* – Only traditional federal/state/local funds are generally available for maintenance/preservation projects.

Step 3 – Assessing Ease of Implementation

The Implementation evaluation process considers the level of coordination among various outside partners that would be needed to undertake the Investment Priority, as well as the Commonwealth's readiness to move ahead with it. In this case, readiness does not necessarily mean "shovel-ready;" it is more about the degree to which major policy changes would be necessary to implement the Investment Priority. The Investment Priorities that require little coordination and no policy changes to implement score the highest, reflecting relatively easy implementation.

The information needed to conduct this step was developed through discussions with modal agencies. Input from agency representatives focused upon the following criteria:

- **Ease of coordination**. Each Investment Priority is rated according to the following categories:

  High: relatively less coordination with non-Commonwealth agencies required;

  Medium: the number of modes or the number of agencies involved could result in considerable coordination activities; or

  Low: the number of modes or the number of agencies involved could result in extensive coordination activities.

- **Readiness.** Readiness is described in terms of the degree of policy changes required to implement the Investment Priority. Categories include the following:

High: few or no policy changes required to implement;
Medium: some policy changes required; or
Low: substantial policy changes needed.

An example of an Investment Priority for each category is provided to better illustrate the differences in the categories. More detail can be found in Appendix C.

Ease of Coordination:

- High: *Improve safe operations and services* – Safety programs/projects require only basic coordination with other agencies/partners.
- Medium: *Increase system performance by making operational improvements* – There is the potential for increased federal coordination in major ITS projects.
- Low: *Improve the interconnectivity of regions and activity centers* – High speed/intercity rail projects typically require increased federal coordination as well as extensive local coordination and potential for coordination with other states.

Readiness:

- High: *Reduce the cost of congestion to Virginia's residents and businesses* – No changes in policies are required to implement traditional improvement projects.
- Medium: *Expand opportunities to develop and leverage funds* – Some new approaches may require legislative changes or changes in policy.
- Low: None of the current Investment Priorities were given a low readiness score.

Step 4 - Assessing Potential Impacts of Not Making the Investment

The final step in the rating process is to examine the potential downsides of choosing not to address the given Investment Priority at the current time. The downside is characterized by how quickly a negative impact could be felt, and the degree to which the impact would have a "ripple effect" across Virginia (i.e., would the impact be limited to a given region, or would it affect all areas of the state?). The most significant downside potential has a near-term impact occurrence and a statewide ripple effect.

A high rating indicates a significant downside to putting the given Investment Priority "on hold" in favor of allocating funds to other Priorities. The process of determining the Impact of Not Making the Investment includes the following considerations:

- **Timing of downside.** This measure considers how quickly the performance indicators related to a non-prioritized Investment Priority may begin to worsen. Ranges include:

  Near-term: 0 to 10 years,
  Mid-term: 10 to 20 years, or
  Long-term: beyond 20 years.

- **Degree of ripple effect.** This measure assesses whether the potential downside would be limited to a project area or ripple throughout the state. Ranges include:

  Statewide: encompassing or affecting Virginia and beyond, or
  Regional: localized to specific area(s).

An example of an Investment Priority for each category is provided to better illustrate the differences in the categories. More detail can be found in Appendix C.

Timing of Downside:

- Near-term: *Achieve state of good repair* – The lack of a reliable transportation system could have immediate down-side in terms of business and tourist decisions on whether to come to Virginia.
- Mid-term: *Improve the interconnectivity of regions and activity centers* – Decreased access to markets by rail/transit could result in increased isolation of regions and activity centers and decreased economic activity over time with a failure to invest.
- Long-term: *Increase travel choices to improve quality of life for Virginians* – By not addressing this priority, the lack of travel choices will result in continual pressure on existing transportation infrastructure over time.

Degree of Ripple Effect –

- Statewide: *Advance key economic drivers by making strategic infrastructure investments* – While the key economic drivers are specific areas, such as Dulles and the Port of Virginia, the effects of inaction will be felt statewide.
- Regional: *Increase system performance by making operational improvements* – The impact of not investing in smart systems and ITS occurs within the immediate corridor or region affected.

What Are the Results of the Example Rating Process for this VTrans2035 Update?

The results of this example exercise, shown in Figure 4-5, are provided merely to illustrate how the rating process will work. The intent is to implement the process fully through the VTrans2040 Update. The process cannot be fully completed for this VTrans2035 Update because the improved alignment of performance measures with Investment Priorities is still under development. Once this is finished in 2013, the results of the rating process will be more robust. Meanwhile, a simpler "reality check" of the results using the current performance measures provides some relevant and reasonable findings.

Currently, based upon the example process, of the thirteen VTrans Investment Priorities, the seven that would be most effective at improving progress toward underperforming Goals are as follows:

- Increase system performance by making operational improvements.
- Preserve and enhance statewide mobility.
- Achieve state of good repair.
- Improve the interconnectivity of regions and activity centers.
- Reduce the cost of congestion to Virginia's residents and businesses.
- Expand opportunities to develop and leverage funds.
- Advance key economic drivers by making strategic infrastructure investments.

Figure 4-5: Investment Priority Example Rating Results

Investment Priority	Need	Affordability	Implementation	Impact of Not Investing
Increase coordinated safety and security planning	43			
Improve safe operations and services	48			
Achieve state of good repair	57	1	5	5
Increase system performance by making operational improvements	60	4	3	1
Preserve and enhance statewide mobility	58	2	3	5
Improve the interconnectivity of regions and activity centers	57	3	2	3
Promote sustainable methods of planning, design, operation, and construction that are sensitive to environmental, cultural, and community resources	44			
Advance key economic drivers by making strategic infrastructure investments	55	3	3	5
Reduce the cost of congestion to Virginia's residents and businesses	57	2	5	4
Preserve and optimize system efficiency through proactive planning	47			
Increase travel choices to improve quality of life for Virginians	51			
Expand opportunities to develop and leverage funds	56	5	2	5
Improve cost-effectiveness of providing programs and services	40			

How Would the Ratings Be Used and Updated?

As noted previously, this rating process does not prescribe specific project funding decisions. It does help with decision-making by directly relating investment choices to potential future system performance.

Using the Ratings Results

The most important step in using this process is to share the framework and results with other transportation agencies (i.e., modal agencies as well as the MPOs) for them to consider as they prepare their project and program recommendations. The results will be useful, but the framework itself is key to enable agencies to evaluate need and cost-effectiveness in a way that will align with the decision-making boards' expectation. Each agency (state and regional) will have responsibility for selecting projects and initiatives that fit the Investment Priorities. To that end, OIPI must establish guidance that relates projects and programs to the Investment Priorities. This will enable the development of a summary table of investment proposals (such as the Six-Year Improvement Program) by Investment Priority for the CTB to use as a guide in approving the Program. A similar approach can be taken by the Port Authority and the Department of Aviation with their boards to further enhancement performance-based planning. At the same time, applying the framework at different levels or for different transportation modes may require some modification of the exact rating measures (for example, adjusting the Order of Magnitude Relative Cost levels of high, medium, and low to fit regional-scale programs or projects).

In using the results of the Investment Priority ratings, the transportation boards can further narrow the list of what they consider the top Investment Priorities if they so choose, or they can reorder the list by giving different weights to the non-Need criteria from steps 2-4. The Rating process is most valuable in

that it produces a "short list" of Investment Priorities relative to performance that can be shared with transportation agencies in order to help them develop investment programs that will improve the performance of Virginia's transportation system.

Updating the Rating Results

At a minimum, the ratings should be fully re-assessed at the onset of each VTrans update, which occurs every four years. This process will help to identify policy-related changes that may be needed to implement Investment Priorities effectively.

The simplest part of the update is the calculation of goal weights based on the most recent three years of system performance reports. Goal performance reviews could be done every year, to see if there are any significant changes in conditions that warrant an update to the Investment Priority ratings.

It is not likely that the remaining inputs would change significantly in the short-term. These inputs include the Investment Priority and Goal correlation table and the characteristics of the Investment Priorities related to the Affordability, Implementation, and Impact of Not Making the Investment criteria. As part of VTrans outreach activities, information used in the previous rating process could be reviewed with stakeholders including the transportation agencies and MPOs to determine if any modifications are necessary.

How Does the Process Support Performance-Based Planning and Programming?

Funding decisions in Virginia have always been made with detailed supporting information. Until now, however, the Commonwealth has lacked a comprehensive framework for examining the many potential investment options in light of their relationship to system performance, achieving stated transportation goals, and other criteria. This Investment Priority Ranking Process is a first step toward facilitating performance-based planning and funding decisions by structuring information around a consistent framework that links performance assessments, Investment Priorities, and associated strategies and ultimately projects to the Commonwealth's overall Vision and Goals as stated in the VTrans policy plan. This is not a black-box with a single answer, but a process for making better-informed decisions.

As discussed earlier, the rating process does not produce a definitive prescription for funding decisions. Rather, it provides information that decision-makers can use as a guide to help make difficult choices among competing priorities. The rating process does not affect mandated priorities or legislative requirements, such as the "maintenance first" policy or the critical need to make the transportation system as safe as possible. It does provide guidance, especially in cases of limited funds and numerous funding requests, as to what types of investments are most likely to help improve system performance in a cost-effective manner.

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Chapter 5: Corridors of Statewide Significance

What Are the Corridors of Statewide Significance (CoSS)?

The CoSS were originally developed under VTrans2025 and validated during the VTrans2035 Update process. One new Corridor was recently added by the CTB. Corridors identified as CoSS demonstrate all of the following characteristics:

- Multiple modes and/or an extended freight corridor,
- Connection among regions, states and/or major activity centers,
- High volume of travel, and
- Unique statewide function and/or fulfillment of statewide goal

As codified by law (S1398, 2009), the CoSS are designated by the CTB. The CTB also is charged with developing criteria for prioritizing the CoSS and conducting studies of the corridors. Recent legislation mandates that localities discuss local segments of the CoSS in comprehensive plan updates.

The major modal components of the twelve Corridors are briefly described in Table 5-1. A full description of each CoSS and its multimodal elements is included in Chapter 3 of the *VTrans2035 Report to the Governor and General Assembly*. http://vtrans.org/resources/VTrans_2035_Report.pdf

Table 5-1: CoSS Components

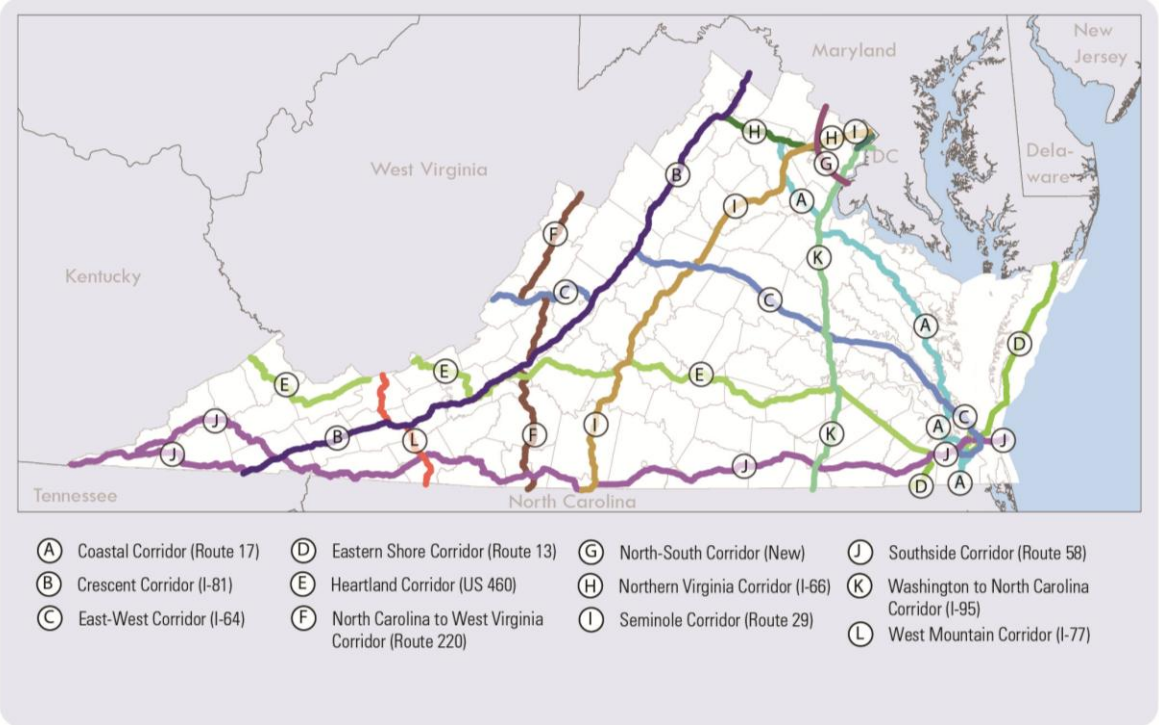
Corridors of Statewide Significance	Corridor Major Components
Coastal Corridor (Route 17)	Route 17, Local Transit Services, Port of Virginia, Port of Richmond, Rappahannock River, Norfolk Southern Heartland Corridor, Norfolk Southern Coal Corridor, CSX National Gateway Corridor, CSX Coal Corridor, Amtrak, Norfolk International Airport, Newport News/Williamsburg International Airport
Crescent Corridor (I-81)	I-81, Route 11, I-381, I-581, Local Transit Services, Virginia Inland Port, Norfolk Southern Crescent Corridor, Short Line Railroads, Shenandoah Valley Regional Airport, Roanoke Regional Airport
East-West Corridor (I-64)	I-64, Routes 250, 60 and 11, I-664, I-564, I-264, I-464, Local Transit Services, Port of Virginia, Port of Richmond, James River, York River, CSX Coal Corridor, Norfolk Southern Coal Corridor, Amtrak, Norfolk International Airport, Newport News/Williamsburg International Airport, Richmond International Airport, Charlottesville-Albemarle Airport
Eastern Shore Corridor (Route 13)	Route 13, Local Transit Services, Port of Virginia, Bay Coast Railroad and Barge, Norfolk Southern, CSX, Amtrak, Norfolk International Airport, Newport News/Williamsburg International Airport
Heartland Corridor (US 460)	Route 460, Coalfields Expressway, Local Transit Services, Port of Virginia, James River, Norfolk Southern Heartland Corridor, Elliston International, Norfolk International Airport, Newport News/Williamsburg International Airport, Richmond International Airport, Lynchburg Regional Airport, Roanoke Regional Airport

Corridors of Statewide Significance	Corridor Major Components
North Carolina to WV Corridor (Route 220)	Route 220, Local Transit Services, Norfolk Southern, Roanoke Regional Airport
North – South Corridor (new)	Route 234, Local Transit Services, Prince William County Parkway, Washington Dulles International Airport
Northern Virginia Corridor (I-66)	I-66, Routes 50 and 55, WMATA Orange Line, Virginia Railway Express, Amtrak, Local Transit Services, Virginia Inland Port, Norfolk Southern Crescent Corridor, Washington Dulles International Airport, Ronald Reagan Washington National Airport
Seminole Corridor (Route 29)	Routes 29, 50 and 28, WMATA Orange Line, Virginia Railway Express, Local Transit Services, Norfolk Southern Crescent Corridor, Amtrak, Washington Dulles International Airport, Charlottesville Albemarle Airport, Lynchburg Regional Airport
Southside Corridor (Route 58)	Route 58, Local Transit Services, Port of Virginia, CSX National Gateway, Norfolk International Airport, Newport News/ Williamsburg International Airport
Washington to NC Corridor (I-95)	I-95. I-395, I-495, I-85, I-195, I-295, Routes 1 and 301, WMATA Blue and Yellow Lines, Local Transit Services, Virginia Railway Express, Ports of Alexandria and Richmond, James River, CSX National Gateway Corridor, Amtrak, Ronald Reagan Washington National Airport, Richmond International Airport
Western Mountain Corridor (I-77)	I-77, Local Transit Service, Routes 52 and 11

What Are the Latest Changes to the CoSS?

1. New Corridor: In 2011, the CTB added a North-South Corridor to the CoSS. The CTB resolution names the need and unique statewide function (linking I-95, I-66, the Dulles Toll Road and Dulles International Airport), the large population and travel markets in the area, and multimodal components of the corridor as a basis for the CoSS designation.
2. Prioritizing CoSS: The VTrans2035 Update establishes three tiers of CoSS: National Corridors, Commerce and Mobility Corridors, and Statewide Corridors. These systems are defined by the dynamics of total population, travel patterns, and intermodal and economic potential of the corridor within and outside of Virginia, as described in the next section.
3. Corridor Master Plans: The Office of Intermodal Planning and Investment has begun a process of preparing a Corridor Master Plan for the North-South Corridor and creating guidelines for future Corridor Master Plans. During 2010-2011, a draft plan for the US 29 Corridor was developed. The planning process provided valuable information and "lessons learned" for the development of future Corridor Master Plans.
4. CoSS Procedures: This VTrans 2035 Update includes procedures to be used to add, edit and delete CoSS from this point forward. These procedures identify the basis for Regional Significance, Level of Transport, and Connectivity, with a new focus on inter-state corridors that connect Virginia to other states and markets.

Figure 5-1: Map of Corridors of Statewide Significance



What Are the Three Tiers of CoSS?

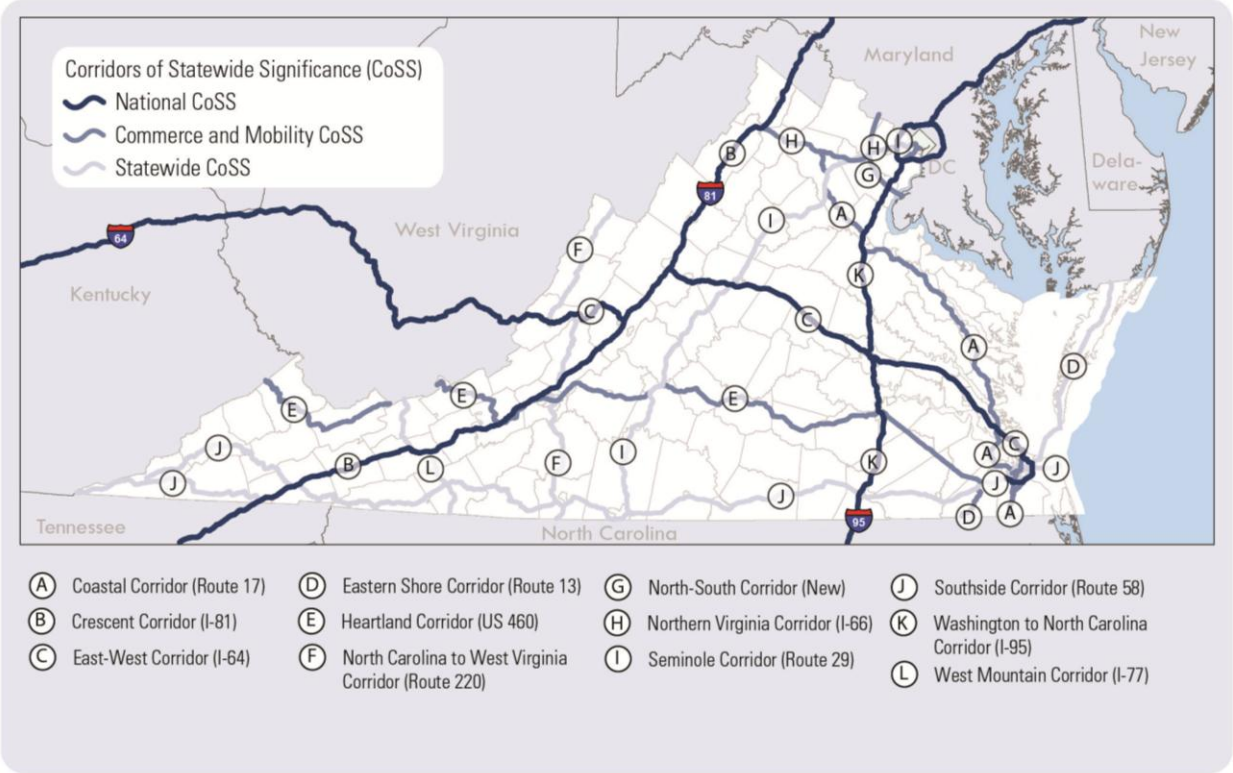
The first tier, National Corridors, includes routes that support mobility for nationwide travel and freight movement, connecting to states along Virginia's borders: Tennessee, North Carolina, West Virginia, Maryland and Washington, D.C. The second tier, Commerce and Mobility Corridors, provide essential connections within the state between the economic drivers of Dulles International Airport and the coastal and inland ports. The remaining Statewide Corridors support mobility within the Commonwealth. The three tiers of CoSS are shown in Table 5-2. All of the corridors meet the following criteria for statewide significance:

1. Provides a unique statewide function and/or addresses statewide goals. This is the case if the route is an evacuation route, a critical redundancy route, a military access route, a STRAHNET route (Strategic Highway Network critical to the Department of Defense), a STRACNET route (Strategic Rail Corridor Network critical to national defense), a tourism route and/or a truck route;
2. Involves multiple modes of transportation. The different modes may include highway, rail, inter-regional transit, airport, marine or inland port, and/or other freight facilities;
3. Provides multiple levels of transport. This is the case if the corridor includes at least two of the following: Class I railroad; inter-regional public transportation and stations (such as Amtrak); Interstate facility; National Highway System (NHS) facility; a public port; a major freight corridor; commercial and/or reliever airport; economic development highway; major shipping channel; and gateway of national or international significance;
4. Connects regions or states; and
5. Links two or more important intrastate or interstate economic clusters together.

