

# Chapter 1: The 2035 Virginia Surface Transportation Plan

Whether children take the bus or bicycle to school, employees take the train to work, or residents drive to the grocery store, transportation is critical to the lives of all Virginians, and is essential for the Commonwealth's continued economic vitality.

The year 2035 seems like a long time from now, but it will be here before we know it. We spend years planning, saving and investing in our personal lives so that we will be better off tomorrow than we are today. Will the current infrastructure be in a satisfactory condition to use in the future? Will the transportation choices we have today satisfy the transportation needs we will have tomorrow? Will we have a quality of life that allows Virginians to spend more time with their families and less time in traffic?

## CHALLENGES & OPPORTUNITIES

Demographic shifts, aging infrastructure, growth pressures and economic challenges are on the horizon. However, new and emerging technologies, combined with behavioral changes and new work standards provide us with many opportunities to address these challenges in proactive, efficient and cost-effective ways (see Figure 1). The 2035 Virginia Surface Transportation Plan (VSTP) provides multimodal transportation recommendations for future transportation options in the Commonwealth during these challenging times.

Under the direction of the Secretary of Transportation, the Virginia Department of Transportation (VDOT) and the Virginia Department of Rail and Public Transportation (DRPT) coordinated the development of this 2035 Virginia Surface Transportation Plan. The VSTP provides an overview of existing and future transportation conditions throughout the Commonwealth on a statewide and regional level. In addition to this report, the 2035 VSTP recommendations are also provided in an executive summary map for easy reference.

## VTRANS2035: THE PRECURSOR

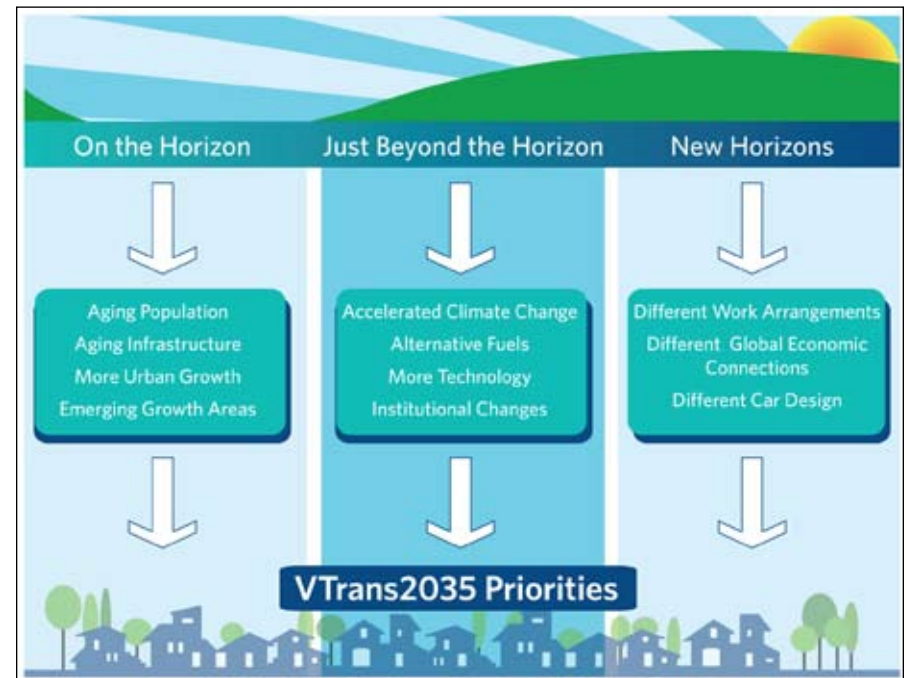
The 2035 VSTP follows on the heels of VTrans2035, Virginia's long-range multimodal transportation plan. The Code of Virginia (§33.1-23.03) and federal regulations (23CFR450.214) require the Commonwealth Transportation Board (CTB) to develop a statewide multimodal long-range transportation plan every five years. It is a policy document that frames the vision for the future and identifies the critical steps that must be taken to make that vision a reality. The Secretary of Transportation's Office, through the Office of Intermodal Planning and Investment (OIP), led the development of VTrans2035 involving Virginia's five statewide transportation agencies – Department of Aviation (DOAV), Department of Motor Vehicles (DMV), DRPT, Virginia Port Authority (VPA) and VDOT.