Table 5-2: CoSS Tiering

Corridor of Statewide Significance	National	Commerce and Mobility	Statewide
Coastal Corridor (Route 17)		✓	
Crescent Corridor (I-81)	✓		
East-West Corridor (I-64)		✓	
Eastern Shore Corridor (Route 13)			✓
Heartland Corridor (US 460)	✓		
North Carolina to WV Corridor (Route 220)			✓
North – South Corridor (new)		✓	
Northern Virginia Corridor (I-66)		✓	
Seminole Corridor (Route 29)			✓
Southside Corridor (Route 58)			✓
Washington to NC Corridor (I-95)	✓		
Western Mountain Corridor (I-77)			✓

Figure 5-2: Map of National and Statewide CoSS



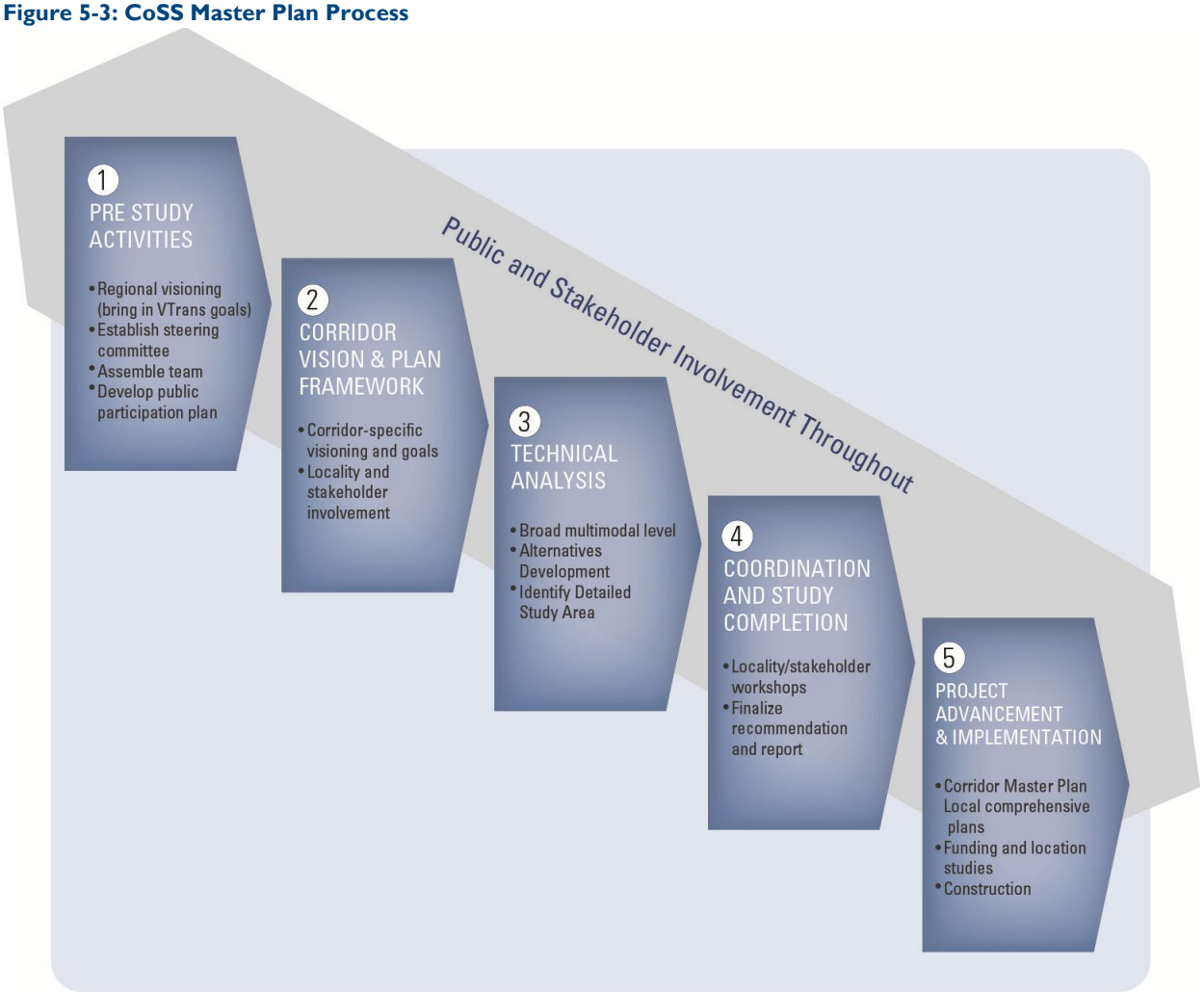
What Is a Corridor Master Plan?

The Corridor Master Plans (CMPs) to be completed over the coming years for each CoSS are expected to accomplish the following goals:

- Identify and address common features and major differences among the CoSS
- Transform the planning process from a piecemeal approach to an integrated one
- Make the planning process and report contents consistent across CoSS
- Establish consistency in plan advancement and implementation

The CoSS master plans will focus on the VTrans Goals in each corridor, with differences in emphasis depending on the type of corridor. For example, a corridor of statewide significance that does not include limited access highways will have a particular emphasis on balancing statewide mobility with multimodal accessibility to regional economic centers. Corridors of national significance that include major freight and passenger facilities such as highways, freight rail and/or Amtrak would have a greater emphasis on ensuring high-volume capacity and operational efficiency. The basic steps of the Corridor Master Planning process are shown in Figure 5-3.

Figure 5-3: CoSS Master Plan Process



What Is the Process for Changing the CoSS Map?

Moving forward, there will be two methods for adding, modifying or deleting CoSS from the current list. During the VTrans2040 process and future updates, individuals and agencies can request changes during a VTrans update to the CoSS map on the basis of the form shown in Appendix D. This request can be made by anyone, but the application requires a letter of support from a CTB member, a Metropolitan Planning Organization (MPO) or a local government body. The form includes a series of questions that require the applicant to define the proposed change, such as adding a new corridor, according to the CoSS criteria, and to clearly show how the proposed change meets CoSS requirements and relates to the VTrans Goals. The application will be reviewed by OIPI staff and the Multimodal Working Group, after which it will be submitted to the CTB for a final decision.

Requests to add, modify, or delete a corridor from the CoSS can also be made in between VTrans updates. These changes can be brought forward by a CTB member, based on a citizen or agency request that includes the same application form described above and as shown in Appendix D. This type of request to modify the CoSS must be presented by a CTB member using all of the supporting information provided by the applicant. The application will be reviewed by OIPI staff, the MMWG, agency heads and the CTB, with the CTB responsible for the final decision.

How Do the CoSS Relate to the Investment Priorities?

The CoSS serve an important role in statewide multimodal planning in that they signify the highest priority routes from a statewide perspective. The tiering of the CoSS captures important differences between the CoSS, and the Corridor Management Plans will even further distinguish critical transportation functions and needs within each corridor. Together, this information will help support prioritization of projects within regions and at a statewide level. An important linkage in the prioritization process is the connection between the VTrans Investment Priorities and CoSS. The OIPI and MMWG conducted an exercise with statewide planners, transportation providers and interest groups conducted at a regional level to identify these linkages. Figure 5-4 shows the Investment Priorities that had medium or high correlation with each CoSS, in response to the question, "Which Investment Priorities are critically important to each CoSS?" (Note that a maximum of three could be selected per corridor by the participants.) These linkages further enhance the use of the Investment Priorities by Planning Partners in regional and statewide agency transportation plans, providing geographic references to the Investment Priorities.

Figure 5-4: CoSS Correlation with VTrans Investment Priorities

Investment Priority	I-64	I-66	I-77	I-81	I-95	US 13	US 17	US 29	US 58	US 220	US 460	N-S
Increase coordinated safety and security planning												
Improve safe operations and services			X	X		X				X	X	
Achieve state of good repair	X		X		X	X						
Increase system performance by making operational improvements		X		X	X		X			X		
Preserve and enhance statewide mobility		X						X	X		X	
Improve the interconnectivity of regions and activity centers	X	X	X	X	X	X	X	X	X	X	X	
Promote sustainable methods of planning, design, operation, and construction that are sensitive to environmental, cultural, and community resources		X	X	X	X	X	X	X				X
Advance key economic drivers by making strategic infrastructure investments	X		X	X		X	X	X	X	X	X	X
Reduce the cost of congestion to Virginia's residents and businesses	X	X			X							X
Preserve and optimize system efficiency through proactive planning		X			X	X	X	X		X		X
Increase travel choices to improve quality of life for Virginians	X	X		X	X	X	X	X	X	X	X	X

Note: The two Investment Priorities under the Program Delivery Goal are omitted as they are statewide in nature.

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Chapter 6: Policy Recommendations

Accomplishing the Vision, Goals and Objectives of VTrans requires actions by many different parties. Three types of actions are particularly important:

- This chapter describes the ***funding initiatives and policy changes*** that are needed to support the Investment Priorities in the VTrans2035 Update.
- Chapter 7 describes the ways that planning partners can incorporate the concepts of the performance-based planning framework into their agency actions, bringing the priorities of the VTrans2035 Update into ***project-level plans and agency programs***.
- Finally, the *VTrans2035 Update Implementation Plan* is a list of ***specific short-term actions to be taken by state transportation agencies*** to complete the performance-based planning framework and pursue the recommendations of VTrans.

What Transportation Funding Policies and Initiatives Are Needed?

To address the mounting transportation needs and avoid failure of our existing transportation systems, the following types of funding policies and initiatives are needed. Specific concepts to meet these needs are discussed later in this chapter.

- Transportation revenue sources that are based on travel, not strictly fuel usage and vehicle purchases.
- A broader base of user fees including tolls and locally-based tax revenues
- Greater flexibility for urban regions to leverage their greater incomes and economic activity to pay for their higher-scale transportation needs
- Incentives for partnerships that will leverage more private and local participation in transportation financing for construction, operation and maintenance
- Greater use of value-capture policies that fund transportation investments on the basis of revenues that will be generated by future economic activity and tax revenues made possible by the investment
- Performance-based funding for public transportation operating assistance

What Are the Most Critical Actions Needed to Provide Adequate Transportation Funding?

The strategies and policies described above provide a multi-pronged approach to developing greater transportation resources at the local, regional and state level. However, some of these strategies will take years to implement. The most immediate actions needed to avoid further degradation of Virginia's existing transportation system while also making progress on needed transportation improvements include the following:

- Reverse erosion of existing gas tax revenues with strategies that incorporate alternative fuel vehicles and address the impacts of higher fuel efficiency standards on the per-gallon tax

- Facilitate the development of regional transportation authorities supported by regionally-based transportation revenues that will support specific, high-priority projects and programs
- Prioritize actions that spur economic growth, which in turn generates more revenues
- Identify dedicated revenue sources to support the rail and transit services in the Commonwealth
- Address the growing bicycle and pedestrian needs through funding programs that leverage local public and private dollars, such as competitive grants with matching fund requirements
- Stabilize the maintenance burden on existing revenue sources through greater local responsibility for secondary roads

The following paragraphs provide more discussion of the issues and opportunities related to the needed funding policies and initiatives.

Traditional Revenue Sources Are Shrinking While Costs Are Rising

More than 60% of Virginia's transportation funds come from revenues linked to the use of transportation facilities, such as the Virginia Motor Fuels Tax, Motor Vehicle Sales and Use taxes, and Federal fuel taxes. About 40% of the funds come from supplemental revenue streams such as general State Sales and Use taxes and other revenues. Over the past several years, the revenues have not kept pace with the growing needs for highway and transit improvements. Fuel tax revenues per capita or per mile of travel are declining steadily due in part to long-term trends such as increased vehicle fuel efficiency, as well as changes in economic and demographic conditions that reduce the average amount of driving per person in the total population (or vehicle miles travelled – VMT).

However, the reduced VMT is not great enough to significantly reduce urban congestion, and it has little effect on the rising costs of system maintenance. The roadways built during the heyday of transportation expansion (from the post-World War II era through the 1980s) are coming of age and causing an escalating maintenance backlog.

Less Funding Is Available for New Investments

Two forces – reduced funding and increased maintenance needs – effectively "squeeze out" the funding that is available for new transportation facilities and initiatives. Most of the funds raised by Motor Fuels Tax, Motor Vehicle Sales and Use Tax and License Fees, and a few other sources are allocated directly to the Highway Maintenance and Operation Fund (HMOF). The Transportation Trust Fund (TTF) receives the remaining amount of dedicated transportation funds, plus bonds, federal aid and other sources. In principle, the HMOF is intended for maintenance and the TTF is intended for new investments.

Until 2001, there were surplus funds in the HMOF that were transferred to the TTF, but since 2002, the reverse has been true. In addition, a portion of federal transportation funds that could go to the TTOF has also been transferred into the HMOF since 2006. Consequently, the funds available for any projects other than maintenance have declined sharply in the last 10 years. This trend has affected both highways and transit.

Since 1986 (Acts of Assembly), 14.7 percent of the Commonwealth's annual TTF revenues have been dedicated to the Mass Transit Trust Fund (MTTF). Over this long time period, the importance of

transportation to the nation's economy has been amplified, and the demand for multimodal transportation investments has stressed the available limited resources both at the state and local level. During the 2011 Legislative Session, the Virginia General Assembly passed Senate Joint Resolution (SJ297), calling for the examination of current transit funding practices with respect to performance, prioritization, stability, and allocation.

The studies by DRPT in response to SJR297 highlight the fact that the existing portion (approximately 25%) of the MTTF dedicated to capital projects will continue to decline as the TTF funds decline, particularly in light of growing needs for transit operating funds. Historically, the state contribution to transit operating funds has been relatively stable at 20%. The projected state funding gap for operating assistance to maintain this share of operating assistance ranges from $4 billion to almost $9 billion from 2013 to 2040 (in year of expenditure dollars), depending on the amount of growth in transit operations. At the same time that growing operating needs compete for capital investment funding in the MTTF, the Mass Transit Capital Fund (MTCF) is threatened with extinction. The MTCF is funded primarily by bond proceeds supported by a tax on insurance premiums, and these funds are anticipated to be exhausted by 2018. Note that these funds are not just for expansion; some capital investments contribute to the state of good repair, including bus replacement and construction or enhancement of maintenance facilities.

The Virginia Aviation Board has elected to use its relatively small share of the statewide capital investment program as a competitive grant program for commercial and reliever airports. This program has been relatively stable at up to $2 million per year. However, the latest authorization bill for the Federal Aviation Administration reduced federal participation in eligible projects at federal-system (primarily commercial) airports from 95% to 90% beginning January 1, 2012. The DOAV has elected to make up the difference in the local match (increasing the state share from 3% to 8%) to avoid increasing the financial burden to the airports.

Additional Revenue Sources Are Needed

Additional revenue sources must be established in order to meet existing and future needs, given that most of the "new construction" funding sources are now needed for maintenance and operation of the existing system. As discussed in Chapter 1 and later in this Chapter, the McDonnell Administration has taken several steps to increase transportation funds, particularly to leverage more private sector participation in advancing transportation projects. These initiatives include the establishment of an office (the OTP3) dedicated to programming and promoting multimodal public-private projects, and the creation and capitalization of the Virginia Transportation Infrastructure Bank to facilitate financing for local and public-private projects. The previous section also details the funding gap for transit operations and anticipated drop-off in funding resources for transit capital improvements.

As mentioned earlier, the Intercity Passenger Rail Operating and Capital Fund (IPROC) was passed by the General Assembly in 2011 as a strategy to sustain Virginia's share of Amtrak Virginia's operating budget in preparation for the Passenger Rail Investment and Improvement Act of 2008 (PRIIA). In 2012, the General Assembly provided $28.7 million of the FY2011 General Fund surplus for the operating and capital needs of Virginia intercity passenger rail services, and authorized a transfer of $26.1 million of Rail Enhancement Funds for passenger needs for 2013 and 2014. However, a shortfall is anticipated in

FY2015 even with this additional funding. Unless dedicated operating and associated capital funding is identified, these regional passenger rail routes could be terminated.

What Revenue Strategies Would Be More Stable in the Future?

Tolls

Tolls are the oldest form of user fee and continue to be viable for major new facilities, particularly in light of open-road tolling technologies that avoid the bottlenecks caused by traditional toll collection. In select corridors previously approved by the Federal Highway Administration, some states are considering applying tolls to existing highways where the maintenance and improvements needed on those facilities exceed available revenue sources. Virginia and North Carolina are currently examining the potential to toll portions of I-95, for example. This concept is meeting resistance from corridor users who perceive the tolls as a "double tax" on top of the existing fuel and other transportation taxes, even though most of those existing revenues are now being spent on maintenance. MAP-21, however, mainstreams the pilot program for interstate tolling by removing the requirement for federal approval, allowing all states to toll Interstate Highways for capacity expansion projects.

Congestion Pricing

Variable tolling, or congestion pricing, is another method that, like Mobility-Based User Fees (MBUFs), both raises revenues and promotes more efficient use of transportation facilities. Cities in the U.S. and abroad have implemented this strategy with success. Virginia has recently begun experimenting with variable tolling in the I-495 HOT lanes, with additional lanes on I-95 in northern Virginia coming soon.

Mobility-Based User Fees (MBUFs)

A newer revenue-generating strategy being tested in some states is the concept of mobility-based user fees, such as a "vehicle miles traveled" tax. This approach has the potential not only to raise revenues on the basis of use but also to link the full cost of transportation investments to their use. When travelers more actively support the costs incurred by their use of the transportation system, more efficient usage patterns may emerge, such as reduced discretionary travel and more off-peak travel.

The obstacles to implementing this type of revenue source include the cost of data collection and administration, as well as citizen concerns over privacy, general public acceptance of the concept, and potential jurisdictional conflicts. The main technical challenge is collecting individual mileage data in a feasible and cost-effective manner by using GPS units, mobile phone applications, or other means. States including Washington, Oregon and Minnesota have conducted pilot programs but no state has attempted yet to fully implement a MBUF. This does appear to be a promising concept that may gain acceptance as the technology to support it becomes more widespread.

Other User Fees

Other activity-based user fees include:

- Fare-box revenue for transit and inter-city rail
- Weight-mile fees for shippers
- Tire and battery fees
- Leasing stations facilities or right-of-way for commercial purposes
- Terminal use fees
- Parking space taxes
- Energy use taxes
- Hotel/motel taxes
- Rental car taxes
- Bicycle registration fees
- Mobile source emission credits

How Could Local and Regional Entities Take More Initiative and Responsibility to Meet Regional Transportation Needs?

The funding dilemmas described at the beginning of this chapter require solutions that include greater direct responsibility and greater emphasis on performance by local and regional transportation partners. By necessity, the state must focus on the facilities that serve statewide and national movement of goods, residents and visitors. Local governments and regional agencies have the opportunity to create efficiency in determining how existing and future demand for roads, transit, and intermodal facilities will be met through their planning processes. They also have the ability to link the costs and benefits of growth to the methods of funding additional transportation capacity.

Virginia is somewhat unique among US states in that the Commonwealth takes responsibility for planning, building, and maintaining virtually the entire roadway network, from major primary highway to rural secondary roads. A fundamental policy challenge in Virginia is caused by the drastic differences among regions in terms of the cost and backlog of needed transportation improvements, exacerbated by the inability of localities and regions to generate enough revenues to address their own problems. Any approach to allocating statewide funds that takes the extreme position of either "spread the money equally over the existing system" or "distribute the money on the basis of population and traffic levels" is unlikely to succeed. At the same time, absent major changes in transportation funding, the responsibility for maintenance and expansion of roads serving primarily local traffic by necessity will become the responsibility of local governments. This process is called "devolution."

For transit, the Senate Joint Resolution 297 (SJ297), passed by the Virginia General Assembly during the 2011 Legislative Session, represents a move towards a more performance-based allocation methodology for limited public transit operating funds. The goal of SJ297 was to propose changes to the Code of Virginia that help maximize the benefits to public transportation and establish an efficient funding allocation process. A study group, tasked with developing an alternative funding methodology,

recommended a funding model for transit operating assistance that includes both a formula component and a performance-based component that is applied within peer groups of similar systems.

In addition, the political challenges posed by the Commonwealth's dependence upon statewide resources to handle regional congestion can be reduced by supplementing the statewide transportation improvement program with regionally-generated revenues for direct use on regional priority projects. Local governments also have the ability to raise some revenues and negotiate developer contributions to fund and/or construct transportation improvements.

Regional Transportation Authorities and Revenues

At present, regional transportation authorities have a planning role but limited funding abilities in Virginia. The primary example is the Northern Virginia Transportation Authority (NVTA), created pursuant to Chapter 846 of the 2002 Acts of Assembly. The NVTA includes the Counties of Arlington, Fairfax, Loudoun, and Prince William, and the Cities of Alexandria, Fairfax, Falls Church, Manassas, and Manassas Park. The powers and duties granted the NVTA are established in Code of Virginia section 15.2-4830, et seq. Chief among the authority's duties is responsibility for preparing a regional transportation plan, including the authority to prepare a mass transit plan in conjunction with other persons and entities as appropriate to prepare such plan. (The authority is restricted from regulating taxicabs.)

Chapter 896 of the 2007 Acts of Assembly granted the NVTA authority to impose taxes and fees and was anticipated to make it easier for other urban regions to create similar authorities with the ability to raise tax revenues for transportation. However, the ability for non-elected regional authorities to impose taxes or fees was ruled unconstitutional by the Virginia Supreme Court in February 2008, stripping NVTA of this avenue for generating transportation funds.

The NVTA may impose tolls for newly constructed or reconstructed facilities within the boundaries of the NVTA and issue bonds. Currently, the NVTA is administering projects that use federal Congestion Mitigation and Air Quality funds and Regional Surface Transportation Improvement Program funds. There are no tolling projects under construction nor are there any adopted in the NVTA plan.

Local Proffers and Impact Fees

Local governments are enabled to negotiate transportation improvements in the rezoning process through proffers. This process encourages developers to meet the transportation needs that will result from their proposals, first by analyzing these impacts in coordination with local governments and VDOT, and then by negotiating direct or indirect contributions to roadway and transit improvements with the local planning commission.

Some fast-growing counties in the Commonwealth have had great success in achieving private sector participation in meeting transportation needs through proffers. However, this method is less successful where development is slower and where major regional improvements are needed. Cash proffers for road improvements are limited to those jurisdictions with at least 10% population growth from 1990 to 2000 and where a conditional improvement program is in place. In addition, proffers are generally possible only in cases where a rezoning is required, not in the instances where the development is consistent with the zoning ordinance and thus can be built "by right."

Local impact fees, which are permitted under certain circumstances, are another way to collect funds to support transportation improvements. Specifically, Chapter 485 of the 1989 Acts of Assembly granted counties with population of 500,000 or more and cities, counties and towns generally surrounding or within the larger counties, authority to collect impact fees to help offset the costs of local road improvements associated with new development. As a result of legislation passed in 2007, impact fees can now be assessed by a much broader set of localities including growing localities of 20,000 or more, if the area in which the fee is collected is included within the local comprehensive plan and after the locality has met certain other requirements. Local road improvement impact fees are governed by Code of Virginia sections 15.2-2317 through 2329. However, these funds tend to accumulate slowly over time, making this method less effective for funding most larger-scale improvements.

Tax Increment Financing, Transportation Improvement Districts and Community Development Authorities

Another set of local strategies taps the potential economic value or benefit from transportation investments to generate funding for construction and/or operation of roadway, transit, airport, and freight improvements. Significant transportation improvements, such as a new mass transit line or new highway interchange, can generate higher property values and other opportunities for economic value-capture. This method is generally known as Tax Increment Financing or TIF.

TIF strategies do not work for every transportation investment, but projects that fundamentally change accessibility or mobility in ways that create economic opportunities can predictably generate enough tax base improvement to dedicate a portion of the increased revenues to the project. For example, this strategy is in use in Loudoun County where new Metrorail stations will be developed with the Dulles Metrorail Extension (or Silver Line) project. This approach may suffice alone or in combination with other existing federal and state revenues, such as Federal Transit Administration New Starts funding for new transit corridors. A Community Development Authority (CDA) is one way to implement tax increment financing, although CDAs may also finance transportation improvements based on the existing property tax base, as discussed below.

Where tax revenue growth in a corridor is not predicted to make a TIF approach possible, a Transportation Improvement District or TID may be a viable alternative. Legally quite different from proffers or TIF, the TID approach requires that a majority of existing property owners in the corridor approves the additional tax on property values. Similarly, a CDA can only be created based on a petition from a majority of the property owners in the district.

TID revenues can make a substantial difference in a corridor where, for example, a local match is needed to leverage Federal Transit Administration grant funds for construction of a new rapid transit line, or where grade-separated interchanges are needed along a highway corridor to improve traffic flow. The Route 28 Transportation Improvement District has generated funding for an extensive series of interchange improvements, for example. One advantage of this approach is that it provides a steady stream of funding from year one, which may avoid the need for bonding or, in the case of a transit improvement, can support ongoing operating expenses. A CDA can also generate funds on this basis, but a CDA has independent bonding authority from the City or County within which it is established, which could be an advantage if the local government bonding capacity is limited.

A final, related strategy is the Local Land Use Service District. Localities are empowered to create service district ordinances to provide various timely public services or amenities paid for through local district taxes or property assessments. Revised state law expands the powers of service districts to include the accumulation or setting aside of annual tax revenue collected for road construction for such reasonable period of time as is necessary to finance the construction.

How Can the Commonwealth Partner More Effectively with the Private Sector and Local Governments to Expand Transportation Funding and Programs?

Partnerships that leverage a combination of local and/or private dollars can advance transportation projects that could not be funded by state and federal resources alone. This can be an effective strategy to advance local and regional priority projects, by making them more competitive for state and federal dollars. Programs such as the federal TIGER grant program increasingly offer incentives to local governments to take more initiative and commit more local dollars to attract matching funds. Virginia is following suit with the Virginia Transportation Infrastructure Bank (VTIB), a resource that rewards local and private initiative.

Virginia Transportation Infrastructure Bank

As noted in Chapter 1, the Virginia Transportation Infrastructure Bank was created in 2011 for the purpose of making loans and providing other financial assistance to localities, certain private entities and other eligible borrowers. The bank is also intended to encourage the investment of both public and private funds in the development of eligible transportation projects and to provide an alternative source of financing for present and future transportation needs in the Commonwealth.

The Infrastructure Bank is a subfund of the Transportation Trust Fund that provides a special, non-reverting revolving loan fund. It was initially capitalized with $282.7 million, primarily from the Commonwealth Transportation Fund but including just over $30 million of General Fund year-end surplus dollars. An additional $29 million was added in the FY2012 budget. The benefit of this program is

PPTA & OTP3

The Secretary of Transportation has established the following objectives for the PPTA Program:

- Facilitate timely delivery of PPTA projects, within established laws and regulations.
- Develop multimodal and intermodal solutions consistent with state, regional and local transportation policies, plans and programs.
- Encourage competition for innovation and private sector investment creating value-for-money for the Commonwealth.
- Promote transparency, accountability, informed and timely decision making.
- Establish reliable and uniform processes and procedures to encourage private sector investment.
- Seek efficiencies by standardizing processes.
- Foster efficient management of Commonwealth financial organizational resources.
- Achieve lifecycle cost efficiencies through appropriate risk transfer.
- Promote economic growth and job creation.

that localities can close the gap in funding major projects that have local and/or private contributions through low-interest-rate loans that are backed by the Commonwealth. This is useful where local bonding capacity is limited, but the project includes a credible plan for repaying the loan such as a TID, TIF, tolls, or other resources.

The Public-Private Transportation Act and OTP3

The Office of Public Private Partnerships (OTP3) is charged with creating a statewide program of projects utilizing the Public Private Transportation Act of 1995 (PPTA). The office was created in 2011 and tasked with providing leadership in the identification, evaluation and implementation of candidate public-private projects across all modes of transportation.

While the OTP3 continues to accept both solicited and unsolicited public-private proposals, the establishment of a statewide program is a departure from previous approaches to public-private partnership. The desired result of this approach is to more effectively leverage private investment in highway, transit, rail, port and other infrastructure statewide, while establishing a high degree of transparency and consistency in the pursuit of PPTA projects.

PPTA projects leverage private investment through some form of return on that investment. This return can take the form of immediate value, such as coal or other mineral extraction, or a future stream of revenues from tolls or fares. Not all projects can fully pay for themselves with this approach, however; some require public sector financial participation. Each project is evaluated individually for its ability to reduce public sector costs over the life of the project (through the private investment component) while balancing the total financial impacts to users and the Commonwealth.

Shared Infrastructure

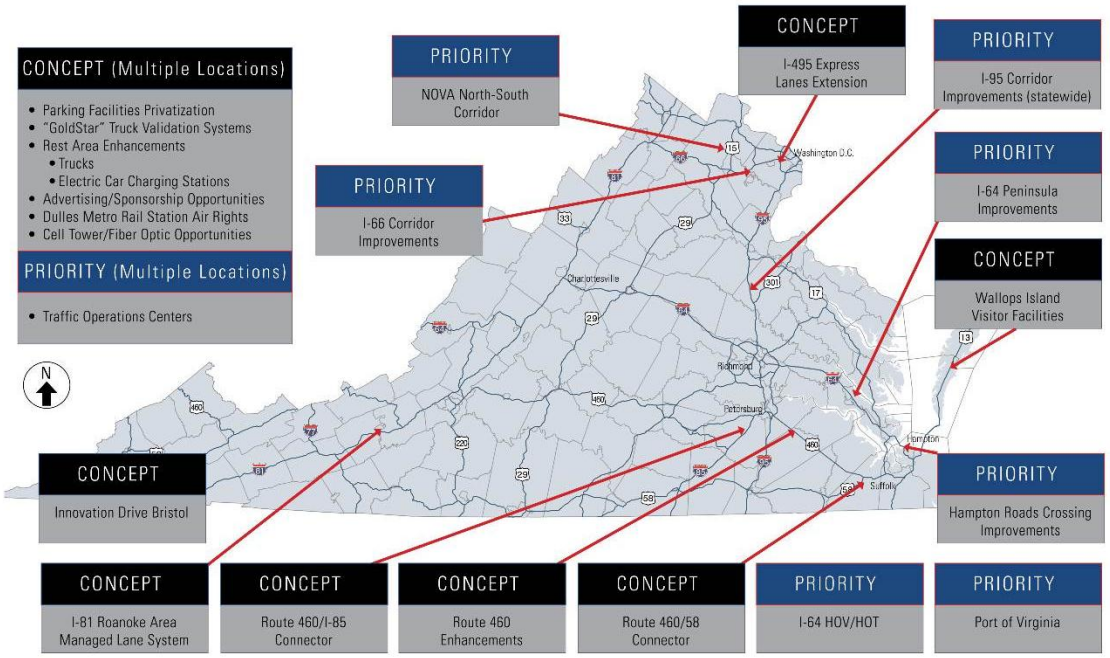
Two major modes of transportation – rail and ports – have significant infrastructure that is owned by the private sector. Partnerships with private railroads and port facilities are critical to meeting the goods movement needs in the Commonwealth. Virginia is also home to one of the nation's only commercial space flight facilities (on Wallops Island), which was developed with a combination of public and private investments.

Public contributions to the improvement of these facilities can strategically enhance economic activity in the Commonwealth, for example by supporting the replacement of obsolete bridges on freight rail lines. The privately-owned freight rail lines also support passenger rail in some corridors, such that strategic improvements funded with public and private dollars can enhance both freight and passenger mobility. This has been a major focus in the I-95 corridor, for example, where tracks owned by CSX are being improved via federal rail grant dollars awarded to DRPT to achieve speed and capacity improvements that support Amtrak, Virginia Railway Express, and freight operations.

Local Partnerships

Local partnerships with service agencies and the private sector can stretch limited transportation dollars, improve the cost-effectiveness of service delivery, and raise new sources of revenue. Many small towns and rural areas rely on public-private partnerships to provide transit services for the elderly, for example. Funding from a combination of state transportation, health, and human service agencies augments the resources of charitable or private organizations that own vehicles and operate services,

Figure 6-1: Public-Private Transportation Act (PPTA) Project Pipeline June 2012



Conceptual projects (shown on the map as concepts) have been identified as possibilities for PPTA delivery; in the coming year we will work on scope development with the sponsoring agency. Once a scope is developed we will determine, with the sponsoring agency, if it will advance it up into the candidate PPTA list next June. In essence, these are ideas that, with some thought, may develop into candidate projects.

resulting in a successful and cost-effective partnership to provide mobility to populations lacking transportation independence.

Creative partnerships with the private sector can also generate revenues that make key transportation facilities and services possible. Transit agencies can use advertising and naming rights to generate revenue for transit shelters and transit operations, for example, and similar partnerships can be considered for transit or highway park-and-ride lots. Hampton Roads Transit, for example, reported an increase in advertising revenue from $250,000 to $1,000,000 per year when the agency brought their advertising in-house. Joint development rights at transit stations offer another opportunity to produce revenue from transportation facilities that can subsidize operations.

As the demand for multimodal transportation options expands, these partnerships present an opportunity to facilitate the development of high-impact facilities that help define cities and regions. Major walk-bike trails, transit corridors, multimodal centers, and high-visibility bridges and structures are as important to these areas as the major sports and civic facilities that already use this strategy. The HealthLine Bus Rapid Transit System in the Euclid Corridor of Cleveland and East Cleveland, Ohio, is one such example.

What Policies Are Needed to Support the Investment Priorities?

Each of the Investment Priorities represents an opportunity to meet critical transportation needs in Virginia and to fulfill the statewide multimodal transportation goals. Investments are not only financial in nature, they involve action through policy direction, inter-agency coordination and leadership, and in some cases require legislative action to become more effective. The remainder of this chapter describes

policy recommendations that the modal transportation agencies, the Transportation Secretariat, and the General Assembly should consider to fulfill the Vision and Goals of VTrans. The first set of policy recommendations originate from current business plans and initiatives of the statewide modal agencies. The second set of policy recommendations are further recommended by the Multimodal Working Group based in part on public input during the VTrans2035 Update.

What Implementation Policies have the State Transportation Agencies Identified?

The policies highlighted below originate from the most recent VDOT, DRPT and DMV Agency Business Plans, (with plan sections referenced in parentheses), and the *Statewide Multimodal Freight Study* (SMFS). In addition to these policies, the statewide transportation agencies have planning documents providing data, recommendations and strategies that will support the achievement of the VTrans Goals and Investment Priorities. These include the economic impacts studies prepared by the Virginia Port Authority and the Department of Aviation and all of the statewide modal transportation plans discussed in Chapter 1. Several key initiatives critical to achievement of the Investment Priorities are noted here in brief.

Increase Coordinated Safety and Security Planning

- Partner with Virginia State Police to deliver incident-management courses to first responders around the Commonwealth to improve quick clearance of incidents. (VDOT 6.2.2)
- Enhance DRPT's security and emergency preparedness procedures and conduct assessments. (DRPT RT-11)
- Implement the CVIEW system, which will provide DMV and the Virginia State Police (VSP) better access to motor carrier safety information and allow the VSP to target motor carrier safety inspections. (DMV)
- Develop an enforcement program targeting "at-risk" road segments susceptible to damage from commercial vehicle traffic through coordination between VDOT, DMV and the VSP. (DMV)

Improve Safe Operations and Services

- Continue to use safety service patrols along major interstates. (VDOT 6.2.1)
- Implement the 2013-2017 Strategic Highway Safety Plan. (VDOT 7.1.1)
- Develop a plan to improve road signs in CoSS. (VDOT 7.1.2)
- Direct Highway Safety Improvement Program funds to invest in pavement marking, markers and other safety features. (VDOT 7.1.3)
- Continue to support short line rail improvement projects that contribute to improved track safety conditions. (DRPT RT-05)
- Enhance the level of coordination between the Tri-State Oversight Committee for the Metrorail system and WMATA's Safety, Security and Operations functions, and oversee the State Safety Oversight program for the Tide light rail system. (DRPT RT-07)
- Install networked weather reporting systems at every airport in Virginia. (DOAV)

Achieve State of Good Repair

- Develop a SYIP that supports a multimodal transportation network with projects to improve pavement and bridge conditions. (VDOT 1.1)

- Continue to use comprehensive and objective research to identify and implement new or improved construction techniques, technologies, stronger and longer-lasting materials, and best practices to improve operations, construction and maintenance. (VDOT 5.1.9)
- Prioritize recommendations in the Tunnels Investment Plan and include funding to perform the work in future SYIPs and maintenance programs. (VDOT 5.2.3)
- Continue implementing best practices for the completed "Tunnels Inspection Best Practices Report." (VDOT 5.2.4)
- Increase the Commonwealth's truck routing, truck permitting, and weigh station compliance strategies to reduce wear on roadways and bridges. (SMFS)

Increase System Performance by Making Operational Improvements

- Identify projects annually that align with the CTB guidelines and the 2035 VSTP for inclusion in the SYIP; review project recommendations from the VSTP and the maintenance and operations program and compare those recommendations with CTB guidelines and existing SYIP projects; and determine if any VSTP recommendations and maintenance and operations projects can be advanced through the SYIP or as a P3 project. (VDOT 1.1.2)
- Conduct analysis and communicate economic and operational benefits of 10 projects in the SYIP to the CTB, General Assembly and other key stakeholders. (VDOT 2.2.1)
- Improve the interoperability of the traffic operations centers and streamline contracting of the centers, ITS device maintenance and safety service patrols. (VDOT 5.5.1)
- Display real-time travel times in major corridors in Northern VA and Hampton Roads. (VDOT 6.2.3)
- Implement transit/TDM strategies as part of the Transportation Management Plans for the I-495 HOT Lanes, I-95 HOV/HOT Lanes and the Dulles Metrorail projects, as well as for other projects that may be initiated in the Commonwealth. (DRPT RT-18)
- Enhance the public transportation and TDM training program for DRPT grantees. (DRPT RT-20)
- Develop a web portal within the DMV website to offer a centralized point for information and online services aimed at more efficient movement of commercial passenger and freight traffic within Virginia. (DMV – Motor Carrier Web Portal)

Preserve and Enhance Statewide Mobility

- Develop a SYIP that supports a multimodal transportation network with projects to improve mobility. (VDOT 1.1, SR 58)
- Coordinate with other transportation agencies to promote intermodal freight facilities along I-81 and near the US 460 corridor. (VDOT 1.2.4)
- Increase the number of park-and-ride lot spaces by 2,000 along the I-95 corridor. (VDOT 5.4.1)
- Expand bicycle and pedestrian accommodations where safe and feasible. (VDOT 5.4.4)
- Work with OIPI to inventory key intermodal facilities and identify accessibility issues; develop low cost recommendations to improve accessibility to transit and distribution centers. (VDOT 5.4.5)
- Advance Rail Enhancement Fund projects to serve the ports of Virginia and remove trucks from Virginia's highways including Kilby Yard. (DRPT RT-09)

- Identify dedicated funding sources for IPROC and the mass transit funds (MTTF and MTCF) to sustain passenger rail and transit services. (DRPT)
- Support development of dedicated highway lanes for trucks. (SMFS)
- Support development of non-truck modes for freight transportation. (SMFS)

Improve the Interconnectivity of Regions and Activity Centers

- Improve access to multimodal facilities and major employment/industrial centers. (VDOT 5.3)
- Work with OIPI to inventory key intermodal facilities and identify accessibility issues; develop low-cost recommendations to improve accessibility to transit and distribution centers. (VDOT 5.4.5)
- Advance high speed rail projects through the Environmental Impact Analysis stage and into design and construction. (referenced in DRPT RT-06, -08, -10)
- Contribute to the advancement of the Dulles Corridor Metrorail Project by providing technical assistance and financial oversight to the Metropolitan Washington Airports Authority and its project team. (DRPT RT-15)
- Contribute to the advancement of the extension of The Tide light rail service to interested localities by providing technical assistance to Hampton Roads Transit and those localities. (DRPT RT-16)

Preserve and Enhance Statewide Mobility

Intercity Passenger Rail Operating and Capital Fund (IPROC)

As described in Chapter 1, a steady funding stream is yet to be identified for IPROC. Thus far, the IPROC legislation, the Commonwealth Transportation Board (CTB) and General Assembly are providing flexibility to allocate existing transportation revenues into the fund. In 2012 the General Assembly provided $28.7 million of the FY2011 General Fund surplus for the operating and capital needs of Virginia intercity passenger rail services, and authorized a transfer of $26.1 million of Rail Enhancement Funds for passenger needs for 2013 and 2014. However, a shortfall is anticipated in FY2015 even with this additional funding.

Unless dedicated operating and associated capital funding is identified, these regional passenger rail routes could be terminated. Virginia has demonstrated successful service, and without funding, we could lose the passenger rail train slots currently provided by host railroads. Costs to re-establish passenger service after it is lost would likely be prohibitive.

Promote Sustainable Methods of Planning, Design, Operation and Construction that Are Sensitive to Environmental, Cultural and Community Resources

- Develop, maintain, employ and educate key stakeholders on a data-driven, performance-based prioritization process. (VDOT 3.1.4)
- Continue to use comprehensive and objective research to identify and implement new or improved construction techniques, technologies, stronger and longer-lasting materials and best practices to improve operations, construction and maintenance practices. (VDOT 5.1.9)
- Protect the environment through environmental stewardship and compliance with state and federal laws, regulations, and permits on construction and maintenance projects. (VDOT 5.5)

- Achieve 100% compliance on environmental compliance reports. (VDOT 5.5.1)
- Promote the new telework tax credit to encourage private-sector telework and reduce single occupant vehicle travel. (DRPT RT-27)

Advance Key Economic Drivers by Making Strategic Infrastructure Investments

- Identify candidate P3 projects from the SYIP and the VSTP. (VDOT 2.1.2)
- Provide support to state and local economic development agencies and railroads to enhance Virginia's economic competitiveness through industrial development projects requiring rail service. (DRPT RT-04)
- Expand multistate freight planning. (SMFS)

Reduce The Costs of Congestion to Virginia's Residents and Businesses

- Conduct analysis, as required, and communicate economic and operational benefits of 10 projects in the SYIP to the CTB, General Assembly and other key stakeholders. (VDOT 2.1.1)
- Analyze and communicate the operational benefits of at least 25 projects in Northern Virginia. (VDOT 2.2.2)
- Recommend investment of approximately $15 million to upgrade and/or replace the approximately 150 dynamic message boards. (VDOT 5.2.2)
- Implement the Active Traffic Management system on I-66. (VDOT 5.2.5)
- Decrease the rate of growth of Vehicle Miles Traveled by increased use of public transportation, bicycles and walking. (VDOT 5.4)
- Continue to meet the governor's teleworking goal of 20% of eligible workforce teleworking. (VDOT 5.4.2)
- Develop statewide awareness initiatives to encourage more people to try transportation choices in Virginia to reduce peak time congestion and single occupant vehicle travel, and implement the public involvement program for the DRPT projects. (DRPT F-08)
- Use tolling and pricing to encourage nonpeak-period highway travel and/or use of alternative modes. (SMFS)

Preserve and Optimize System Efficiency through Proactive Planning

- Develop, maintain, employ and educate key stakeholders on a data-driven, performance-based prioritization process. (VDOT 3.1.4)
- Encourage more efficient travel patterns to better coordinate land use and transportation by working with localities and regional planning organizations. (VDOT 3.1.5)
- Continue to manage the Safe Routes to School [now Transportation Alternatives] program using funds to foster a new generation to use pedestrian and bicycle facilities for purposes beyond recreation. (VDOT 5.4.3)
- Implement DRPT's Multimodal Corridor and Public Space Design Guidelines to provide additional guidance on how to integrate transit and multimodal transportation into existing rights-of-way. (DRPT RT-22)
- Increase the focus on freight transportation and land use planning coordination. (SMFS)

Increase Travel Choices to Improve Quality of Life for Virginians

- Continue funding for Recreational Trails and Transportation Alternatives under MAP-21 program revisions (action taken by VDOT in 2012).
- Expand the bicycle and pedestrian accommodations where safe and feasible and where funding is available. (VDOT 5.4.4)
- Develop and implement a comprehensive marketing program for passenger rail service in Virginia with particular emphasis on the new Norfolk service. (DRPT F-04)
- Develop statewide awareness initiatives to encourage more people to try transportation choices in Virginia to reduce peak time congestion and single occupant vehicle travel, and implement the public involvement program for the DRPT projects. (DRPT F-08)
- Develop a Regional Transit and TDM Vision Plan for Northern Virginia that is expanded to include Frederick County to the west, Culpeper County to the southwest and Caroline County to the south. (DRPT RT-25)
- Link transit planning and programming by providing technical assistance to transit agencies to support the development of their Transit Development Plans. (DRPT RT-26)
- [Support] Route 1 Transit Initiatives Fairfax County/Prince William County. (DRPT RT-29)

Expand Opportunities to Develop and Leverage Funds

- Investigate and develop a draft P3 funding program to support and sustain innovative financing for large P3 projects. (VDOT 2.1.3)
- Maximize the use of state, federal and private financial resources to deliver projects, programs and services. (VDOT 4.1)
- Develop strategies annually to maximize the use of the Revenue Sharing Program fund for both construction and maintenance projects. (VDOT 4.1.9)
- Champion the need for a dedicated revenue source for the Intercity Passenger Rail Operating and Capital Fund. (DRPT RT-01)
- Expand and diversify fee-based services and study alternatives to ensure sustainable funding for the DMV Select program. (DMV)

See funding transportation funding policy recommendations in the beginning of Chapter 6

Improve Cost-Effectiveness of Providing Programs and Services

- Strengthen planning and programming for construction, maintenance and operations projects to maximize the use of available funding. (VDOT 3.1)
- Develop strategies to improve business processes, with a focus on streamlining and efficiency, that will reduce the dependence of the Highway Maintenance and Operating Fund on funding transfers from the highway share of the Transportation Trust Fund. (VDOT 4.1.8)
- Complete development and implementation of the On-Line Grants Administration (OLGA) and internal grants management systems to provide better resources to grantees and to increase the efficiency of the agency's programs. (DRPT F-01)
- Enhance DPRT's performance reporting and monitoring systems by improving DRPT's data collection, performance management and data validation processes across programs. (DRPT F-09)

- Implement Statewide Vehicle Procurement Process. (DRPT F-12)
- Continue to foster DRPT's facility oversight program for the preliminary engineering, final design and construction stages of transit capital projects. (DRPT RT-23)
- Combine performance and capacity criteria in allocating transit operating funds. (DRPT response to SJR297)
- Develop a fleet of DMV 2 Go mobile service centers that will provide the citizens and businesses of Virginia enhanced accessibility to vehicle and driver related credentials, which in turn helps to transport people and move freight. (DMV)
- Use technology to enhance effectiveness and reduce costs, including telephone system technology, electronic reporting, use of scanning and e-mail in lieu of paper transactions, online services with enhanced security, and mobile GPS devices. (DMV)

What Additional Policies Are Needed to Achieve the VTrans Goals?