VTrans2035 sets forth an overall vision and seven transportation policy goals, setting the foundation for the future transportation in the Commonwealth. VTrans2035 identifies key transportation investment priorities to achieve its goals, and establishes actions to ensure the investment priorities become a reality.

## THE VSTP AND VTRANS2035

Although VTrans2035 and the VSTP are separate documents, they share many commonalities. All proposed solutions and recommendations included in the 2035 VSTP were developed based on the policy framework established by VTrans2035. The two documents share the same goals and investment priorities. The socioeconomic and demographic forecasts from

Figure 1: What's on the Horizon?



VTrans2035 form the basis of the background data included in the VSTP. Public comment received from over 200 people during the summer of 2009 was used to shape both the final VTrans2035 document and this VSTP.

## ACTIONS AND STRATEGIES FOR THE FUTURE

Identification of performance measures will provide decision-makers with an assessment of potential impacts of transportation improvements. There is a growing consensus that new sources of transportation revenue must be identified to sustain transportation performance over the long term. Performance-based scenario analysis supports this point by examining the long-term impact of funding the transportation system through 2035 at various levels. Part of the VTrans2035 analysis included the use of models and data for all modes to estimate the long-term impacts on Virginia's transportation system performance if there is no change in the current funding situation. Not surprisingly, deterioration in performance is expected. Major findings are:

- Overall performance is expected to decline. A significant degradation in system condition is expected along with significant changes in mobility and economic vitality as transit services are cut and both highway and roadway needs go unmet.
- Virginia would need to commit at least \$1.3 to \$1.4 billion per year to maintain current conditions.

### COMMONWEALTH TRANSPORTATION BOARD (CTB)

The 17-member CTB establishes the administrative policies for Virginia's transportation system. The CTB also allocates highway funding to specific projects, locates routes and provides funding for airports, seaports and public transportation.

Figure 2: VTrans2035



Table 1: VTrans2035 Investment Priorities

Investment Priority Group	Investment Priority	Preliminary Planning Estimate of Unfunded Need (2009\$)**
Make Strategic Investment in Infrastructure for the Future – For Example* (Total Need)	Plan for and Invest in High Speed Rail or Intercity Rail Between Washington, D.C., Richmond, and Hampton Roads and Expand Metrorail and/or Commuter Rail, Including Supporting Land Uses, in the I-95 Corridor	\$3.4 - \$5.5 Billion
	Freight Rail Along I-81	\$0.8 - \$1.2 Billion
	Tunnels and Bridges in Hampton Roads	\$7.8 - \$11.3 Billion
	Smart System Technology Leadership	\$2.2 - \$3.1 Billion
Address Environmental, Safety, and Maintenance Needs	Use Sustainable and Environmentally Sensitive Methods	Varies Depending on Project and Criteria
	Provide Safe Operations and Services	\$184 - \$258 Million/Year
	Repair Deficient Pavements	\$278 - \$389 Million/Year
	Rehabilitate Structurally Deficient Bridges	\$150 - \$210 Million/Year
	Ensure State of Good Repair in Transit	\$148 - \$207 Million/Year
Enhance Economic Competitiveness (Total Need)	Expand the Port and Related Intermodal Facilities and Services	\$7.7 - \$11.0 Billion
	Support Dulles International Airport and Growth of the Dulles Corridor	\$1.7 - \$2.5 Billion
	Connect High Speed and Intercity Rail with Regional Transit Systems	\$2.8 - \$4.0 Billion
	Improve Freight Mobility	\$14.1 - \$20.5 Billion
	Improve Rural Connectivity	Varies Depending on Project
	Complete Unfinished PPTAs and Review and Refine PPTA Process to Effectively Leverage Private Dollars for Publicly Beneficial Projects	\$3.8 - \$5.8 Billion
	Develop Master Plans for Needs of Corridors of Statewide Significance	Utilize Existing Intermodal Funds
Minimize Congestion	Integrate Regional Land Uses and Highway Capacity	Requires a Dedicated Funding Source
	Implement Pricing, Advanced Technology, and Demand Management	Requires a Dedicated Funding Source
	Increase Transit Usage and Supporting Land Uses	\$128 - \$143 Million/Year

\*There are several examples of crucial game-changing infrastructure investments. These four are offered as examples because of their potential impacts on both a regional and statewide basis.