In addition to the policies and strategies identified by statewide agencies, new initiatives are also needed to fulfill the VTrans2035 Goals.

Goal: Safety and Security

- Promote and fund educational solutions to safety problems such as distracted driving.
- Support accountability for bus, commercial vehicle, and rail transportation operator safety programs.
- Coordinate grade crossing safety programs to maximize bicycle, pedestrian, auto and rail safety.

Goal: System Maintenance and Preservation

- Achieve and maintain State of Good Repair on existing and future transit assets.
- Develop asset management policies for highways and transit systems linked to performance measures that are supported by appropriate data collection. (Note that MAP-21 requires this for transit operators.)

Goal: Mobility, Connectivity and Accessibility

- Complete the CoSS Corridor Master Plans to provide essential operating improvement and access management recommendations. Identify policies that should also be applied in lower-priority corridors to preserve corridor capacity throughout the state roadway network.
- Encourage mobility beyond urban boundaries through connections between major transit systems.
- Prioritize Transportation Demand Management (TDM) strategies because they preserve and optimize the existing capacity of the multimodal transportation network by reducing total and peak-period transportation demand.
- Preserve the existing passenger rail "slots" in freight rail corridors by identifying a dedicated funding source for the Intercity Passenger Rail Operating and Capital Fund (IPROC).
- Identify dedicated public transit funding sources to meet the funding gap for transit operations and prevent the depletion of funding for the Mass Transit Capital Fund (MTCF).
- Prioritize multimodal passenger and freight facilities to maximize CMAQ funding opportunities.

Goal: Environmental Stewardship

- Provide leadership in the use of technology to make transportation more efficient and safer, for example by supporting expansion of electric charging stations at public buildings and park-and-ride lots, and by promoting smart road technologies.
- Promote innovative stormwater management in the design of all types of transportation projects to reduce the water quality impacts of transportation infrastructure.
- Monitor the value added from new certification processes such as the Institute for Sustainable Infrastructure that guide design and construction practices towards more environmental conservation while still promoting cost-effective practices, and consider implementing specific sustainability guidelines in the future.

Goal: Economic Vitality

- Consider the economic impacts of multimodal transportation investments in prioritizing transportation projects.
- Include consideration of tourism and its economic benefits in the project prioritization processes for transportation planning.
- Include input from those involved in international business in decisions related to Virginia's ports.
- Identify existing economic clusters and their weighted contribution to the state, and incorporate this information into the needs assessment process.
- Identify the highest ranked geographies with promise for future economic expansion (i.e. US 460 Corridor) and incorporate future needs into the long range transportation planning process.
- Collaborate on economic development policy research and initiatives between VEDP, VPA, VDOT, DRPT, (other modal agencies) and the VA Center for Transportation Innovation & Research.
- Encourage congested urbanized regions to cooperate regionally to raise additional transportation funds for congestion-reducing projects.

Goal: Coordination of Land Use and Transportation

- Encourage local governments to appoint transportation boards or committees to oversee transportation planning and transportation-related development review.
- Encourage transferability and mode-neutral planning to identify optimal solutions.

Goal: Program Delivery

- Partner with localities to leverage local, state and federal funds in support of passenger rail station development.
- Coordinate criteria and data for project evaluation to streamline and foster consistency in local, regional and state project selection processes.
- Work with MPOs to foster consistency in the recommendations for the Recreational Trails and Transportation Alternatives programs in regional transportation plans.
- Consider mode-neutral benefit/cost analysis to promote the most cost-effective investments
- Monitor and apply national and international best practices in service delivery.

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Chapter 7: Planning Partners' Guide

What Is the Purpose of the Partners' Guide?

VTrans is a policy document. It is not, in and of itself, a transportation plan or funding program. The process of achieving VTrans Goals, advancing Investment Priorities, and implementing the performance-based planning framework will require a collaborative effort by a wide variety of partners. This chapter provides information and recommendations to encourage participation by federal, state, regional and local agencies that can play key roles in this effort.

Who Are the Partners? How can They Help to Advance VTrans?

Figure 7-1 cross-references the agencies that can play a role in advancing VTrans with the types of planning and programming activities for which they are responsible. Over the coming months and years, the Office of Intermodal Planning and Investment will work with each agency on strategies to incorporate the VTrans Goals, Investment Priorities, and performance-based planning framework into its planning and decision-making processes. This collaboration provides an opportunity for stronger, more focused communication, particularly between the CTB and transportation agencies, through the alignment of performance-based planning methods. The remainder of this chapter contains brief summaries and recommendations regarding the roles each agency can play in helping to implement VTrans.

Figure 7-1: VTrans Partners

Agency Planning & Project Development Activities	VTrans Planning & Project Development Partners							
	Federal Partners	Neighbor State DOTs	VA Gov, Secretariat & CTB	VA Modal Agencies	VA Agency Partners	Regional Agencies	Local Govts.	Private Sector Partners
Federal Policies, Regulations & Programs	⊙		✔			✔		
Neighbor States' Plans & Projects	✔	⊙	✔	✔				✔
VA Statewide Transp Policies & Programs	✔		⊙	✔		✔		✔
VA Statewide Transp Plans & Projects	✔	✔	✔	⊙	✔	✔		✔
Other VA Statewide Transp Plans & Programs	✔		✔	✔	⊙	✔	✔	
Regional Plans & Programs	✔	✔	✔	✔	✔	⊙	✔	✔
Local Plans & Programs	✔		✔	✔	✔	✔	⊙	✔
Private Sector Investments	✔	✔	✔	✔			✔	⊙

⊙ Lead Role ✔ Supporting Role

Federal Partners

What is this partner's role in advancing Virginia's statewide transportation plans, policies, and projects?	The US Department of Transportation requires state DOTs and regional Metropolitan Planning Organizations (MPOs) to develop long-range transportation plans as well as short-range transportation improvement programs (TIPs) in order to qualify for formula-allocated federal funds, which constitute a major portion of the Commonwealth's transportation budget. The plans must address a variety of policy factors such as environmental preservation, economic development, and community quality of life. Other federal transportation funding sources include targeted grant programs and Congressional budget allocations. Federal agencies are also involved in multi-state and public-private planning and project development initiatives that affect Virginia, such as the I-95 Corridor Coalition and the Heartland rail corridor. Support for transportation-related projects and planning initiatives can also come from other federal agencies such as Housing & Urban Development (HUD), Agriculture (USDA), Environmental Protection (EPA), and Defense (DOD).
How could this partner help to advance VTrans?	**Goals:** Ensure consistency with federal policies & planning priorities as defined in current regulations and in the new MAP-21 legislation. **Investment Priorities & Strategies**: Allocate funds, provide technical assistance, and leverage cross-agency resources for planning and project development initiatives. **Performance-based Planning Framework**: Provide technical assistance and ensure coordination with federal practices and methods for developing performance evaluation processes and measures.
What steps could be taken to strengthen this partner's role in advancing VTrans?	**OIPI and modal agencies** can engage federal partners in meetings and informal discussions to share ideas and to plan strategies for implementing VTrans. **Transportation Secretary and CTB Members** can seek targeted support for VTrans initiatives from federal legislators and agency directors. **Federal agency representatives** can offer comments on the VTrans2035 document, particularly regarding consistency with federal policies and priorities, and can provide information and ideas about funding and technical assistance for plan implementation.

Neighboring State DOTs

What is this partner's role in advancing Virginia's statewide transportation plans, policies, and projects?	Virginia shares borders with the District of Columbia and five states including Maryland, West Virginia, Kentucky, Tennessee, and North Carolina. Each of these partners maintains a statewide transportation plan in accordance with the same federal policies that apply to Virginia's plan. Neighboring states also participate in mega-regional planning and project development initiatives that often involve issues such as freight movement or urban traffic congestion. Nearly all of Virginia's Corridors of Statewide Significance are connected to neighboring states. Focal points of multi-state issues include connections, for example, with commuter traffic on corridors in the Northern VA-Maryland-Washington DC area; tourism and freight traffic to and from North Carolina; freight movement between the Port of Virginia and points west; and all types of traffic and transit along the Crescent (I-81) corridor and the Washington-NC (I-95) Corridor.
How could this partner help to advance VTrans?	**Goals:** Compare and coordinate goals that have mega-regional aspects such as economic development and environmental stewardship. **Investment Priorities & Strategies**: Leverage resources for mutually beneficial priorities and strategies and to identify and resolve existing or potential conflicts. **Performance-based Planning Framework**: Share and enhance performance-based planning data, evaluation methodologies, and decision-making approaches.
What steps could be taken to strengthen this partner's role in advancing VTrans?	**OIPI and modal agencies** can engage neighboring DOTs in meetings and informal discussions to share ideas and to plan strategies for implementing VTrans. **Transportation Secretary and CTB Members** can reach out to peers from neighboring states to identify opportunities for leveraging resources and managing conflicts. Participate in multi-state coalitions. **Neighboring state DOT representatives** can offer comments on the VTrans2035 document, particularly regarding consistency with their own policies and priorities, and can share information about technical methods, best practices, data protocols and decision-making approaches.

Secretary of Transportation and Commonwealth Transportation Board

What is this partner's role in advancing Virginia's statewide transportation plans, policies, and projects?	Virginia's Secretary of Transportation works with the Governor to develop an overall transportation budget and to identify strategies for generating and managing transportation funds. The Commonwealth Transportation Board, which consists of 13 Governor appointees, oversees the development of VTrans and uses it as a policy guide for statewide transportation planning and decision-making. The CTB's key decision-making responsibility is to allocate (or "program") available funds to transportation projects across the Commonwealth, chiefly through the annually updated Six-Year Transportation Improvement Program (SYIP).
How could this partner help to advance VTrans?	**Goals:** Review performance reports annually; work with VDOT and DRPT to refine goals and performance indicators as part of regular VTrans updates; keep Governor and General Assembly informed on progress toward achieving goals. **Investment Priorities & Strategies**: Review progress toward addressing priorities annually; refine as needed through VTrans updates; continuously focus on opportunities to generate, leverage, and maximize transportation revenues. **Performance-based Planning Framework**: Oversee development and refinement of framework with modal agencies; seek opportunities to coordinate policies and goals with neighboring states and across state agencies.
What steps could be taken to strengthen this partner's role in advancing VTrans?	**OIPI** can provide information and recommendations to the Secretary and CTB through its work with modal agencies; and can facilitate information-sharing efforts with other state agencies. **Modal agencies** can develop technical methods and data for the performance-based planning process; and can coordinate development of annual business plans, periodic long-range transportation investment plans, and annual transportation improvement program recommendations for review by the CTB. **Transportation Secretary and CTB Members** can work with Governor and General Assembly to track progress, update transportation improvement programs, refine policies, and leverage funding sources; and can take a leadership role in multi-state and national transportation initiatives.

Modal Transportation Agencies

What is this partner's role in advancing Virginia's statewide transportation plans, policies, and projects?	Virginia's transportation agencies are the focal point for implementing VTrans strategies. The major agencies have worked together for several years to coordinate efforts and leverage resources for multimodal transportation investments. Members of the Multimodal Working Group (facilitated by the Office of Intermodal Planning and Investment) include the Department of Transportation (VDOT), which manages the state's network of primary and secondary roads as well as regional bicycle, pedestrian, and park-and-ride facilities; the Department of Rail and Public Transportation (DRPT), which oversees passenger surface transit systems, travel demand management programs, and freight rail networks; the Department of Aviation (DOAV), which oversees general and commercial airports; the Port Authority (VPA), which coordinates activities at the coastal Port of Virginia as well as at inland ports; and the Department of Motor Vehicles (DMV); the Motor Vehicle Dealers' Board (MVDB), which manage programs related to regulations, education, and analysis of drivers on Virginia roadways; and the Mid-Atlantic Regional Spaceport (MARS) which is operated by the Virginia Commercial Space Flight Authority with the mission of promoting commercial space activity, economic development and aerospace research within the Commonwealth.
How could this partner help to advance VTrans?	**Goals:** Conduct analyses and develop recommendations for maximizing progress toward achieving transportation goals. **Investment Priorities & Strategies**: Implement projects and services designed to address priorities and carry out strategies. **Performance-based Planning Framework**: Design and implement performance-based planning and evaluation methods aligned with VTrans Investment Priorities and evaluation tools.
What steps could be taken to strengthen this partner's role in advancing VTrans?	**OIPI and Modal Agencies** can work together to develop performance-based planning framework and annual performance reports; and can initiate information-sharing efforts with other state agencies. **Modal Agencies** can share information and leverage resources with each other and with their partners, such as Metropolitan Planning Organizations and local/regional transportation facility managers and service operators.

State Agency Partners

What is this partner's role in advancing Virginia's statewide transportation plans, policies, and projects?	Virginia has numerous state agencies and Secretariats whose work affects, and is affected by, transportation investments and policies. For example, the Department of Health and Human Services is concerned with, and provides some funding for transportation services that serve people with disabilities and older Virginians. The Department of Economic Development wants to ensure reliable mobility and accessibility for freight providers, employers, and commuters. The Department of Conservation and Natural Resources (DCNR) seeks innovative methods to reduce transportation-related pollution such as emissions from idling/congested vehicles and stormwater runoff from roads and parking lots, as well as protecting natural and historic resources from adverse effects associated with highway-oriented development. These are just a few of the state agencies that develop plans, fund programs, monitor data, and manage regulations that have a bearing upon transportation system design and performance.
How could this partner help to advance VTrans?	**Goals:** Coordinate development of complementary policies and goals among Secretariats and directors that oversee different agencies. **Investment Priorities & Strategies**: Collaborate with the Multimodal Working Group to leverage resources, coordinate projects, and resolve conflicting priorities or approaches. **Performance-based Planning Framework**: Share data, develop collaborative methods, and leverage resources for performance-based transportation planning and evaluation.
What steps could be taken to strengthen this partner's role in advancing VTrans?	**OIPI and Modal Agencies** can initiate information-sharing activities and seek opportunities to leverage resources with other state agencies. **Transportation Secretary and CTB** can seek opportunities to develop collaborative goals and policies and to leverage resources with other Secretariats and agency boards. **Partner state agency representatives** can offer comments on the VTrans2035 document, particularly regarding consistency with their own policies and priorities, and can seek proactive ways to leverage funds and technical resources.

Regional Agency Partners

What is this partner's role in advancing Virginia's statewide transportation plans, policies, and projects?	Virginia has many regional and local agencies whose areas of responsibility have a direct or indirect bearing upon transportation investments and decisions. The state's fourteen Metropolitan Planning Organizations (MPOs) facilitate coordinated planning and programming of transportation projects in urban regions, particularly federally funded facilities. Twenty-one regional Planning District Commissions (PDCs) provide sponsored transportation planning services in Virginia's rural regions and small urban areas. PDCs also provide a unique forum for coordinating multi-disciplinary regional plans that address economic, environmental, and social issues. VDOT and DRPT work actively with MPOs and PDCs on an individual basis and through statewide associations such as VAMPO and VAPDC. Regional urban and rural transit providers work closely with DRPT and their member localities to provide transportation services and travel demand management programs such as ridesharing. Other regional public service providers advocate for, and sometimes provide, mobility services for their target populations, such as Area Agencies on Aging for older adults; Community Service Boards that address mental health issues; Community Action Agencies that focus on alleviating poverty; and Workforce Investment Boards that aim to generate jobs for regional labor pools.
How could this partner help to advance VTrans?	**Goals:** Ensure consistency between VTrans and regional agency goals and policies. **Investment Priorities & Strategies**: Leverage resources, coordinate projects, and resolve conflicting priorities or approaches. **Performance-based Planning Framework**: Share data, develop collaborative methods, and leverage resources for performance-based transportation planning aligned with VTrans Investment Priorities and evaluation tools.
What steps could be taken to strengthen this partner's role in advancing VTrans?	**OIPI and Modal Agencies** can initiate information-sharing activities, including distribution of VTrans documents, and seek opportunities to leverage resources with regional agencies and with their respective state boards or agencies. **Regional agency representatives** can offer comments on the VTrans2035 document, particularly regarding consistency with their own policies and priorities, and can seek proactive ways to leverage funds and technical resources.

Local Agency Partners

What is this partner's role in advancing Virginia's statewide transportation plans, policies, and projects?	Virginia's independent counties, cities and towns manage public works programs to build and maintain local streets, sidewalks, paths, and bicycle routes, in coordination with VDOT-maintained interstate, primary and secondary roads. Some cities and counties also operate public transit services, working closely with DRPT. Primary and secondary roads in Virginia counties are managed by VDOT, but some projects are built with revenue-sharing funds that leverage local and state resources. Many local roadway links are built by private developers under the direction of local governments, and later turned over to VDOT for long-term maintenance. In other cases, private development projects approved by local officials can generate traffic levels that trigger a need for VDOT to program improvements to state-owned roadways. In order to make the most efficient use of transportation systems, state and local agencies must work together to manage the iterative relationships among local planning and zoning policies, private development projects, and roadway / transit improvements. Transportation is an important element of state-required local comprehensive plans and ordinances, particularly with regard to planning land uses that optimize existing networks, and to designing highway, transit, bicycle, and pedestrian facilities that maximize desired development patterns.
How could this partner help to advance VTrans?	**Goals:** Ensure consistency between VTrans and local government goals and policies as expressed in local comprehensive plans and ordinances. **Investment Priorities & Strategies**: Leverage resources, coordinate projects, and resolve conflicting priorities or approaches, with particular attention to issues involving the coordination of transportation and land use planning. **Performance-based Planning Framework**: Share data, develop collaborative methods, and leverage resources for performance-based transportation planning and evaluation.
What steps could be taken to strengthen this partner's role in advancing VTrans?	**OIPI and Modal Agencies** can initiate information-sharing activities, including distribution of VTrans documents, and seek opportunities to work with localities on topics such as coordinating transportation and land use planning. This can be done through communiqués with individual localities as well as discussions with statewide organizations such as VA Association of Counties (VACO), VA Municipal League (VML), and American Planning Association, VA Chapter (APAVA). **Local agency representatives** can offer comments on the VTrans2035 document, particularly regarding consistency with their own policies and priorities, and can seek proactive ways to leverage funds and technical resources.

Private Sector Partners

What is this partner's role in advancing Virginia's statewide transportation plans, policies, and projects?	Many of Virginia's transportation resources are built and/or operated by private sector companies. Private developers build streets, sidewalks, and bike routes in subdivisions, mixed-use neighborhoods, and commercial districts, as well as working with transit providers to promote ridership by creating activity centers around stations. Toll authorities build and maintain highways in some major urban areas. Most of the state's rail lines are privately owned by rail freight operators, with leasing arrangements for use by public rail transit providers. Some transportation facilities, such as the Port of Virginia, are jointly owned and operated by public and private providers. Truck freight providers are important users of the state's highway network, and generate significant transportation revenues through user fees and motor fuel taxes. In addition to for-profit transportation interests, non-profit agencies also play an active role in shaping Virginia's transportation system. State and national organizations provide transportation-related education and advocacy for thousands of different constituents such as older adults, homebuilders and realtors, low-income families, bicyclists, and environmental conservationists, to name a few. These groups generate ideas and develop information that can help the state to identify and address emerging transportation needs and opportunities.
How could this partner help to advance VTrans?	**Goals:** Provide fresh perspectives on the relative importance and relevance of goals in light of emerging socio-economic trends and issues. **Investment Priorities & Strategies**: Provide information to help update priorities and create opportunities for collaborative public-private projects. **Performance-based Planning Framework**: Suggest data sources, propose performance indicators, and help to leverage resources for performance-based transportation planning and evaluation. In addition, the private sector could provide previously unavailable data.
What steps could be taken to strengthen this partner's role in advancing VTrans?	**OIPI and Modal Agencies** can initiate information-sharing activities and seek opportunities to leverage resources with private sector partners. **Transportation Secretary and CTB** can shape collaborative public-private projects. **Private sector representatives** can participate in information-sharing meetings and proactively offer ideas and information to agency staff and/or CTB members. Private sector collaboration can be cultivated through already-established economic development channels.

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Appendix A: Legal Framework for VTrans

Federal Requirements

2012 Federal Transportation Act: Moving Ahead for Progress in the 21st Century (MAP-21)

Summary of Planning-Related Elements

Source: www.fhwa.dot.gov/map21/summaryinfo.cfm, downloaded October 1, 2012

Transportation Planning [1201 and 1202]

In MAP-21, the metropolitan and statewide transportation planning processes are continued and enhanced to incorporate performance goals, measures, and targets into the process of identifying needed transportation improvements and project selection. Public involvement remains a hallmark of the planning process.

Requirements for a long-range plan and a short-term Transportation Improvement Program (TIP) continue, with the long-range plan to incorporate performance plans required by the Act for specific programs. The long-range plan must describe the performance measures and targets used in assessing system performance and progress in achieving the performance targets. The TIP must also be developed to make progress toward established performance targets and include a description of the anticipated achievements. In the statewide and nonmetropolitan planning process, selection of projects in nonmetropolitan areas, except projects on the NHS or funded with funds remaining from the discontinued Highway Bridge Program, must be made in cooperation with affected nonmetropolitan officials or any regional transportation planning organization.

The U.S. Secretary of Transportation is required to establish criteria for the evaluation of the new performance-based planning processes. The process will consider whether States developed appropriate performance targets and made progress toward achieving the targets. Five years after enactment of MAP-21, the Secretary is to provide to Congress reports evaluating the overall effectiveness of performance-based planning and the effectiveness of the process in each State and for each MPO.

Questions & Answers, Sections 1201 and 1202 Statewide/Nonmetropolitan Planning

Posted 9/25/2012

- Question: What are the significant changes to the Metropolitan and Statewide Planning process in MAP-21?
    - Answer: MAP-21 introduces a number of changes to the Metropolitan and Statewide Planning process including:
    - Within two years of enactment of MAP-21, MPOs serving an area designated as a transportation management area must include, among others, officials of public agencies that administer or operate major modes of transportation, including representation by

providers of public transportation. The requirement to include providers of public transportation was added in MAP-21. (23 USC 134(d)(2))

- The establishment of a performance-based planning process: MAP-21 requires Metropolitan Planning Organizations (MPOs) and States to establish performance targets that address national performance measures established by the Secretary that are based on the national goals outlined in the legislation. Five years after enactment of MAP-21, the Secretary is to provide Congress with a report evaluating a number of items, including, among other things, the overall effectiveness of performance-based planning as a tool for guiding transportation investments and the technical capacity of MPOs in an area less than 200,000 and their ability to carry out the requirements of this section.

- The option for MPO's to develop scenarios: MPOs may elect to develop multiple scenarios for consideration in development of the metropolitan transportation plan. If the MPO chooses to develop these scenarios, it is encouraged to consider a number of factors, including, among other items, potential regional investment strategies and assumed distribution of population and employment. (23 USC 134(i)(4))

- The option for States to establish and designate Regional Transportation Planning Organizations (RTPOs): States may establish and designate RTPOs. RTPOs shall be established as a multijurisdictional organization, comprised of volunteer nonmetropolitan local officials or their designees and volunteer representatives of local transportation systems. The RTPOs can assist the State in addressing the needs of nonmetropolitan areas. (23 U.S.C. 135(m))

- Further direction on these changes will be coordinated and provided by FHWA and/or FTA at a future date.

- What is meant by 23 U.S.C. Sections 134(h)(3) and 135(d)(3), as revised by MAP-21 Sections 1201 and 1202, regarding the failure to consider planning factors or performance information in any matter affecting a transportation plan, a Transportation Improvement Program (TIP) or Statewide Transportation Improvement Program (STIP), a project or strategy, or the certification of the planning process?

  - Answer: These provisions mean that FHWA, a State, or an MPO cannot be sued specifically on matters relating to the eight transportation planning factors, or the performance-based approach to transportation planning as it relates to a statewide or metropolitan transportation plan, a STIP or TIP, a project or strategy, and/or certification of the planning process. FTA has similar provisions in 49 U.S.C. Sections 5303(h)(3) and 5304(d)(3), as revised by MAP-21 Sections 20005 and 20006.

Performance Management [1203]

The cornerstone of MAP-21's highway program transformation is the transition to a performance and outcome-based program. States will invest resources in projects to achieve individual targets that collectively will make progress toward national goals.

MAP-21 establishes national performance goals for Federal highway programs:

Safety—To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.

Infrastructure condition—To maintain the highway infrastructure asset system in a state of good repair.

Congestion reduction—To achieve a significant reduction in congestion on the NHS.

System reliability—To improve the efficiency of the surface transportation system.

Freight movement and economic vitality—To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.

Environmental sustainability—To enhance the performance of the transportation system while protecting and enhancing the natural environment.

Reduced project delivery delays—To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.

The Secretary, in consultation with States, MPOs, and other stakeholders, will establish performance measures for pavement conditions and performance for the Interstate and NHS, bridge conditions, injuries and fatalities, traffic congestion, on-road mobile source emissions, and freight movement on the Interstate System. States (and MPOs, where applicable) will set performance targets in support of those measures, and State and metropolitan plans will describe how program and project selection will help achieve the targets.

States and MPOs will report to DOT on progress in achieving targets. If a State's report shows inadequate progress in some areas – most notably the condition of the NHS or key safety measures – the State must undertake corrective actions, such as the following:

NHPP: If no significant progress is made toward targets for NHS pavement and bridge condition, the State must document in its next report the actions it will take to achieve the targets.

HSIP: If no significant progress is made toward targets for fatalities or serious injuries, the State must dedicate a specified amount of obligation limitation to safety projects and prepare an annual implementation plan.

In addition, due to the critical focus on infrastructure condition, MAP-21 requires that each State maintain minimum standards for Interstate pavement and NHS bridge conditions. If a State falls below either standard, that State must spend a specified portion of its funds for that purpose until the minimum standard is exceeded.

United States Code Title 23, Chapter 1, Sec 135: Statewide Transportation Planning

The following summary includes basic federal requirements for statewide transportation planning. The text is current as of the January 2012 adoption of MAP-21, but may be updated during the next couple of years after new regulations pursuant to MAP-21 are developed.

USC 23.1.135 [The statewide transportation plan, with a minimum 20-year time horizon, shall] –

1(a)(2) provide for the development and integrated management and operation of transportation systems and facilities (including accessible pedestrian walkways and bicycle transportation facilities) that will function as an **intermodal transportation system** for the State and an integral part of an intermodal transportation system for the United States.

1(a)(3) be **continuing, cooperative, and comprehensive** to the degree appropriate, based on the complexity of the transportation problems to be addressed.

1(b) be **coordinated with** transportation planning activities carried out under section 134 for **metropolitan areas** of the State and with **statewide trade and economic development** planning activities and related **multistate planning** efforts;

(2) [serve as] the transportation portion of the State implementation plan as required by the **Clean Air Act** (42 U.S.C. 7401 et seq.).

d) provide for consideration and implementation of projects, strategies, and services that will -

(d)(A) support the **economic vitality** of the United States, the States, nonmetropolitan areas, and metropolitan areas, especially by enabling global competitiveness, productivity, and efficiency;

(d)(B) increase the **safety** of the transportation system for motorized and nonmotorized users;

(d)(C) increase the **security** of the transportation system for motorized and nonmotorized users;

(d)(D) increase the **accessibility and mobility** of people and freight;

(d)(E) protect and enhance the **environment**, promote **energy** conservation, improve the **quality of life**, and promote **consistency** between transportation improvements and State and **local planned growth and economic development** patterns;

(d)(F) enhance the **integration and connectivity** of the transportation system, **across and between modes** throughout the State, for people and freight;

(d)(G) promote **efficient** system management and operation; and

(d)(H) emphasize the **preservation** of the existing transportation system.

(e) [Consider the **concerns of**] (e)(1) **local officials** [in metropolitan and nonmetropolitan areas]; and (e)(2) Indian tribal governments and Federal land management agencies;

(e)(3) [Be **coordinated with**] **related planning** activities being carried out outside of metropolitan planning areas and between States.

(3)(A) Provide citizens, affected public agencies, representatives of public transportation employees, freight shippers, private providers of transportation, representatives of users of public transportation, representatives of users of pedestrian walkways and bicycle transportation facilities, representatives of

the disabled, providers of freight transportation services, and other interested parties with a reasonable **opportunity to comment** on the proposed plan.

(3)(B) Be developed using **engagement** methods such as (i) holding public meetings at convenient and accessible locations and times; (ii) employing visualization techniques to describe plans; and (iii) making public information available in electronically accessible format and means, such as the World Wide Web.

(4)(A) Include a discussion of potential **environmental mitigation** activities and potential areas to carry out these activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the plan; that is (B) developed in consultation with Federal, State, and tribal wildlife, land management, and regulatory agencies.

(5) Include [if desired] a **financial plan** indicating resources from public and private sources and … additional financing strategies… and illustrative lists of projects and programs that would be included if additional resources beyond those identified in the financial plan were available.

(7) Include capital, operations and management strategies, investments, procedures, and other measures to ensure the **preservation and most efficient use** of the existing transportation system.

(8) Be published in **electronically accessible** formats and means, such as the World Wide Web.

United States Code Title 49, Chapter 53, Section 5304: Public Transportation; Statewide and Nonmetropolitan Transportation Planning

The requirements stated in United States Code Title 49, Chapter 53, Section 5304 are consistent with those found in USC 23.1.135 (summarized above). As MAP-21 policies develop, these requirements could be subject to change.

Virginia Requirements

Virginia State Code § 33.1-23.03 Statewide Transportation Plan

A. The Commonwealth Transportation Board shall, with the assistance of the Office of Intermodal Planning and Investment, conduct a comprehensive review of statewide transportation needs in a Statewide Transportation Plan setting forth assessment of capacity needs for all **corridors of statewide significance**, regional networks, and improvements to promote **urban development areas** established pursuant to § 15.2-2223.1. The assessment shall consider **all modes of transportation**. Such corridors shall be planned to include multimodal transportation improvements, and the plan shall consider corridor location in planning for any major transportation infrastructure, including **environmental impacts** and the comprehensive **land use plan** of the locality in which the corridor is planned. In the designation of such corridors, the Commonwealth Transportation Board shall not be constrained by local, district, regional, or modal plans.

This Statewide Transportation Plan shall be updated as needed, but no less than **once every four years. The plan shall promote economic development and all transportation modes, intermodal connectivity, environmental quality, accessibility for people and freight, and transportation safety.**

B. The Statewide Transportation Plan shall establish goals, objectives, and priorities that cover at least a **20-year planning horizon**, in accordance with federal transportation planning requirements. The plan shall include quantifiable measures and achievable goals relating to, but not limited to, **congestion reduction and safety, transit and high-occupancy vehicle facility use, job-to-housing ratios, job and housing access to transit and pedestrian facilities, air quality, movement of freight by rail, and per capita vehicle miles traveled**. The Board shall consider such goals in evaluating and selecting transportation improvement projects for inclusion in the Six-Year Improvement Program pursuant to § 33.1-12.

C. The plan shall incorporate the approved long-range plans' measures and goals developed by the applicable **regional organizations**. Each such plan shall be summarized in a public document and made available to the general public upon presentation to the Governor and General Assembly.

D. It is the intent of the General Assembly that this plan assess transportation needs and **assign priorities** to projects on a statewide basis, avoiding the production of a plan which is an aggregation of local, district, regional, or modal plans.

Virginia State Code § 33.1-23.03:001. Statewide Pedestrian Policy

The Commonwealth Transportation Board shall prepare and update as needed a Statewide Pedestrian Policy. The Board shall:

1. Provide opportunities for receipt of **comments**, suggestions, and information from local governments, business and civic organizations, and other concerned parties;

2. Identify and evaluate needs at statewide, regional and local levels for additional facilities required to **promote pedestrian access** to schools, places of employment and recreation, and major activity centers;

3. Consider and evaluate potential ways of meeting these needs; and

4. Set forth conclusions as to goals, objectives, and strategies to meet these needs in a safety-conscious manner.

The Board shall coordinate the development of the Statewide Pedestrian Policy with that of the Statewide Transportation Plan provided for in § 33.1-23.03 and cover the same twenty-year planning horizon. The Statewide Pedestrian Policy shall be summarized in a public document and made available to the general public upon presentation to the Governor and General Assembly, either in combination with the Statewide Transportation Plan or as a separate document.

Virginia State Code § 33.1-23.03:002. Goals for Addressing Transportation Needs of Populations with Limited Mobility.

The Commonwealth Transportation Board, in cooperation with other local, regional, or statewide agencies and entities vested with transportation planning responsibilities, shall **establish specific mobility goals for addressing the transportation needs of populations with limited mobility**, including, but not necessarily limited to, the elderly, persons with disabilities that limit their mobility, persons not served by any form of mass transit, and those who, for whatever reasons, cannot afford

motor vehicles or cannot be licensed to drive them. Such goals, once established, shall be considered in the development and implementation of the Statewide Transportation Plan required by § 33.1-23.03.

Virginia State Code § 2.2-229. Office of Intermodal Planning and Investment of the Secretary of Transportation.

There is hereby established the Office of Intermodal Planning and Investment of the Secretary of Transportation, consisting of a director, appointed by the Secretary of Transportation, and such additional transportation professionals as the Secretary of Transportation shall determine. The goals of the Office are to provide solutions that link existing systems; promote the coordination of transportation investments and land use planning; reduce congestion; improve safety, mobility, and accessibility; and provide for greater travel options. It shall be the duty of the director of the office to advise the Secretary, the Virginia Aviation Board, the Virginia Port Authority Board, and the Commonwealth Transportation Board on intermodal issues, generally.

The responsibilities of the Office shall be:

1. To identify transportation solutions **to promote economic development and all transportation modes, intermodal connectivity, environmental quality, accessibility for people and freight, and transportation safety**;

2. To assist the Commonwealth Transportation Board in the development of the **Statewide Transportation Plan** pursuant to § 33.1-23.03;

3. To coordinate and oversee **studies** of potential highway, transit, rail, and other improvements or strategies, to help address **mobility and accessibility** within corridors of statewide significance and regional networks, and promote **commuter choice** inclusion in the six-year improvement program;

4. To work with and **coordinate** action of the Virginia Department of Transportation, the Virginia Department of Rail and Public Transportation, the Virginia Port Authority, and the Virginia Department of Aviation to **promote intermodal and multimodal solutions** in each agency's strategic and long-range plans;

5. To work with and review plans of **regional transportation agencies** and authorities to promote intermodal and multimodal solutions;

6. To work with and coordinate actions of the agencies of the transportation Secretariat to assess freight movements and promote intermodal and multimodal solutions to **address freight needs**, including assessment of intermodal facilities;

7. To assess and coordinate **transportation safety** needs related to passenger and freight movements by all transportation modes;

8. To coordinate the adequate accommodation of pedestrian, bicycle, and other forms of **nonmotorized transportation** in the six-year improvement program and other state and regional transportation plans;

9. To work with and coordinate actions of the agencies of the transportation Secretariat to implement a **comprehensive, multimodal transportation policy**;

10. To develop quantifiable and achievable goals pursuant to § 33.1-23.03 **and transportation and land use performance measures** and prepare an **annual performance report** on state and regional efforts. The Office of Intermodal Planning and Investment shall work with applicable regional organizations to develop such goals;

11. To identify and facilitate **public and private partnerships** to achieve the goals of state and regional plans;

12. To provide technical assistance to local governments and regional entities to establish and **promote urban development area**s pursuant to § 15.2-2223.1; and

13. To establish standards for the **coordination of transportation investments and land use** planning to promote commuter choice and transportation system efficiency.

Virginia State Code § 15.2-2223. [Local] Comprehensive Plans

A. The local planning commission shall prepare and recommend a comprehensive plan for the physical development of the territory within its jurisdiction and every governing body shall adopt a comprehensive plan for the territory under its jurisdiction.

In the preparation of a comprehensive plan, the commission shall make careful and comprehensive surveys and studies of the existing conditions and trends of growth, and of the probable future requirements of its territory and inhabitants. The comprehensive plan shall be made with the purpose of guiding and accomplishing a coordinated, adjusted and harmonious development of the territory which will, in accordance with present and probable future needs and resources, best promote the health, safety, morals, order, convenience, prosperity and general welfare of the inhabitants, including the elderly and persons with disabilities.

The comprehensive plan shall be general in nature, in that it shall designate the general or approximate location, character, and extent of each feature, including any road improvement and any transportation improvement, shown on the plan and shall indicate where existing lands or facilities are proposed to be extended, widened, removed, relocated, vacated, narrowed, abandoned, or changed in use as the case may be.

B. 1. As part of the comprehensive plan, each locality shall develop a **transportation plan** that designates a system of transportation infrastructure needs and recommendations that include the **designation of new and expanded transportation facilities and that support the planned development** of the territory covered by the plan and shall include, as appropriate, but not be limited to, **roadways, bicycle accommodations, pedestrian accommodations, railways, bridges, waterways, airports, ports, and public transportation facilities**. The plan shall recognize and differentiate among a **hierarchy of roads** such as expressways, arterials, and collectors. The Virginia Department of Transportation shall, upon request, provide localities with technical assistance in preparing such transportation plan.

2. The transportation plan shall include a **map that shall show road and transportation improvements, including the cost estimates** of such road and transportation improvements from the Virginia Department of Transportation, taking into account the current and future needs of residents in the locality while considering the current and future needs of the planning district within which the locality is situated.

3. The transportation plan, and any amendment thereto pursuant to § 15.2-2229, shall be **consistent with the Commonwealth Transportation Board's Statewide Transportation Plan** developed pursuant to § 33.1-23.03, the **Six-Year Improvement Program** adopted pursuant to subdivision (9)(b) of § 33.1-12, and the **location of routes to be followed by roads comprising systems of state highways** pursuant to subdivision (1) of § 33.1-12. The locality shall consult with the Virginia Department of Transportation to assure such consistency is achieved. The transportation plan need reflect only those changes in the annual update of the Six-Year Improvement Program that are deemed to be significant new, expanded, or relocated roadways.

4. Prior to the adoption of the transportation plan or any amendment to the transportation plan, the locality shall submit such plan or amendment to the Department for review and comment. The Department shall conduct its review and provide written comments to the locality on the consistency of the transportation plan or any amendment to the provisions of subdivision 1. The Department shall provide such written comments to the locality within 90 days of receipt of the plan or amendment, or by such deadline as may be otherwise agreed upon by the Department and the locality.

5. The locality shall submit a copy of the adopted transportation plan or any amendment to the transportation plan to the Department for informational purposes. **If the Department determines that the transportation plan or amendment is not consistent with the provisions of subdivision 1, the Department shall notify the Commonwealth Transportation Board so that the Board may take appropriate action in accordance with subdivision (9)(f) of § 33.1-12.**

6. Each locality's amendments or updates to its transportation plan as required by subdivisions 2 through 5 shall be made on or before its ongoing scheduled date for updating its transportation plan.

C. The comprehensive plan, with the accompanying maps, plats, charts, and descriptive matter, shall show the locality's long-range recommendations for the general development of the territory covered by the plan. It may include, but need not be limited to:

1. The designation of areas for various types of public and private development and use, such as different kinds of residential, including age-restricted, housing; business; industrial; agricultural; mineral resources; conservation; active and passive recreation; public service; flood plain and drainage; and other areas;

2. The designation of a system of community service facilities such as parks, sports playing fields, forests, schools, playgrounds, public buildings and institutions, hospitals, nursing homes, assisted living facilities, community centers, waterworks, sewage disposal or waste disposal areas, and the like;

3. The designation of historical areas and areas for urban renewal or other treatment;

4. The designation of areas for the implementation of reasonable ground water protection measures;

5. A capital improvements program, a subdivision ordinance, a zoning ordinance and zoning district maps, mineral resource district maps and agricultural and forestal district maps, where applicable;

6. The location of existing or proposed recycling centers;

7. The location of military bases, military installations, and military airports and their adjacent safety areas; and

8. The designation of corridors or routes for electric transmission lines of 150 kilovolts or more.

D. The comprehensive plan shall include the designation of areas and implementation of measures for the construction, rehabilitation and maintenance of affordable housing, which is sufficient to meet the current and future needs of residents of all levels of income in the locality while considering the current and future needs of the planning district within which the locality is situated.

Virginia State Code § 15.2-2232. Legal Status of [Local Comprehensive] Plan.

A. Whenever a local planning commission recommends a comprehensive plan or part thereof for the locality and such plan has been approved and adopted by the governing body, it shall control the general or approximate location, character and extent of each feature shown on the plan. Thereafter, **unless a feature is already shown on the adopted master plan or part thereof or is deemed so under subsection D, no street or connection to an existing street, park or other public area**, public building or public structure, public utility facility or public service corporation facility other than a railroad facility or an underground natural gas or underground electric distribution facility of a public utility as defined in subdivision (b) of § 56-265.1 within its certificated service territory, whether publicly or privately owned, **shall be constructed, established or authorized, unless and until the general location or approximate location, character, and extent thereof has been submitted to and approved by the commission as being substantially in accord with the adopted comprehensive plan** or part thereof. In connection with any such determination, the commission may, and at the direction of the governing body shall, hold a public hearing, after notice as required by § 15.2-2204. Following the adoption of the Statewide Transportation Plan by the Commonwealth Transportation Board pursuant to § 33.1-23.03 and written notification to the affected local governments, **each local government through which one or more of the designated corridors of statewide significance traverses, shall, at a minimum, note such corridor or corridors on the transportation plan map included in its comprehensive plan for information purposes** at the next regular update of the transportation plan map. Prior to the next regular update of the transportation plan map, the local government shall acknowledge the existence of corridors of statewide significance within its boundaries.

B. The commission shall communicate its findings to the governing body, indicating its approval or disapproval with written reasons therefor. The governing body may overrule the action of the commission by a vote of a majority of its membership. Failure of the commission to act within 60 days of a submission, unless the time is extended by the governing body, shall be deemed approval. The owner or owners or their agents may appeal the decision of the commission to the governing body within 10 days after the decision of the commission. The appeal shall be by written petition to the governing body

setting forth the reasons for the appeal. The appeal shall be heard and determined within 60 days from its filing. A majority vote of the governing body shall overrule the commission.

C. Widening, narrowing, extension, enlargement, vacation or change of use of streets or public areas shall likewise be submitted for approval, but paving, repair, reconstruction, improvement, drainage or similar work and normal service extensions of public utilities or public service corporations shall not require approval unless such work involves a change in location or extent of a street or public area.