\*\*Unfunded needs are preliminary order-of-magnitude planning estimates and are subject to revision as additional information becomes available. Estimates are in 2009 dollars; the range of costs reflects allowance for contingencies. The priorities should not be summed because some improvements are included in more than one priority. For example, the Third Crossing is included in three priorities: Tunnels and Bridges in Hampton Roads; Expand the Port; and Improve Freight Mobility.

Table 2: VTrans2035 Actions and Strategies for the Future

Funding/Investment	Planning Process	Staff Resources
<ul style="list-style-type: none"> <li>• Invest More in Transportation</li> <li>• Establish Strategic Infrastructure Investment Fund</li> <li>• Establish Transit Enhancement Fund</li> <li>• Consider Regional Transportation and Land Use Performance Measures in Allocation of Primary Formula and Discretionary Funds</li> <li>• Establish Integrated Transportation/ Land Use Grant Program                             <ul style="list-style-type: none"> <li>- Establish Sustainable Development Patterns</li> <li>- Provide Funding Support for Regional Land Use Scenario Plans</li> <li>- Assist with Implementation of Transfer of Development Rights Programs and Designation of Urban Development Areas.</li> </ul> </li> <li>• Consider Corridors of Statewide Significance in Funding Decisions</li> <li>• Continue to Fund the Multimodal Planning Fund</li> </ul>	<ul style="list-style-type: none"> <li>• Develop VTrans2035 Action Plan</li> <li>• Develop Regional Transportation and Land Use Performance Measures and Goals for Urban Regions</li> <li>• VDOT to Coordinate Right-of-Way Usage for Provision of Fiber Optic Connections</li> <li>• Prepare Corridors of Statewide Significance Master Plans</li> <li>• Review Corridors of Statewide Significance Periodically</li> <li>• Continue Surface Transportation Plan and Other Modal Plans</li> <li>• Support Use of Economic Planning Tools</li> <li>• Support Dynamic Dialogue with State, Regional, and Local Partners</li> <li>• Align Subsequent VTrans Updates with Administration Cycles</li> </ul>	<ul style="list-style-type: none"> <li>• Maintain and Enhance the Office of Intermodal Planning and Investments</li> <li>• Continue the VTrans Multimodal Advisory Committee</li> </ul>

As the VSTP is updated over the next five years, an even greater integration of multimodal planning is expected; in keeping with Virginia’s policy guidance Virginians envision a multimodal transportation system that is safe, strategic, and seamless. VTrans2035 identified strategies that have been adopted by the CTB to address future transportation needs. Strategies relevant to the VSTP include:

- Invest More in Transportation. The General Assembly must substantially raise investment in transportation to keep Virginia moving.
- Establish Strategic Infrastructure Investment Fund. This fund would allow for the implementation of game-changing megaprojects such as high speed rail. The projects initially would be funded through existing sources, while new resources should be sought to continue and accelerate implementation.
- Establish Transit Enhancement Fund. This fund would be used for major transit construction improvements to expand transit capacity and leverage local and federal dollars. Local governments would be required to make commitments to provide supportive development patterns along corridors where transit expansion occurs.

- Minimize Congestion. Implement pricing and demand management strategies, among other improvements.
- Consider Regional Transportation and Land Use Performance Measures in Allocation of Primary Formula and Discretionary Funds. This funding guidance would encourage transportation and land use coordination.
- Consider Corridors of Statewide Significance (CoSS) in Funding Decisions. The CoSS needs should be part of the considerations when making transportation funding decisions.
- Continue to Fund the Multimodal Planning Fund. This fund has been used for training, planning assistance, studies, development of the statewide transportation plan, and preparation of the Transportation Performance Reports. At a minimum these efforts should continue.
- Establish Integrated Transportation/Land Use Grant Program. This grant program would be used to:
  - Establish Sustainable Development Patterns. Funds would be used for transportation improvements to local governments with land use plans that encourage compact developments.
  - Provide Funding Support for Regional Land Use Scenario Plans. Providing technical assistance or financial support to local jurisdictions to develop regional land use scenario plans that determine development patterns that are in harmony with transportation planning decisions.
  - Assist with Implementation of Transfer of Development Rights Programs and Designation of Urban Development Areas. Grants to local jurisdictions would help put in place local plans to concentrate growth which would reduce per capita vehicle miles traveled and reduce congestion.

#### What are Corridors of Statewide Significance?

The Corridors of Statewide Significance (CoSS) represent multimodal connections to the Commonwealth's activity centers. This system consists of corridors to help people and goods move between Virginia's regions and to areas outside Virginia. The corridors are transportation facilities that must be protected to ensure appropriate levels of mobility to allow for long-distance travel. Legislation enacted in 2009 requires the corridors to be designated by the Commonwealth Transportation Board and for local governments to note the corridors on transportation maps and in comprehensive plans.

There are 11 existing CoSS throughout Virginia. The purpose of which is to provide a multimodal statewide perspective to guide localities in their land use and transportation plans. Virginia must take steps now to ensure the appropriate balance of development, transportation capacity, and natural resources. The CoSS are a first step in ensuring that these corridors are invested in and protected for the future.

## THE 2035 VIRGINIA SURFACE TRANSPORTATION PLAN

The VSTP will be used as a guiding document that identifies multimodal solutions. As Virginia seeks to address specific transportation problems, the recommendations identified in the following chapter offer a range of solutions for consideration. Many alternative solutions are recommended in this plan, such as employing Intelligent Transportation Systems (ITS) and Transportation Demand Management (TDM) strategies to improve the efficiency of existing infrastructure. VDOT and DRPT will use these recommendations to pursue the development of a fully integrated analysis that demonstrates the benefits of multiple modes working together in a coordinated solution. This will require significant effort and will be a goal that the transportation agencies of the Commonwealth continue to work toward. It is anticipated that this analysis will be completed for inclusion in the next update of the Virginia Surface Transportation Plan. Likewise, creating a link between transportation and land use can also help increase the mobility of Virginia residents. For example, development patterns can directly influence future transportation needs as follows:

**DENSITY:** Increased development density increases the need for transit and promotes mixed use development.

**MIXED-USE:** Multiple land use types in the same area can reduce vehicle trips by containing a trip's origin and destination in the same site, and by promoting walking and/or biking.

**DESIGN:** Development design that accommodates walking, biking and transit also serves to reduce vehicle trips.

These concepts comprise the elements of both smart growth and transit-oriented design. Broader elements of site and community design, such as greenways and street networking can also contribute to reduced vehicle travel, reduced congestion on main roads, and improve the mobility and quality of life for Virginia's residents.

The planning and construction of new highways, implementation and expansion of public transportation systems, and other transportation improvements affect existing land uses and plans for future development. The type and pattern of development influence travel patterns, and influence demand for transportation facilities. In Virginia, land use is regulated by local governments, while transportation planning and funding decisions are generally made at the state level.

Improving the coordination between transportation and land use planning is essential for ensuring mobility throughout the Commonwealth. VDOT and DRPT are both committed to working closely with local governments and stakeholders to improve the coordination between transportation and land use in Virginia.

The VSTP was developed by VDOT and DRPT to promote the efficient, cost-effective and sustainable planning of the Commonwealth's surface transportation system.