Relevant Bills Approved by The 2012 Virginia Legislature

Source: Virginia General Assembly 2012 Session Summary, Virginia Division of Legislative Services, downloaded October 1, 2012

HB 625 Transportation planning; comprehensive plan. Provides that **when a locality in Planning District 8 (Northern Virginia) submits a proposed comprehensive plan or amendment** to the Department of Transportation for review, the Department will determine the extent to which the proposal will **increase traffic congestion or reduce the mobility of citizens** in the event of a homeland security emergency and shall include such information as part of its comments on the proposed plan or amendment. The bill contains technical amendments. *Patron – LeMunyon*

HB 599/ SB 531 Northern Virginia Transportation District; long-range planning. Establishes **responsibilities for various entities for long-range transportation planning for the Northern Virginia Transportation District**. *Patron – LeMunyon*

HB 869/ SB 274 Urban development areas. Makes **designation of urban development areas optional for all localities**. Currently urban development areas are mandatory for many higher growth localities. *Patron – Rust*

HB 810 Joint **Commission on Transportation Accountability**. Provides for staffing of the Commission by the Clerk's Office of the house of the General Assembly of which the Chairman is a member and the Division of Legislative Services, with *technical support from the Joint Legislative Audit and Review Commission. Patron – May*

HB 1164 Improvements to secondary and urban system highways. Requires the Secretary of Transportation, at least once every four years, to **examine the process by which secondary and urban highway system maintenance and improvement projects are approved**. *Patron – Bulova*

HB 1177 Virginia Energy Plan; objectives. Adds to the list of the Commonwealth's energy objectives the following: (i) ensuring an adequate energy supply and a Virginia-based energy production capacity; and (ii) minimizing the Commonwealth's long-term exposure to volatility and increases in world energy prices through **greater energy independence**. *Patron – Watson*

SB 230 Administration of local highway projects. Requires VDOT to provide for **training and certification of local governments** to enable them to administer **locally performed highway maintenance and construction** projects with minimal VDOT supervision. *Patron – Herring*

SB 639/ HB 1248 Transportation construction, operation and maintenance, and funding. Provides for the construction, maintenance, and funding of transportation by (i) increasing transportation's share of year-end surpluses to 67 percent, and (ii) authorizing the Commonwealth Transportation Board (CTB) to name highways, bridges, interchanges, and other transportation facilities for private entities if an annual naming rights fee is paid, with the revenue dedicated to highway maintenance and operation. The bill also **charges the CTB with greater responsibilities involving integration of land use and transportation planning and authorizes the CTB to withhold federal and state funds for certain local or regional capital improvement projects if those projects are inconsistent with the Statewide Transportation Plan or the Six-Year Improvement Program**. Provision is made for use of "revenue-sharing" funds for secondary highway system maintenance projects carried out by local governments. The bill provides for special allocations by the CTB for bridge reconstruction, high priority highway projects, and reconstruction of highways with particularly deteriorated pavements. Finally, the bill establishes an annual $50 license tax for electric motor vehicles registered in the Commonwealth. *Patron - Wagner*

Planning-Related Elements of SB 639/ HB 1248

Changes to Virginia Code Section 12.2-2223

Requirements for local comprehensive plans (new text is shown in *italic*, deleted text is shown as ~~strikethrough~~)

B. 1. As part of the comprehensive plan, each locality shall develop a transportation plan that designates a system of transportation infrastructure needs and recommendations that may include the designation of new and expanded transportation facilities and that support the planned development of the territory covered by the plan and shall include, as appropriate, but not be limited to, roadways, bicycle accommodations, pedestrian accommodations, railways, bridges, waterways, airports, ports, and public transportation facilities. The plan ~~should~~ *shall* recognize and differentiate among a hierarchy of roads such as expressways, arterials, and collectors. The Virginia Department of Transportation shall, upon request, provide localities with technical assistance in preparing such transportation plan.

2. The transportation plan shall include a map that shall show road and transportation improvements, including the cost estimates of such road and transportation improvements from the Virginia Department of Transportation, taking into account the current and future needs of residents in the locality while considering the current and future needs of the planning district within which the locality is situated.

3. The transportation plan, and any amendment thereto pursuant to § 15.2-2229, shall be consistent with the Commonwealth Transportation Board's Statewide Transportation Plan developed pursuant to § 33.1-23.03, the Six-Year Improvement Program adopted pursuant to subdivision (9) (b) of § 33.1-12,and the location of routes to be followed by roads comprising systems of state highways pursuant to subdivision (1) of § 33.1-12. The locality shall consult with the Virginia Department of Transportation to assure such consistency is achieved.

4. Prior to the adoption of the transportation plan or any amendment to the transportation plan, the locality shall submit such plan or amendment to the Department for review and comment. The Department shall conduct its review and provide written comments to the locality on the consistency of the transportation plan or any amendment to the provisions of subdivision 1. The Department will provide such written comments to the locality

within 90 days of receipt of the plan or amendment, or by such deadline as may be otherwise agreed upon by the Department and the locality.

5. The locality shall submit a copy of the adopted transportation plan or any amendment to the transportation plan to the Department for informational purposes. If the Department determines that the transportation plan or amendment is not consistent with the provisions of subdivision 1, the Department shall notify the Commonwealth Transportation Board so that the Board may take appropriate action in accordance with subdivision (9) (f) of § 33.1-12

~~The plan shall include: a map that shall show road improvements and transportation improvements, including the cost estimates of such road and transportation improvements as available from the Virginia Department of Transportation, taking into account the current and future needs of residents in thelocality while considering the current and future needs of the planning district within which the locality is situated.~~

Changes to Virginia Code Section 33.1-12

General powers and duties of Commonwealth Transportation Board:

(8) Cooperation with other agencies and local governments.

(f) To integrate land use with transportation planning and programming, consistent with the efficient and economical use of public funds. If the Board determines that a local transportation plan described in § 15.2-2223 or any amendment as described in § 15.2-2229 or a metropolitan regional long-range transportation plan or regional Transportation Improvement Program as described in § 33.1-223.2:25 is not consistent with the Commonwealth Transportation Board's Statewide Transportation Plan developed pursuant to § 33.1-23.03, the Six-Year Improvement Program adopted pursuant to subdivision (9) (b) of § 33.1-12, and the location of routes to be followed by roads comprising systems of state highways pursuant to subdivision (1) of § 33.1-112, the Board may withhold federal and state transportation funds for transportation capital improvement projects from the locality or the metropolitan planning area as permitted by state or federal law. If a locality or metropolitan planning organization requests the termination of a project or the alteration of a project or does not advance a project to the next phase of construction when requested by the Board, and the Department of Transportation has expended state or federal funds, the locality or the localities within the metropolitan planning organization shall be required to reimburse the Department of Transportation for all funds expended on the project or additional project costs above the original estimates for making such alteration.

Additional Elements of SB 639/ HB 1248.

3. That the General Assembly, finding a coordinated regional transportation plan and responsible body to be of critical importance for the continued economic development and prosperity of the Northern Virginia region, does hereby request that the Secretary of Transportation study the **feasibility of establishing a new Northern Virginia Metropolitan Planning Organization**. The Secretary of Transportation, in consultation with the Commissioner of Highways, the Director of the Department of Rail and Public Transportation, representatives from the Federal Highway Administration, representatives from the local governments comprising Planning District 8, and any and all other stakeholders deemed necessary and appropriate shall undertake a study examining all aspects of establishing a Northern Virginia metropolitan planning organization. The Secretary shall issue a report to

the Chairmen of the House and Senate Committees on Transportation by December 1, 2012, making recommendations on the establishment of such a body.

4. That the General Assembly, finding growing concerns regarding the maintenance of the Commonwealth's system of roadways to be of the utmost importance to the continued economic prosperity of Virginia, does hereby request the Secretary of Transportation, in consultation with the Virginia Department of Transportation, local government officials, the Virginia Association of Counties, the Virginia Municipal League, and any and all other stakeholders he deems necessary, to **develop a proposal for the devolution of secondary roads in counties with populations greater than 200,000** as of the census of 2010. The Secretary shall report on his progress not later than December 1, 2012, and shall submit such a proposal for consideration by the General Assembly during the 2013 Session of the General Assembly.

Appendix B: Public Involvement Summary

Ideas and suggestions from the public and key stakeholders were elicited in several ways throughout the process of updating VTrans2035. The goal of all public involvement efforts was to engage people pro-actively in ways that encouraged a sense of ownership and provided meaningful insights for the plan update.

General public information sessions were held concurrently with meetings for other statewide planning projects during the autumn of 2011 to introduce the project, and again during the summer of 2012 to present the draft plan update. Public comments were solicited via the project website throughout the process. In addition, the project team conducted a series of highly interactive forums and discussions during the winter of 2011 and the spring of 2012 that generated more than 530 person-hours of effort volunteered by a broad spectrum of representatives from public agencies and private sector organizations across the Commonwealth. These events are briefly described below. Full documentation of each of the four public outreach events is provided at www.vtrans.org. The four events were:

- Regional Forum I
- Stakeholder Meetings
- Regional Forum II
- Public Meetings

Regional Forum I

The first of two regional planning forums was a half-day session held December 14, 2011. A total of 47 participants, representing local, regional and state planning agencies and transportation-related organizations, worked in facilitated small groups at five locations across the state, linked via WebEx technology to one another and to Richmond-based presenters from the project team. Participants provided insights about regional and statewide issues that had arisen during the two years following the adoption of VTrans2035, evaluated the linkages between VTrans Goals and Investment Priorities, and came up with ideas for the development of an update built around a performance-based planning framework.

Stakeholder Meetings

Two rounds of two-hour stakeholder meetings were held February 22-23, 2012, engaging 26 representatives from public agencies and private organizations across the state. Participants evaluated the first draft of the proposed performance-based planning framework, which was structured, in part, around the ideas from the December 2011 forum. Participants offered comments on the restructured list of Investment Priorities and the new list of Investment Strategies. They also provided general insights on the Goals and performance measures, which were not changed as much as the Investment Priorities.

Regional Forum II

At the second regional planning forum, held March 29, 2012, 74 people worked in facilitated small groups at five locations across the Commonwealth, using WebEx technology to share information and ideas. Participants evaluated the proposed performance-based planning framework, which had been updated in response to comments from the February stakeholder meetings. They also provided insights generated through an experimental priority-setting exercise to link Investment Priorities with Corridors of Statewide Significance.

Public Meetings

In August 2012, members of the public provided valuable feedback through a series of events, held in various locations throughout the state in coordination with the VSTP 2035 Update - public outreach effort. The public meetings, drawing over 100 attendees, offered various opportunities for feedback, opening the floor for verbal remarks and providing modal-specific comment cards. The verbal comments were noted, but not officially transcribed. The comment cards asked participants to identify the most important transportation priorities, suggest ways in which to improve decision-making, and comment on the multimodal statewide plans. In all, the public comments touched on a variety of issues and highlighted a range of transportation needs and deficiencies.

In addition to on-site meetings, a virtual open house was made available through the Office of Intermodal Planning and Investment website from August 2, 2012 through August 31, 2012. The virtual site included all materials available at the on-site meetings and provided interactive features to help guide participants through the site. The site received 180 unique views during this time period.

The paragraphs below summarize the major themes and suggestions produced throughout the series of meetings and forums, and the italicized sentences describe ways in which the ideas have been addressed. As noted above, full documentation of each of the four public outreach events is provided on www.vtrans.org under VTrans2035 Update.

Suggestions/Comments and Responses

Expand Goals, Investment Priorities, and performance measures to reflect the Commonwealth's commitment to supporting prosperity across the spectrum of statewide and regional economic drivers, such as tourism, military bases, universities, government, manufacturing, and high-tech industries to name a few. The current document focuses heavily on a few key generators such as freight movement. *Added and/or re-worded Investment Priorities and strategies to reference a broader spectrum of economic drivers.*

Broaden Goals, priorities, and performance measures to reflect the array of community types across the state, from rural regions and small towns to growing suburban centers and major cities. The current document places a high priority on urban issues and areas. *Added and/or re-worded Investment Priorities and strategies to reference a wider variety of community types.*

Simplify and streamline the "laundry list" of Investment Priorities. It would help to generalize and/or combine some priorities in order to make the list more consistent. The current list ranges from very

broad statements such as improving rural connectivity to very specific investments in locations such as the Dulles corridor and the Port of Virginia. *Re-organized the original list of 19 Investment Priorities into a shorter list of broad priorities supported by more detailed specific strategies.*

Make performance measures more comprehensive and context-sensitive, ensuring a full and consistent consideration of issues related to each goal. Suggestions were provided for alternative performance measures for transit state of good repair, environmental stewardship, mobility economic vitality, travel choice and other goals and strategies. *Documented ideas and information for consideration in follow-up task to revise performance measures after VTrans2035 update is complete.*

Clarify how VTrans affects funding decisions made by the Commonwealth Transportation Board and other agencies, and add more discussion of general financial issues and opportunities. While VTrans is a policy document rather than a specific plan or funding program, funding concerns are critical and should be addressed in some way. *Added information to introductory section of VTrans2035 update and addressed funding initiatives in Chapter 6.*

Clarify how VTrans is related to, and/or influences, local and regional plans and programs. Discuss the level to which it is prescriptive versus a guidance document, and how the Commonwealth will engage state, regional, and local stakeholders in ongoing planning and decision-making. *Added information to the introductory section of the VTrans2035 Update and Chapter 7, Planning Partners' Guide.*

Identify specific strategies that the Commonwealth can use to estimate and evaluate return-on-investment for transportation infrastructure, including innovative tools that connect multi-modal investments to socio-economic benefits. *Documented ideas and will evaluate performance measures that potentially address this suggestion.*

Put a higher priority on investments that improve multi-modal connections, especially passenger transit systems and the bicycle/pedestrian networks required to support them. Link multi-modal investments to associated land use planning techniques like Transit-Oriented Development (TOD). *Added and/or re-worded Investment Priorities and strategies to reference specific modal types and supportive land uses.*

Update goals and priorities to reflect changing socio-economic conditions such as rapidly expanding communications technologies and the increasing population of older adults, as well as the impacts of major events such as federal Base Realignment and Closing (BRAC) programs and global rises in sea levels. *Aging population and BRAC are discussed in the Demographic and Economic Trends Update. BRAC and technology are addressed in the Investment Strategies and related policies.*

For the Program Delivery goal, add priorities and strategies to promote cross-disciplinary collaboration, not only among transportation modal agencies, but also with other state agencies such as state housing and health/human services agencies. *Addressed in policy recommendations for this goal as well as the safety and security goal.*

Provide more detail about the implementation of the goal to coordinate transportation and land use, especially in light of the way relevant state legislation has been changing over the past few years. *Integration of land use and transportation is addressed in more detail through the Investment Priorities, Investment Strategies, and policy recommendations detailed in Chapters 2 and 6.*

If and when the Investment Priorities are used to aid decision-making for proposed projects or policies, consider methods that take into account the different nature of various priorities, so as to avoid trying to compare apples to oranges. For instance, it is difficult to weigh the value of ensuring safety against the value of expanding travel choices – safety will always "win." Perhaps it would be helpful to make fundamental priorities such as safety and security something of a "given" in decision-making processes, equalizing their influence in order to avoid obscuring the assessments of other priorities such as advancing economic development and preserving the natural environment. *Provided suggestions and recommendations to Secretary of Transportation and Multi-modal Working Group; this concept is emphasized in the investment priority rating process as described in Chapter 4.*

When considering potential projects, plans, or policies related to Corridors of Statewide Significance, consider differences in regional priorities within each corridor. For instance, access management and expansion of travel choices may be more important for developed regions in the northern part of the US 29 corridor, whereas economic development and mobility/connectivity may be more critical in more rural southern areas. It might be more useful to assess the performance and issues of each CoSS according to the various travel markets it serves, rather than tying analyses to the definition of the corridor as a highway or rail facility. *Provided suggestions and recommendations to the CTB and Multimodal Working Group, particularly in relation to development of CoSS Master Plans.*

Long-term multi-modal planning should be driven by goals/visions and how best to achieve them, both economically and environmentally. *The VTrans Update seeks to establish a stronger link between Goals, Investment Priorities and ultimately, to project implementation.*

What are Corridors of Statewide Significance (CoSS)? *CoSS are integrated, multimodal networks of transportation facilities that connect major centers of activity within and through the Commonwealth and promote the movement of people and goods essential to the economic prosperity of the state. CoSS are broadly drawn and include other modal facilities such as highways, rail lines, transit services, port facilities, and airports. There are 12 CoSS detailed the VTrans2035 Update. See Chapter 5.*

A new Corridor of Statewide Significance should be considered connecting North Carolina to the Hampton Roads area. The two states have a strategic opportunity to enhance the economic activity at Virginia Ports by providing this key linkage. *Comment noted – Chapter 5 provides guidelines for proposing additions to the CoSS during future updates of VTrans.*

Does the Performance-Based Planning approach consider how Investment Priorities can advance more than one of the VTrans Goals? *As discussed in Chapter 2 and Chapter 4, this dynamic is acknowledged in the overall presentation of Goals and Investment Priorities, and it is directly considered in the process for rating Investment Priorities.*

Concern that new transportation policy (MAP-21) allows for 50 percent of funds from bike/ped to be shifted to other projects. *VDOT has already elected to receive and allocate full Transportation Alternatives Program (TAP) funds.*

How are increased bicycle/pedestrian facilities a part of the VTrans2035 Update Vision? This is a critical mode that affects mobility and enhances the economic benefits of tourism in the state. *The importance of bicycle/pedestrian facilities to reaching VTrans2035 Goals such as improved mobility, connectivity, and*

accessibility; environmental stewardship; economic vitality; and coordination of land use and transportation is acknowledged through the updated Investment Priorities, Investment Strategies, and the recommended policies.

Congestion is a problem but it needs to be addressed in a cost-effective manner. Use technology and pursue connections like inter-city rail, and replacing intersections with interchanges on major arterial routes (US 50, US 29). *Both the Investment Strategies (Chapter 2) and the policy recommendations (Chapter 6) recognize these types of strategies for improving mobility and operations and reducing congestion. The process for rating Investment Priorities (Chapter 4) addresses the importance of cost-effective solutions by examining cost, ability to leverage funds, and ease of implementation, for example.*

Rural connections, rural economic development, and rural mobility needs should not be overlooked in a statewide plan, nor should the congestion issues of the urban areas dominate the plan. *The reorganization of the Investment Priorities brings rural issues into focus for more of the VTrans Goals. Investment Strategies also specifically address rural and statewide needs.*

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Appendix C: Investment Priority Rating Process

This Appendix Chapter is an expanded version of Chapter 4 in the main report, providing more technical detail on how to perform the rating process.

Why Rate Investment Priorities?

Prior to the development of a performance-based planning process for this VTrans2035 Update, the VTrans Investment Priorities were not clearly linked to VTrans Goals, performance reports, or funding decisions. The Investment Priority Rating Process supports the performance-based planning and programming framework by providing a transparent method for evaluating the urgency and relevance of the Priorities during each VTrans update. The rating method also provides a broadly-applicable, flexible tool that can be used by the CTB and other boards, transportation agencies, MPOs and other partners to target transportation investment decisions toward the most urgent Investment Priorities.

The rating of Investment Priorities will not alter the fundamental commitments to safety and maintenance, nor will they redirect investment from projects that are already obligated. Instead, the rating of investment priorities is intended to guide investment choices for future funding outside of those commitments. Note, however, that if performance in safety or maintenance were lacking, this process would guide the investment decision-makers to provide even more resources to those areas.

What Is the Purpose of the Rating Process?

The purpose of this Investment Priority Rating Process is to provide support for performance-based planning and funding decisions by indicating which Investment Priorities are most needed given current performance conditions. The method also serves to identify criteria that should be considered when making funding decisions.

This Investment Priority Rating Process –

- Suggests the types of investments that, if funded, are most likely to improve performance;
- Is not a formula-driven prescriptive process that makes the decision, but a flexible, formula-influenced process for decision-making; and
- Does not suggest redirecting spending away from core functions, which could degrade performance.

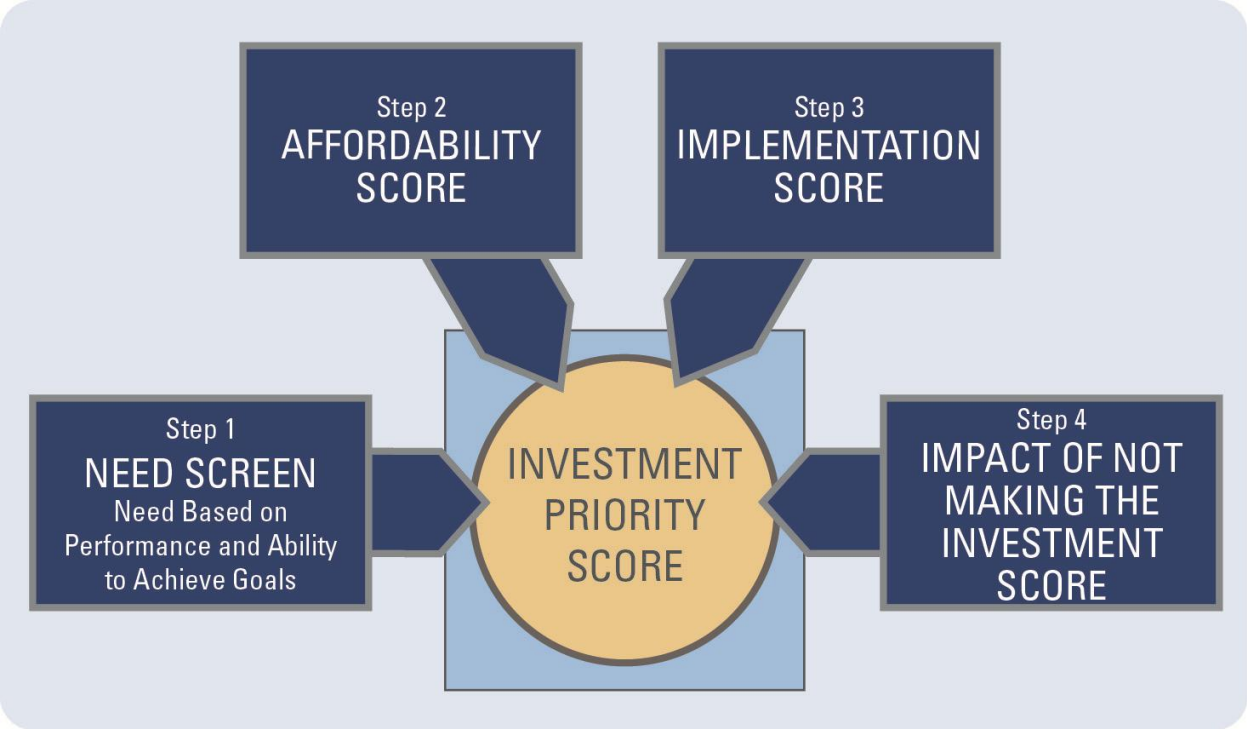
This Investment Priority rating Process will be useful to –

- MPOs and modal agencies in developing their funding requests;
- The OIPI in conducting comparative analyses of requested projects and expenditures by Investment Priority; and
- The CTB in assessing the relationship of funding requests such as the Six-Year Improvement Program to the VTrans Goals and Investment Priorities to ensure funds are being directed cost-effectively to the most critical needs.

How Does the Rating Process Work?

As illustrated in Figure C-1, the method described in this chapter rates each Investment Priority according to the following four criteria:

Figure C-1: Investment Priority Rating Process Inputs



1. Current transportation needs as revealed by system performance reports;
2. Affordability given available revenue sources and the ability to leverage other sources;
3. Ease of implementation given existing policies and procedures; and
4. The potential downsides of not investing in projects that serve the given Priority.

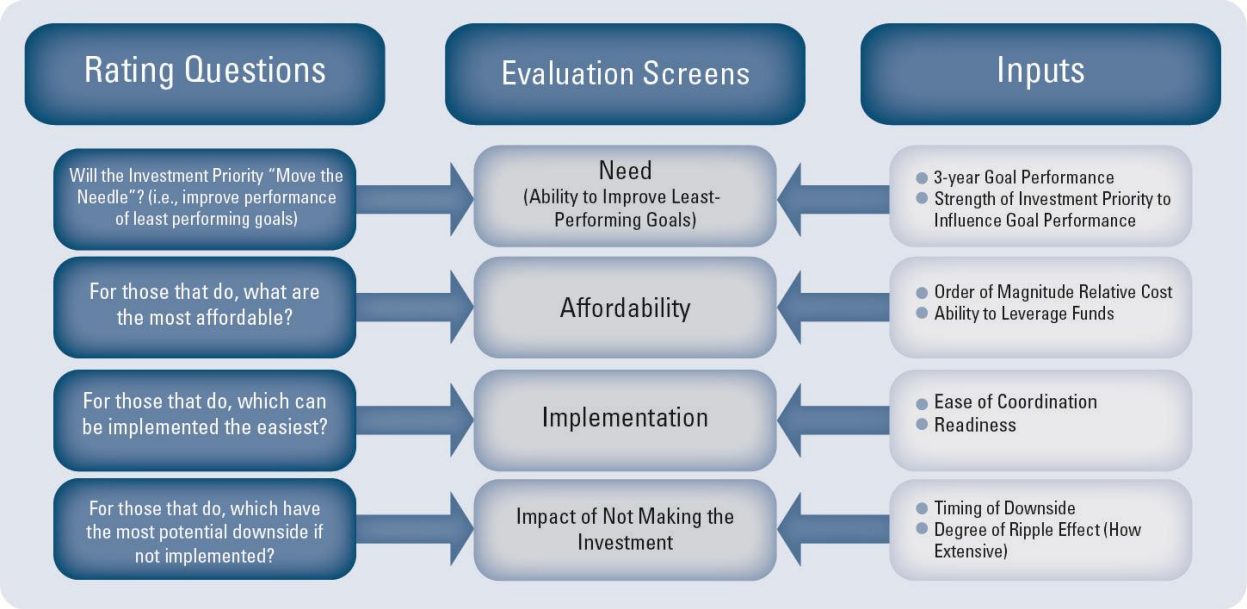
This framework allows for a dynamic process that reflects changing conditions in the Commonwealth. Using performance as a major determinant of need allows for the realignment of Investment Priorities as conditions and performance change over time.

How Is Each Criterion Considered?

The rating process depicted in Figure C-2 involves four steps.

> Step 1 is the most important step, the *Needs* Screen. It considers how well Goals have been achieved over the last three years of available performance data, what the current performance trend is for each goal, and how the Investment Priorities can influence the performance of the Goals. The premise is that Virginia should focus its resources on the Investment Priorities that are not performing as well as others, given a solid understanding of the Priorities' relevance to the VTrans Goals and the system performance related to those Goals. The remaining steps are followed for those Investment Priorities that pass the Need Screen.

Figure C-2: Investment Priority Rating Process Framework



Step 2, *Affordability*, considers the level of financial support for the Investment Priorities from a two perspectives. First, what is the cost to the Commonwealth? Second, what level and type of funds could be leveraged from other sources to pay for the project?

Step 3, *Implementation*, assigns a score based on the anticipated extent of coordination with non-transportation agencies and also whether policy changes might be required for implementation.

Step 4 considers the potential *Impact of Not Making the Investment* in projects associated with the Investment Priority.

Step 1 - Assessing the Level of Need

Current Virginia law requires the OIPI to develop transportation performance measures and provide an annual transportation performance report. This report, organized around the seven VTrans Goals, evaluates the state of the overall transportation system rather than that of a particular transportation agency. The example rating process described in this chapter draws upon data from this report. The performance is evaluated in terms of the seven VTrans Goals identified in Chapter 2. The results for years 2009, 2010, and 2011 are used for this rating process.

Assessing General Performance In Support of Each Goal

The scores for each goal from the annual transportation performance reports are averaged over the three-year period and rated according to the following six performance levels:

- Considerable Improvement – considerable improvement (greater than 10%) in performance compared to a 3-year historical average;
- Slight Improvement – slight improvement (5 % to 10%) in performance from the 3-year historical average;
- Little or No Improvement – little or no improvement (0% to 5%) in performance from the 3-year historical average;

- Little Decline – little decline (0% to -5%) in performance from the 3-year historical average;
- Slight Decline – slight decline (-5% to -10%) in performance from the 3-year historical average; and
- Considerable Decline – considerable decline (less than -10%) in performance from the 3-year historical average.

Since the intent of this activity is to identify the Goals for which improvement is most needed, the highest rating scores are allocated to the Goals with the lowest performance. In other words – the higher the performance, the lower the needs rating.

The goal performance scores in the annual report reflect current information on a variety of measures for each goal, whether an identified measure target is met (some measures do not have targets currently but should once planned enhancements in 2013 are implemented), and how the performance measure is trending. The final results are depicted in terms of change in performance from the three-year historical average.

Figure C-3 depicts the performance results for the last three years, as well as the average of the three years that is used to determine the goal weight. As previously noted, a higher weight is given to poor performance since the need for improvement is greater.

Figure C-3: Goal Performance Inputs

Goal	2009 Score	2009	2010 Score	2010	2011 Score	2011	3-Year Avg Score	3-Year Average	Goal Weight
Safety & Security	4.62%		8.39%		-3.23%		3.26%		3
Maintenance & Preservation	0.04%		-1.04%		-3.10%		-1.37%		4
Mobility, Connectivity, and Accessibility	-0.73%		-4.81%		-6.91%		-4.15%		4
Environmental Stewardship	0.87%		0.40%		9.26%		3.51%		3
Economic Vitality	1.34%		-1.24%		-2.35%		-0.75%		4
Transportation and Land Use	4.94%		11.33%		7.67%		7.98%		2
Program Delivery	0.40%		-2.68%		-10.93%		-4.40%		4

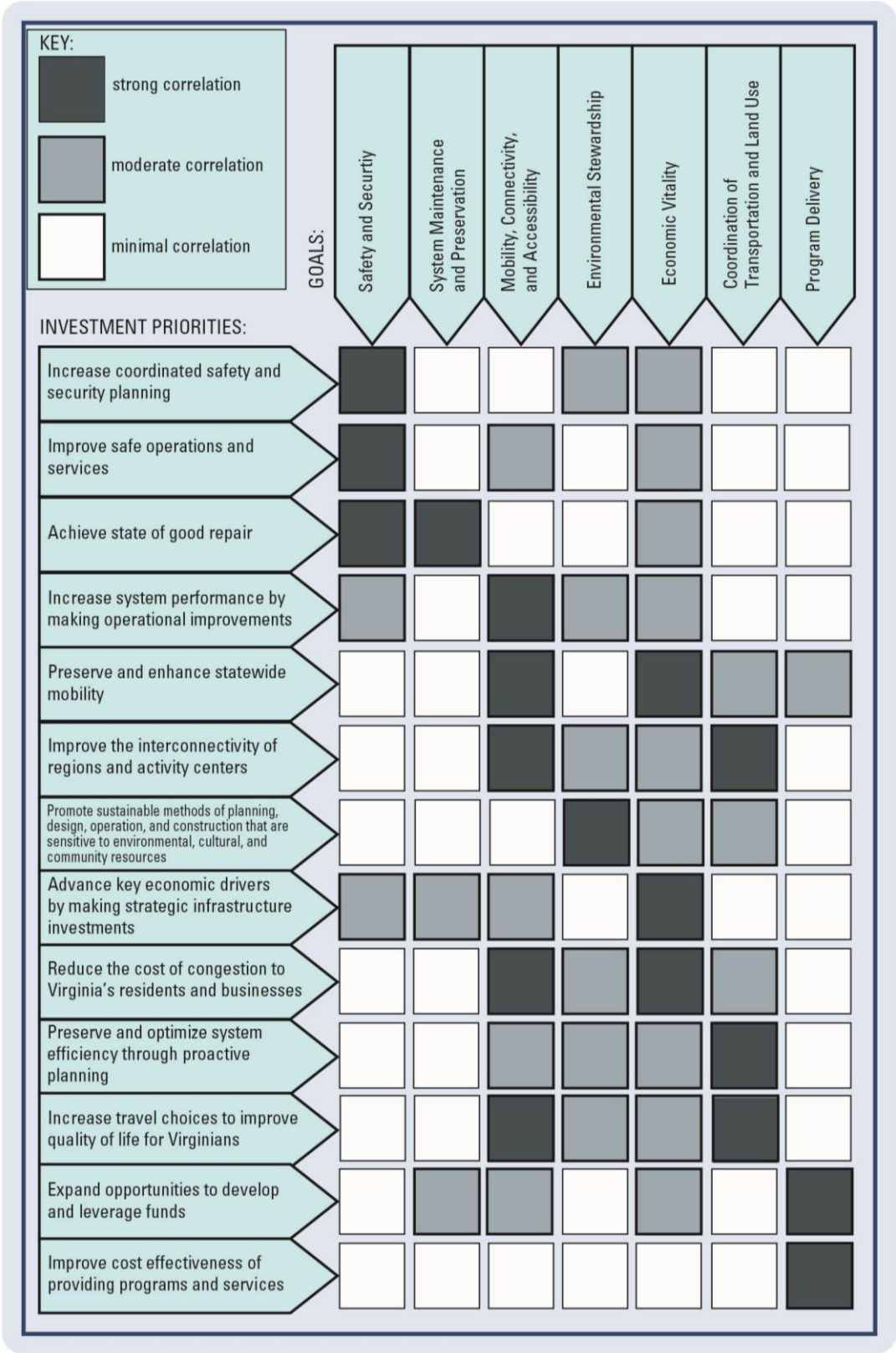
= Considerable improvement from historical average (weight=1)
= Slight improvement from historical average (weight=2)
= Little improvement from historical average (weight=3)
= Little decline from historical average (weight=4)
= Slight decline from historical average (weight=5)
= Considerable decline from historical average (weight=6)

Acknowledging the Influence of the Investment Priorities on the Goals

The next step in the Need screening is to modify the relative importance of each Investment Priority based upon the extent to which it influences the performance of the Goals.

In the illustrative charts of Goals and Investment Priorities shown in Chapter 2, each Investment Priority, along with its associated Investment Strategies, was linked to just one goal. This simplified linkage made the charts easier to read, for the purpose of getting across the general concepts of Investment Priorities and Strategies. But, in reality, most of the Investment Priorities have a strong or moderate influence on several Goals. These more complex relationships between Investment Priorities and Goals were discussed at the Regional Forums as described in Chapter 3. The insights from those workshops provided a basis for the chart shown in Figure C-4 which depicts the general level of influence of each Investment Priority on all of the Goals.

Figure C-4: Correlation between Investment Priorities and Goals



The Need screening concludes by applying the weights to the correlation information to develop a score for each Investment Priority. The weighted score is then totaled and the top seven Investment Priorities (and ties) identified. The results along with Information on the Governor's transportation priorities are shown in Figure C-5. The Governor's current transportation priorities are shown for reference only as this information does not influence the screening process.

Figure C-5: Final Output of Need Screen

Investment Priority (IP)	Needs Score
Increase coordinated safety and security planning	43
Improve safe operations and services	48
Achieve state of good repair	57
Increase system performance by making operational improvements	60
Preserve and enhance statewide mobility	58
Improve the interconnectivity of regions and activity centers	57
Promote sustainable methods of planning, design, operation, and construction that are sensitive to environmental, cultural, and community resources	44
Advance key economic drivers by making strategic infrastructure investments	55
Reduce the cost of congestion to Virginia's residents and businesses	57
Preserve and optimize system efficiency through proactive planning	47
Increase travel choices to improve quality of life for Virginians	51
Expand opportunities to develop and leverage funds	56
Improve cost-effectiveness of providing programs and services	40

Top seven IPs and ties relative to need

Selecting the Highest-Need Priorities for Further Assessment

In this example, the seven highest-need Investment Priorities are carried forward for further assessments through the next steps of the Investment Priority Rating process.

In sum, this initial Needs screen, which narrows the full rating process to the highest-need Investment Priorities, reflects the importance of the first criterion (performance) over the other three criteria (affordability, ease of implementation, and impacts of not making the investment). The screening helps to lessen the likelihood of skewing the overall results toward Priorities that may be easy to achieve, but do not serve the greatest needs. For example, the overall rating of an Investment Priority that is relatively

affordable or easy to implement will be significantly lower if it will not make a real difference in "moving the needle" toward success for an underperforming goal.

Step 2 – Assessing Affordability

Factors in the Affordability assessment include the relative overall costs of each Investment Priority, as well as the Commonwealth's ability to leverage funds for the given Priority. The Investment Priorities with the highest Affordability scores have the least cost and/or the greatest potential for leveraged funds. Specifically, the Affordability considerations include:

- **Order of magnitude relative costs.** For this exercise, estimated costs for each Investment Priority from the original VTrans2035 plan were reviewed by modal agencies and updated as needed. Each Investment Priority falls into one of the following three categories:
    - **Level 1:** typically costing less than $200 million per year on average;
    - **Level 2**: typically costing $200-$500 million per year on average; or
    - **Level 3:** typically costing more than $500 million per year on average.
- **Ability to leverage funds.** The Commonwealth's ability to leverage funds for each Investment Priority is summarized in one of the following three categories:
    - **High:** a relatively high ability to leverage funds from sources such as PPTA participation, user fees or increased federal participation;
    - **Medium:** some ability to leverage funds including increased federal participation; or
    - **Low:** relatively few opportunities for funding partnerships.

Figure C-6 shows the rationale used to develop the information for both considerations. Figure C-7 illustrates how this information was used to develop a composite score for each Investment Priority.

Figure C-6(1): Affordability Input Information – Cost Range

Investment Priorities	Cost Range	Order of Magnitude Relative Cost Rationale
Increase coordinated safety and security planning	Level 1	Efforts relate to coordination and planning and are assumed to be less than $200 million per year
Improve safe operations and services	Level 1	Costs to improve safety assets and provide safety-related services are estimated to be less than $200 million per year
Achieve state of good repair	Level 3	Costs to address pavement and bridge needs alone are estimated to be on average over $500 million per year
Increase system performance by making operational improvements	Level 1	Smart system technologies needs of an average of less than $150 million per year
Preserve and enhance statewide mobility	Level 3	Unfinished PPTAs and total freight needs total well over $15 million, or over $600 million per year
Improve the interconnectivity of regions and activity centers	Level 2	Unfunded needs of high speed rail, intercity rail and regional rail systems are in the $6-$9 billion range, or an average of $250-$400 million per year
Promote sustainable methods of planning, design, operation and construction that are sensitive to environmental, cultural and community resources	Level 2	Expanding non-SOV options as well as addressing energy conservation is estimated to be at the save level (Level 2) as increasing travel choices and improving interconnectivity of regions
Advance key economic drivers by making strategic infrastructure investments	Level 3	Investments related to access to Dulles Airport and the Port of Virginia (including Hampton Roads tunnels/bridges) are estimated at $10-$15 billion, or $400-$600 million per year
Reduce the cost of congestion to Virginia's residents and businesses	Level 2	Typical average year needs for congestion projects appear to be $300-$400 million per year
Preserve and optimize system efficiency through proactive planning	Level 1	Planning-related functions and grant programs related to this investment priority would be less than $200 million per year
Increase travel choices to improve quality of life for Virginians	Level 2	Transit needs alone are on average $150 million per year, when ped/bike and rural connectivity projects are included estimate exceeds Level 1 threshold
Expand opportunities to develop and leverage funds	Level 1	This investment priority reflects investment of time and low-cost study efforts
Improve cost-effectiveness of providing programs and services	Level 1	This investment priority reflects primarily operational improvements

Figure C-6(2): Affordability Input Information – Ability to Leverage Funds

Investment Priorities	Ability to Leverage Funds	Ability to Leverage Funds Rationale
Increase coordinated safety and security planning	Medium	This is a shared responsibility and there are other state/federal partners to share costs
Improve safe operations and services	Low	Only traditional federal/state/local funds are available for safety improvements
Achieve state of good repair	Low	Only traditional federal/state/local funds are available for maintenance/preservation projects
Increase system performance by making operational improvements	Medium	Some federal funding, possible PPTA participation, and possible user fee revenue available for ITS projects
Preserve and enhance statewide mobility	Medium	Some federal funding, possible PPTA participation, and possible user fee revenue available for major corridor projects
Improve the interconnectivity of regions and activity centers	Medium	Possible significant federal funding through high-speed rail program
Promote sustainable methods of planning, design, operation and construction that are sensitive to environmental, cultural and community resources	Low	Only traditional federal/state/local funds are available for non-SOV projects as well as improved planning functions
Advance key economic drivers by making strategic infrastructure investments	High	Significant PPTA and user fees associated with bridges/tunnels and other major projects
Reduce the cost of congestion to Virginia's residents and businesses	Low	Only traditional federal/state/local funds are available for major capacity projects
Preserve and optimize system efficiency through proactive planning	Low	The mostly planning functions related to this priority receive only traditional federal/state/local funds
Increase travel choices to improve quality of life for Virginians	Low	Only traditional federal/state/local funds are available for transit and ped/bike projects
Expand opportunities to develop and leverage funds	High	This priority's focus is on leveraging funds
Improve cost-effectiveness of providing programs and services	Low	Only traditional federal/state/local funds are available for improving planning and programming functions

Figure C-7(1): Affordability Score – by Investment Priority

Investment Priorities	Affordability		
	Cost Range	Ability to Leverage Funds	Score
Increase coordinated safety and security planning	Level 1	Medium	4
Improve safe operations and services	Level 1	Low	3
Achieve state of good repair	Level 3	Low	1
Increase system performance by making operational improvements	Level 1	Medium	4
Preserve and enhance statewide mobility	Level 3	Medium	2
Improve the interconnectivity of regions and activity centers	Level 2	Medium	3
Promote sustainable methods of planning, design, operation and construction that are sensitive to environmental, cultural and community resources	Level 2	Low	2
Advance key economic drivers by making strategic infrastructure investments	Level 3	High	3
Reduce the cost of congestion to Virginia's residents and businesses	Level 2	Low	2
Preserve and optimize system efficiency through proactive planning	Level 1	Low	3
Increase travel choices to improve quality of life for Virginians	Level 2	Low	2
Expand opportunities to develop and leverage funds	Level 1	High	5
Improve cost-effectiveness of providing programs and services	Level 1	Low	3

Figure C-7(2): Affordability Score – Affordability Implications and Input Attributes

Score	Affordability Implication	Input Attributes
5	Best Case – Most Affordable	Level 1 cost and high ability to leverage funds
4	High Moderate Case – Affordable	Level 1 cost and medium ability to leverage funds
		Level 2 cost and high ability to leverage funds
3	Moderate Case – Somewhat Affordable	Level 1 cost and low ability to leverage funds
		Level 2 cost and medium ability to leverage funds
		Level 3 cost and high ability to leverage funds
2	Low Moderate Case – Not Very Affordable	Level 2 cost and low ability to leverage funds
		Level 3 cost and medium ability to leverage funds
1	Worst Case – Least Affordable	Level 3 cost and low ability to leverage funds

Step 3 – Assessing Ease of Implementation

The Implementation evaluation process considers the level of coordination among various outside partners that would be needed to accomplish the Investment Priority, as well as the Commonwealth's readiness to move ahead with it. In this case, readiness does not necessarily mean "shovel-ready;" it is more about the degree to which major policy changes would be necessary to implement the Investment Priority. The Investment Priorities that require little coordination and no policy changes to implement score the highest, reflecting relatively easy implementation.

The information needed to conduct this step was developed through discussions with modal agencies. Input from agency representatives focused upon the following criteria:

Ease of coordination. Each Investment Priority is rated according to the following categories:

- **High:** relatively little coordination with non-Commonwealth agencies required;
- **Medium:** the number of modes or the number of agencies involved could result in considerable coordination activities; or
- **Low:** the number of modes or the number of agencies involved could result in extensive coordination activities.

Readiness. Readiness is described in terms of the degree of policy changes required to implement the Investment Priority. Categories include the following:

- **High**: few or no policy changes required to implement;
- **Medium:** some policy changes required; or
- **Low:** substantial policy changes needed.

Figure C-8 shows the rationale used to develop the information for both considerations. Figure C-9 illustrates how this information was used to develop a composite score for each Investment Priority.