## HOW WAS THE PUBLIC INVOLVED

Public input was an essential component in the development of the VSTP and all plans and studies that contributed to its content. Members of the public provided feedback on the recommendations through a series of public meetings, held in various locations throughout the state in coordination with the VTrans2035 public outreach effort. Four separate meetings were held as follows:

### Monday, June 22, 2009

- Mary Henderson Middle School, Falls Church, Virginia
- 35 Attendees

### Wednesday, June 24, 2009

- Maggie Walker Governor's School, Richmond, Virginia
- 31 Attendees



### Thursday, June 25, 2009

- Hampton Roads Planning District Commission, Chesapeake, Virginia
- 25 Attendees

### Thursday, July 9, 2009

- Hidden Valley High School, Roanoke, Virginia
- 30 Attendees

In addition to on-site meetings, a virtual open house was made available through the VTrans website from Monday, June 22 through Tuesday, July 21, 2009. The virtual site included all materials available at the on-site meetings and included supplemental explanation to guide participants through the site. A total of 130 people submitted their comments through the virtual open house site during this time period. In addition, the VSTP was available for public comment from June 16 to July 31, 2010. **Over 360 comments were received during this 45 day period.**

## THE VSTP REGIONS

Five regions were established for the purpose of organizing the VSTP recommendations. The five VSTP regions are based on the nine VDOT Construction and Maintenance District boundaries. The VSTP regions are for data presentation purposes only and are not intended to represent or imply any realignment or reconfiguration of the VDOT Construction and Maintenance Districts. The five VSTP regions and associated Construction and Maintenance districts are comprised as follows:

### Valley and Ridge Region

- Staunton District
- Salem District
- Bristol District

### Northern Region

- Northern Virginia District

### Blue Ridge Region

- Culpeper District
- Lynchburg District

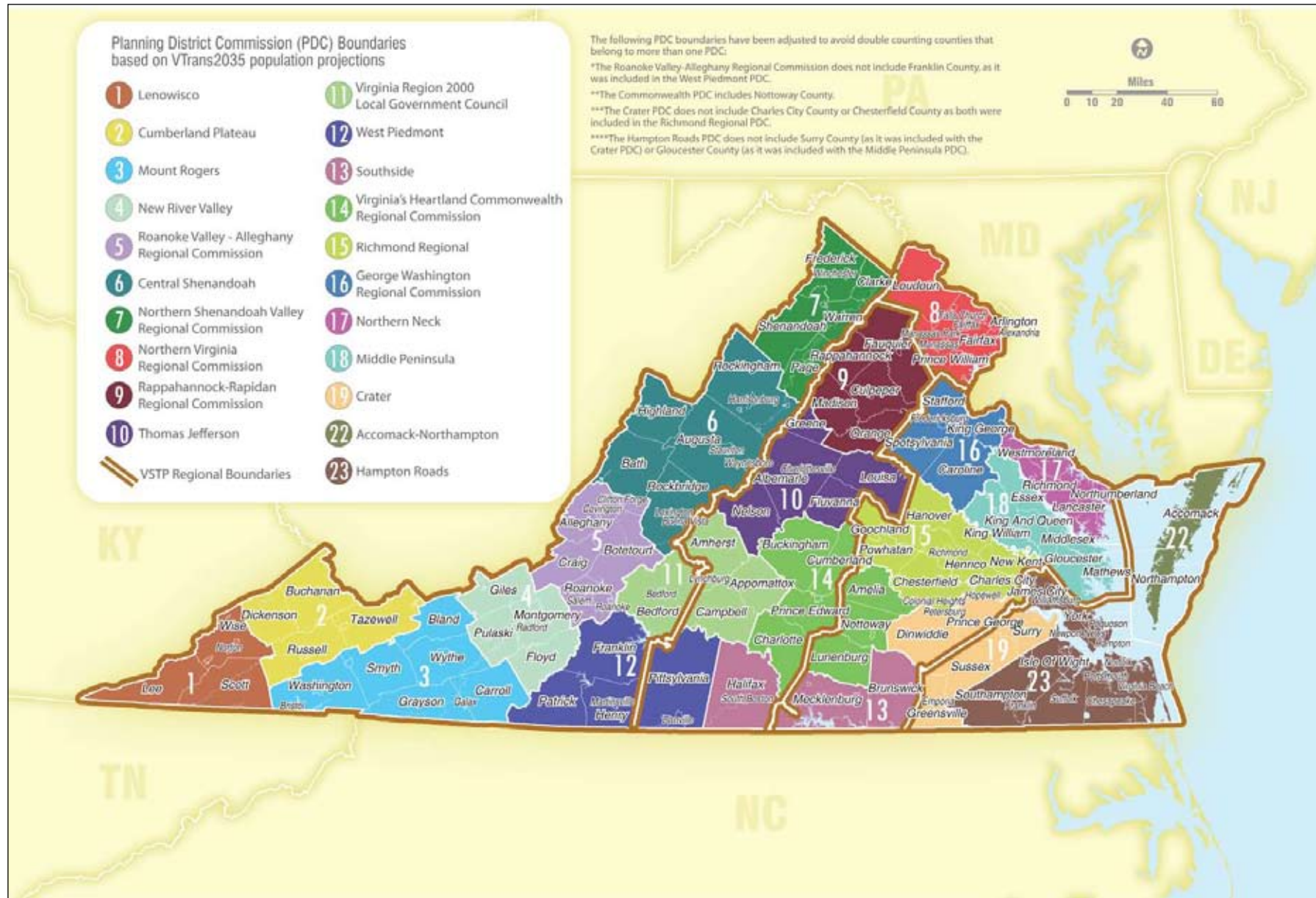
### Piedmont Region

- Fredericksburg District
- Richmond District





Figure 3: PDC and VSTP Region Boundaries



## WHAT ARE VDOT CONSTRUCTION AND MAINTENANCE DISTRICTS?

The Virginia General Assembly established the first State Highway Commission in 1906. The original mission of the Commission was, “to maintain, operate, and construct the primary system of highways around the Commonwealth.” The first 4,000 miles of Virginia’s highway system were established in 1918. In order to facilitate the allocation of new federal highway funds, the General Assembly designated eight construction districts. Those districts remain in place today with one addition: the Northern Virginia District was added in 1983.

## WHAT ARE PLANNING DISTRICT COMMISSIONS (PDC)?

A Planning District Commission is a political subdivision of the Commonwealth. In 1968, Virginia identified planning districts based on the community of interest among its counties, cities, and towns. There are 21 PDCs in Virginia. They are made up of elected officials and citizens appointed to the Commission by member local governments. The Commission selects an Executive Director responsible for managing daily operations. Commission offices are located generally in a central location for the region as determined by the Commission charter.

Virginia’s PDCs provide a variety of technical and program services to member local governments, such as management services for program implementation, land use planning services and mapping, and an opportunity for regional public involvement in the planning process added in 1983.

All demographic data used throughout this document are based on estimates provided by NPA Data Services Inc. and the Virginia Employment Commission for VTrans2035. This data was generated at the Planning District Commission (PDC) level. Figure 3 is a map of the Commonwealth’s 21 PDCs and the overlying VSTP regions. The demographic and socioeconomic forecasts included in Chapters 2, 3 and 6 of this document are all based on this data; thus, the discussion of the data will be at the PDC regional level.

## THE VSTP MODAL ELEMENTS

At its core, the VSTP is a coordinated multimodal plan for Virginia that includes findings and recommendations for highways, public transportation (including bus and rail transit) and human services transportation, rail, freight, and bicycle and pedestrian modes. In addition, the VSTP includes findings and recommendations for transportation demand management strategies (carpooling, vanpooling, teleworking, etc.) and intelligent transportation systems (ITS). The role of each of these modal elements in the VSTP is summarized in this chapter.



[Department of Rail and Public Transportation \(DRPT\)](#)

State agency responsible for rail, public transit, and commuter services initiatives in Virginia.