Figure C-8(1): Implementation Input Information – Ease of Coordination

Investment Priorities	Ease of Coordination	Ease of Coordination Rationale
Increase coordinated safety and security planning	Low	Many agencies and multiple modes involved requiring extensive coordination
Improve safe operations and services	High	Safety programs/projects require only basic coordination with other agencies/partners
Achieve state of good repair	High	Maintenance/preservation programs/projects require only basic coordination with other agencies/partners
Increase system performance by making operational improvements	Medium	There is potential for increased federal coordination on major ITS projects
Preserve and enhance statewide mobility	Low	Major corridor/multiple mode corridor projects require increased federal and local coordination; major freight projects require coordination with private railroads
Improve the interconnectivity of regions and activity centers	Low	High speed/Intercity rail projects typically require increased federal coordination as well as extensive local coordination and potential for coordination with other states
Promote sustainable methods of planning, design, operation and construction that are sensitive to environmental, cultural and community resources	Low	Sustainable projects require significant local/public outreach coordination and in some cases increased federal participation
Advance key economic drivers by making strategic infrastructure investments	Low	Major investment projects involve multiple modes, private sector coordination, and increased federal coordination
Reduce the cost of congestion to Virginia's residents and businesses	High	Traditional capacity expansion projects require only basic coordination with local entities
Preserve and optimize system efficiency through proactive planning	Low	Integration of transportation and land uses requires extensive coordination with local entities
Increase travel choices to improve quality of life for Virginians	High	Transit/pedestrian-bicycle projects require only basic coordination with other agencies/partners
Expand opportunities to develop and leverage funds	Low	Improving funding situation requires extensive coordination across agencies, with the legislature, and with the general public
Improve cost-effectiveness of providing programs and services	High	Improvements would be mostly internal changes requiring only basic coordination

Figure C-8(2): Implementation Input Information – Readiness

Investment Priorities	Readiness	Readiness Rationale
Increase coordinated safety and security planning	High	No changes in policies are required for increased coordinated safety and security
Improve safe operations and services	High	No changes in policies are required for safety projects
Achieve state of good repair	High	No changes in policies are required for pavement or bridge projects
Increase system performance by making operational improvements	Medium	Privacy issues associated with new technology may require policy changes
Preserve and enhance statewide mobility	High	No changes in policies are required to corridor projects and PPTAs
Improve the interconnectivity of regions and activity centers	Medium	Supporting land use policies to support transit improvements are required
Promote sustainable methods of planning, design, operation and construction that are sensitive to environmental, cultural and community resources	Medium	Some new approaches associated with alternative fuel vehicles may require policy changes
Advance key economic drivers by making strategic infrastructure investments	High	No changes in policies are required for projects associated with key economic drivers
Reduce the cost of congestion to Virginia's residents and businesses	High	No changes in policies are required to implement traditional improvement projects
Preserve and optimize system efficiency through proactive planning	Medium	Supporting land use policies for integration of transportation and land uses are required
Increase travel choices to improve quality of life for Virginians	Medium	Supporting land use policies to support transit improvements are required
Expand opportunities to develop and leverage funds	Medium	Some new approaches may require legislative changes or changes in policy
Improve cost-effectiveness of providing programs and services	High	No changes in policies are required to improve internal agency programs

Figure C-9(1): Implementation Score – by Investment Priority

Investment Priorities	Implementation		
	Ease of Coordination	Readiness	Score
Increase coordinated safety and security planning	Low	High	3
Improve safe operations and services	High	High	5
Achieve state of good repair	High	High	5
Increase system performance by making operational improvements	Medium	Medium	3
Preserve and enhance statewide mobility	Low	High	3
Improve the interconnectivity of regions and activity centers	Low	Medium	2
Promote sustainable methods of planning, design, operation and construction that are sensitive to environmental, cultural and community resources	Low	Medium	2
Advance key economic drivers by making strategic infrastructure investments	Low	High	3
Reduce the cost of congestion to Virginia's residents and businesses	High	High	5
Preserve and optimize system efficiency through proactive planning	Low	Medium	2
Increase travel choices to improve quality of life for Virginians	High	Medium	4
Expand opportunities to develop and leverage funds	Low	Medium	2
Improve cost-effectiveness of providing programs and services	High	High	5

Figure C-9(2): Implementation Score – Implementation Implications and Input Attributes

Score	Implementation Implication	Input Attributes
5	Best Case – Easiest to Implement	High ease of coordination and high readiness
4	High Moderate Case – Implementable	High ease of coordination and medium readiness
		Medium ease of coordination and high readiness
3	Moderate Case – Somewhat Implementable	High ease of coordination and low readiness
		Medium ease of coordination and medium readiness
		Low ease of coordination and high readiness
2	Low Moderate Case – Not Very Easy to Implement	Medium ease of coordination and low readiness
		Low ease of coordination and medium readiness
1	Worst Case – Most Difficult to Implement	Low ease of coordination and low readiness

Step 4 - Assessing Potential Impacts of Not Making the Investment

The final step in the rating process is to examine the potential downsides of choosing not to address the given Investment Priority at the current time. The downside is characterized by how quickly a negative impact could be felt, and the degree to which the impact would have a "ripple effect" across Virginia (i.e., would the impact be limited to a given region, or would it affect all areas of the state?). The most significant downside potential has a near-term impact occurrence and a statewide ripple effect.

A high rating indicates a significant downside to putting the given Investment Priority "on hold" in favor of allocating funds to other Priorities. The process of determining the Impact of Not Making the Investment includes the following considerations:

Timing of downside. This measure considers how quickly the impacts related to a non-prioritized Investment Priority may begin to worsen. Ranges include:

- **Near-term**: 0 to 10 years,
- **Mid-term**: 10 to 20 years, or
- **Long-term**: beyond 20 years.

Degree of ripple effect. This measure assesses whether the potential downside would be limited to a project area or ripple throughout the state. Ranges include:

- **Statewide:** encompassing or affecting Virginia and beyond, or
- **Regional:** localized to specific area(s).

Figure C-10 shows the rationale used to develop the information for both considerations. Figure C-11 illustrates how this information was used to develop a composite score for each Investment Priority.

Figure C-10(1): Impact of Not Making the Investment Input Information – Time Frame

Investment Priorities	Time Frame	Time Frame Rationale
Increase coordinated safety and security planning	Mid-term	The infrequency of major incidence responses suggest implications from not investing would not be immediately apparent
Improve safe operations and services	Near-term	The failure to improve safety services on the system could have immediate down side in terms of business and tourist decisions about Virginia and the livelihood of its citizens
Achieve state of good repair	Near-term	The lack of a reliable transportation system could have immediate down side in terms of business and tourist decisions on whether to come to Virginia
Increase system performance by making operational improvements	Long-term	Not investing in ITS and operation improvements means less efficient operation that might not occur until later
Preserve and enhance statewide mobility	Near-term	A failure to invest might result in increased corridor travel times and decreased mobility which would have an immediate impact on the reputation of Virginia as a great state for business, living and tourism
Improve the interconnectivity of regions and activity centers	Mid-term	Decreased access to markets by rail/transit could result in increased isolation of regions and activity centers and decreased economic activity over time with a failure to invest
Promote sustainable methods of planning, design, operation and construction that are sensitive to environmental, cultural and community resources	Mid-term	Implications from a lack of investment in sustainable methods will accumulate over time
Advance key economic drivers by making strategic infrastructure investments	Near-term	Lack of investment in revitalizing infrastructure may cause immediate loss of business opportunities to competing regions/states
Reduce the cost of congestion to Virginia's residents and businesses	Near-term	Failure to address congestion in project analysis will have immediate implications to citizens' quality of life and business' economic vitality
Preserve and optimize system efficiency through proactive planning	Mid-term	The impact of not making the investment will be a continuation of the status quo of development patterns as apparent now and will only make it more difficult to address in the future
Increase travel choices to improve quality of life for Virginians	Long-term	By not addressing this priority, the lack of travel choices will result in continual pressure on existing transportation infrastructure over time
Expand opportunities to develop and leverage funds	Near-term	Not expanding funding opportunities immediately threatens the ability to address needs in a timely fashion and deteriorates Virginia's reputation as an innovative state
Improve cost-effectiveness of providing programs and services	Long-term	Not improving cost-effectiveness will not immediately result in negative impacts on Virginia's ability to do business

Figure C-10(2): Impact of Not Making the Investment Input Information – Ripple Effect

Investment Priorities	Ripple Effect	Ripple Effect Rationale
Increase coordinated safety and security planning	Statewide	The inability to address security needs would have impacts far beyond the immediate location
Improve safe operations and services	Statewide	The implication would be on the state's inability to address needs on a broad level through safety education and physical improvements
Achieve state of good repair	Statewide	The implication would be on the inability to address infrastructure and assets needs across the system to alleviate a weak point and protect Virginia's reputation as a place to do business
Increase system performance by making operational improvements	Regional	The impact of not investing in smart systems and ITS is more urban oriented
Preserve and enhance statewide mobility	Statewide	The impact of not investing in the complete corridor influences the entire state
Improve the interconnectivity of regions and activity centers	Statewide	Lack of investment to improve interconnectivity would have impacts across the state
Promote sustainable methods of planning, design, operation and construction that are sensitive to environmental, cultural and community resources	Statewide	Lack of investment to sustainable methods would impact all parts of the state
Advance key economic drivers by making strategic infrastructure investments	Statewide	While the key economic drivers are specific areas, such as Dulles and the Port of Virginia, the effects of inaction will be felt statewide
Reduce the cost of congestion to Virginia's residents and businesses	Regional	The lack of investment on congestion would be felt in specific areas and not impact the entire state
Preserve and optimize system efficiency through proactive planning	Regional	The lack of investment on proactive planning would impact specific corridor segments and regions
Increase travel choices to improve quality of life for Virginians	Regional	The impact of not investing in travel choice will influence specific areas as opposed to rippling across the state
Expand opportunities to develop and leverage funds	Statewide	The impact of not investing in efforts to expand funding sources will impact the state and the state transportation network as a whole
Improve cost-effectiveness of providing programs and services	Statewide	A lack of investment would be felt statewide as agencies' lack of efficiency begins to impact Virginia's reputation as a place to do business

Figure C-11(1): Impact of Not Making the Investment Score – by Investment Priority

Investment Priorities	Impact of Not Making the Investment		
	Time Frame	Ripple Effect	Score
Increase coordinated safety and security planning	Mid-term	Statewide	3
Improve safe operations and services	Near-term	Statewide	5
Achieve state of good repair	Near-term	Statewide	5
Increase system performance by making operational improvements	Long-term	Regional	1
Preserve and enhance statewide mobility	Near-term	Statewide	5
Improve the interconnectivity of regions and activity centers	Mid-term	Statewide	3
Promote sustainable methods of planning, design, operation and construction that are sensitive to environmental, cultural and community resources	Mid-term	Statewide	3
Advance key economic drivers by making strategic infrastructure investments	Near-term	Statewide	5
Reduce the cost of congestion to Virginia's residents and businesses	Near-term	Regional	4
Preserve and optimize system efficiency through proactive planning	Mid-term	Regional	2
Increase travel choices to improve quality of life for Virginians	Long-term	Regional	1
Expand opportunities to develop and leverage funds	Near-term	Statewide	5
Improve cost-effectiveness of providing programs and services	Long-term	Statewide	2

Figure C-11(2): Impact of Not Making the Investment Score – Impact Implications and Input Attributes

Score	Impact Implication	Input Attributes
5	Highest Downside – Most Potential for Significant Downside	Near-term occurrence and statewide ripple effect
4	High Moderate Case – Potential for Significant Downside	Near-term occurrence and regional ripple effect
3	Moderate Case – Some Potential for Significant Downside	Mid-term occurrence and statewide ripple effect
2	Low Moderate Case – Little Potential for Significant Downside	Mid-term occurrence and regional ripple effect
		Long-term occurrence and statewide ripple effect
1	Least Downside – Least Potential for Significant Downside	Long-term occurrence and regional ripple effect

What Are the Results of the Example Rating Process for this VTrans2035 Update?

The results of this example exercise, shown in Figure C-12, are provided merely to illustrate how the rating process will work. The intent is to implement the process fully through the VTrans2040 update. The process cannot be fully completed for this VTrans2035 update because the improved alignment of performance measures with Investment Priorities is still underway. Once this is finished in 2013, the results of the rating process will be more robust. Meanwhile, a simpler "reality check" of the results using the current performance measures provides some relevant and reasonable findings.

Figure C-12: Investment Priority Example Rating Results

Investment Priority	Need	Affordability	Implementation	Impact of Not Investing
Increase coordinated safety and security planning	43			
Improve safe operations and services	48			
Achieve state of good repair	57	1	5	5
Increase system performance by making operational improvements	60	4	3	1
Preserve and enhance statewide mobility	58	2	3	5
Improve the interconnectivity of regions and activity centers	57	3	2	3
Promote sustainable methods of planning, design, operation, and construction that are sensitive to environmental, cultural, and community resources	44			
Advance key economic drivers by making strategic infrastructure investments	55	3	3	5
Reduce the cost of congestion to Virginia's residents and businesses	57	2	5	4
Preserve and optimize system efficiency through proactive planning	47			
Increase travel choices to improve quality of life for Virginians	51			
Expand opportunities to develop and leverage funds	56	5	2	5
Improve cost-effectiveness of providing programs and services	40			

Based upon the example process, the Investment Priorities that would be most effective at improving progress toward underperforming Goals are as follows:

- Increase system performance by making operational improvements
- Preserve and enhance statewide mobility
- Achieve state of good repair
- Improve the interconnectivity of regions and activity centers
- Reduce the cost of congestion to Virginia's residents and businesses
- Expand opportunities to develop and leverage funds
- Advance key economic drivers by making strategic infrastructure investments

How Would the Ratings Be Used and Updated?

As noted previously, this rating process does not prescribe specific project funding decisions. It does help with decision-making by directly relating investment choices to potential future system performance.

Using the Ratings Results

The most important step in using this process is to share the framework and results with other transportation agencies (i.e., modal agencies as well as the MPOs) for them to consider as they prepare their project and program recommendations. The results will be useful, but the framework itself is key to enable agencies to evaluate need and cost-effectiveness in a way that will align with the decision-making boards' expectation. Each agency (state and regional) will have responsibility for selecting projects and initiatives that fit the Investment Priorities. To that end, OIPI must establish guidance that relates projects and programs to the Investment Priorities. This will enable the development of a summary table of investment proposals (such as the Six-Year Improvement Program) by Investment Priority for the CTB to use as a guide in approving the Program. A similar approach can be taken by the Port Authority and the Department of Aviation with their boards to further enhancement performance-based planning. At the same time, applying the framework at different levels or for different transportation modes may require some modification of the exact rating measures (for example, adjusting the Order of Magnitude Relative Cost levels of high, medium, and low to fit regional-scale programs or projects).

In using the results of the Investment Priority ratings, the transportation boards can further narrow the list of what they consider the top Investment Priorities if they so choose, or they can reorder the list by giving different weights to the non-Need criteria from steps 2-4. The Rating process is most valuable in that it produces a "short list" of Investment Priorities relative to performance that can be shared with transportation agencies in order to help them develop investment programs that will improve the performance of Virginia's transportation system.

Updating the Rating Results

At a minimum, the ratings should be fully re-assessed at the onset of each VTrans update, which occurs every four years. This process will help to identify policy-related changes that may be needed to implement Investment Priorities effectively.

The simplest part of the update is the calculation of goal weights based on the most recent three years of system performance reports. Goal performance reviews could be done every year, to see if there are any significant changes in conditions that warrant an update to the Investment Priority ratings.

It is not likely that the remaining inputs would change significantly in the short-term. These inputs include the Investment Priority and Goal correlation table and the characteristics of the Investment Priorities related to the Affordability, Implementation, and Impact of Not Making the Investment criteria. As part of VTrans outreach activities, information used in the previous rating process could be reviewed with stakeholders including the transportation agencies and MPOs to determine if any modifications are necessary.

How Does the Process Support Performance-Based Planning and Funding?

Funding decisions in Virginia have always been made with detailed supporting information. Until now, however, the Commonwealth has lacked a comprehensive framework for examining the many potential investment options in light of their relationship to system performance, achieving stated transportation Goals, and other criteria. This Investment Priority Ranking Process is a first step toward facilitating performance-based planning and funding decisions by structuring information around a consistent framework that links performance assessments, Investment Priorities, and associated strategies and projects to the Commonwealth's overall Vision and Goals as stated in the VTrans policy plan. It is not a black-box with a single answer, but a process for making better informed decisions.

As discussed earlier, the rating process does not produce a rigid prescription for funding decisions. Rather, it provides information that decision-makers can use to help make difficult choices among competing priorities. The rating process does not affect mandated priorities or legislative requirements, such as VDOT's "maintenance first" policy or the critical need to make the transportation system as safe as possible. It does provide guidance, especially in cases of limited funds and numerous funding requests, as to what types of investments are most likely to help improve system performance in a cost-effective manner.

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Office of INTERMODAL Planning and Investment

Form I-1

Office of the SECRETARY of TRANSPORTATION

Procedures to Add, Edit and/or Delete Corridors of Statewide Significance

Purpose:	To establish procedures to add, edit and/or delete Corridors of Statewide Significance (CoSS)
Scope:	Applies to all Commonwealth of Virginia Organizations, Boards or Departments attempting to Add, Edit and/or Delete CoSS
Issued By:	Office of the Secretary and the Office of Intermodal Planning and Investment (OIPI)
Effective Date	December 2012
Contact Person:	Dironna Moore Belton, OIPI (804.840.9995)

Purpose Statement:

CoSS are identified in the Code of Virginia and described in detail in VTrans 2035. In general, the CoSS applies to a network of facilities that are vital to transportation and commerce within the Commonwealth; specifically listed as, all of the Interstate Systems and Routes 13, 17, 29, 58, 220, and 460 within the Commonwealth. The following procedures were developed to assist the Office of Intermodal Planning and Development make more simplified and effective decision making choices when addressing the need to periodically review CoSS routes. Therefore, this document is to document procedures for adding, editing or deleting CoSS and the period in which a review can be made .

Procedures:

A. Submitting a Request to Modify CoSS

1. Requests to Add, Edit and/or Delete CoSS will only "be considered" by a Commonwealth Transportation Board Member.

B. Requesting to Modify CoSS

1. Any request to Add, Edit and/or Delete CoSS must be requested on the *I-2 Request to Modify Corridors of Statewide Significance Form* and Endorsed by a CTB member.
2. This form must be filled out completely and turned into the

Office of Intermodal Planning and Investment
600 Main St.
Richmond, VA
Attention: D.M. Belton

3. A copy of the form with decision will be returned to requester no later than the open period of the VTrans Update.
4. All requests will be stored in the OIPI and be available to the public upon request.

Form I-1 Add, Delete and/or Edit CoSS
Rev. Dec 2010

Office of INTERMODAL Planning and Investment

Form I-2

Office of the SECRETARY of TRANSPORTATION

Request to Modify Corridors of Statewide Significance Form

Name:	(Person wanting to Modify CoSS)
Affiliation:	(Commonwealth of Virginia Organization, Boards or Departments attempting to Add, Edit and/or Delete CoSS)
Date:	MM/DD/YYYY
Modification Type:	☐ **Add** ☐ **Edit** ☐ **Delete**
Route Description:	(Route name, Number and Termini)
Endorsement:	CTB Member, MPO or Locality (Please include Letter of Endorsement)

Instructions: Please read the Add, Edit and/or Delete Procedure, dated December 2010, before completing this form. Be sure to observe the time limits specified in the procedure. For additional assistance please use the Request to Modify CoSS Appendix.

Please answer the following questions:

List the different modes in which the route involves:

List the different regions this route extends into and connects:

List any states that this route connects:

List the major activity centers this route connects:

Form I-2 Add, Delete and/or Edit CoSS
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Office of INTERMODAL Planning and Investment

Form I-2

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Date:	MM/DD/YYYY
Modification Type:	☐ **Add** ☐ **Edit** ☐ **Delete**
Route Description:	(Route name, Number and Termini)
Endorsement:	CTB Member, MPO or Locality (Please include Letter of Endorsement)

List the types of high level/volume transport of this route:

List the unique statewide function this route provides:

List the statewide goals that this route addresses:

-For Office Use Only-

The following Route: _____ **is**

Approved to be ☐ **Added** ☐ **Edited** ☐ **Deleted** Not Approved to be ☐ **Added** ☐ **Edited** ☐ **Deleted**

Deputy Transportation Secretary _____ **Date** _____

OIPI

Form I-2 Add, Delete and/or Edit CoSS
Rev. Dec 2010

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Office of INTERMODAL Planning and Investment

Form I-3

Office of the SECRETARY of TRANSPORTATION

VTrans2035 Update
Corridors of Statewide Significance

In the past the Corridors of Statewide Significance (CoSS) evolved from routes that involved multiple modes, connected regions, states and activity centers, provided a high volume of transportation and also provided a unique statewide function and/or addressed statewide goals. Since 2009, there has been additional considerations made to the CoSS, such as a new CoSS being added and the Corridor Master Plan (CMP) process beginning. The VTrans2035 Update establishes the following new guidelines for CoSS, as well as Procedures to Add, Edit and/or Delete CoSS to be implemented after this update.

Regional Significance Systems

The VTrans2035 Update establishes CoSS into designated systems of national and regional significance.

National or statewide significance of a CoSS is determined by the following contributing factors:

1. **Provides a unique statewide function and/or addresses statewide goals:** The Route is an unique statewide function and/or address statewide goals if it is either:
   - -an Evacuation route,
   - -a Critical redundancy route,
   - -a Military access route,
   - -a STRAHNET route, a STRACNET route, a Toursim route and/or Truck Route.

2. **Involves Multiple Modes:** The different modes in which the route can involve are: Highway, rail, inter-regional transit, airport, port or freight.

3. **Level of transport:** The criteria to determine the level of transport is if two or more of the following exists:

-Class I rail
-Inter-regional public transportation and stations
-Interstate/NHS facility
-Major, Port
-Major Freight Corridor
-Commercial and/or reliever airports
-Economic development
-Major shipping channel
-Gateway of national or international significance to include Greenways, State bicycle route or inter-regional trails.

2. **Connects regions or states:**

National Significance CoSS routes will be defined by the VTrans2035 update, as the Routes that meet nationwide and statewide mobility needs of the region. Different states to include: Tennessee, North Carolina, Kentucky, West Virginia, Maryland and/or Washington D.C.
Initial Corridors of National Significance: I-81, I-64, I-95

Remaining CoSS routes are defined in the VTrans2035 Update as the Routes that are Statewide regions of significance.

Make sure to include components of data collection mobility, accessibility, safety and economic potential for CoSS system designation.