## PUBLIC TRANSPORTATION ELEMENT

Virginia, like many states across the country, is experiencing a surge in the use of public transportation and demand for new and expanded public transportation systems. At the same time, the Commonwealth’s public transit vehicles and infrastructure are aging and current funding levels are unlikely to maintain transit assets to the state of good repair standards established by the Federal Transit Administration (FTA). Virginia is focusing on maintaining the assets public transportation operators currently have,

maintaining acceptable levels of service and looking toward the future to keep up with population growth and economic conditions. The public transportation element of the VSTP focuses on balancing three key goals: maintaining current public transportation assets and infrastructure in a state of good repair; expanding capacity by introducing and improving services to areas that have a growing or unmet demand for transit; and identifying the need for investing in major capital projects, including rapid transit systems.

The public transportation element of the VSTP and corresponding recommendations were developed based on the framework established by the VTrans2035 goals. Recommendations of the public transportation element are reviewed on an annual basis, and major updates occur every five years in conjunction with VTrans updates. Trends in employment and population throughout the Commonwealth play a critical role in understanding where the demand for transit will continue or grow in the future, requiring the maintenance and/or expansion of public transportation services. In addition to assessing areas that currently have transit services, areas throughout the state that exhibit the necessary characteristics to support

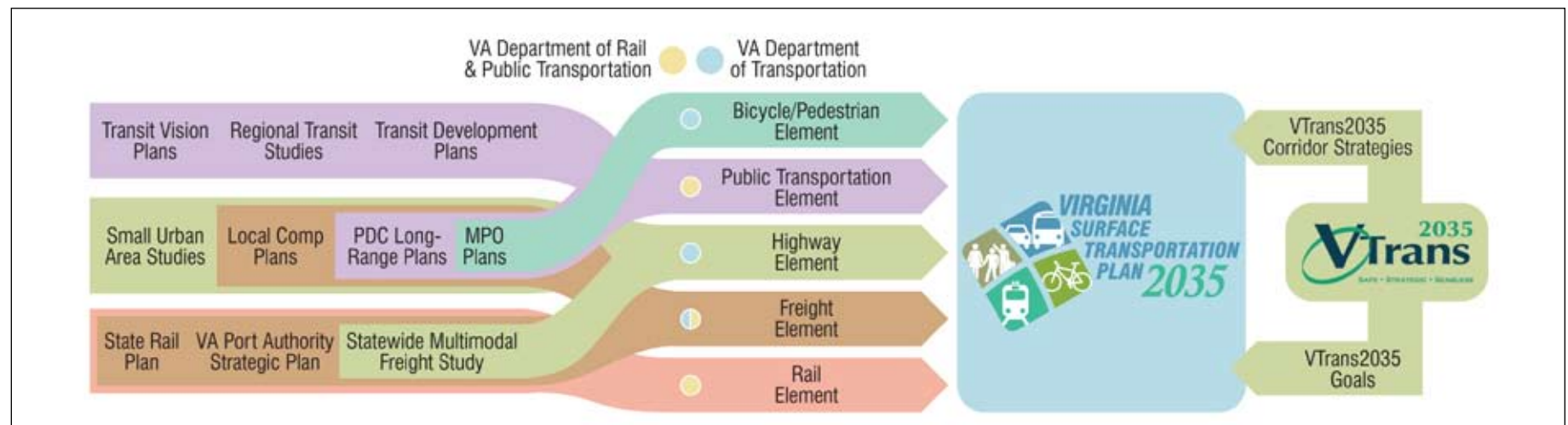
new or expanded services were also identified. Transit Development Plans and Vision Plans from operators, regions and localities across the state were also analyzed to identify measures needed to keep up with current and future transit demand. Recommendations were also coordinated with long-range planning recommendations from:

- Metropolitan Planning Organization (MPO) Plans
- Planning District Commission (PDC) Regional Long-Range Plans\*
- Transit Development Plans
- Regional Transit Studies
- Transit Vision Plans

Recommendations focusing on maintaining a state of good repair, implementing new and expanded services, and improving system operations through greater use of technology were developed for public transportation, human services transportation, and transportation demand management (TDM).

*\*Note that many PDCs are still developing Regional Long-Range Plans at the time of this writing.*

Figure 4: Plan Element Flow Chart



## RAIL ELEMENT

Rail transportation plays an important role in Virginia's evolving transportation network. It reduces highway congestion and air pollution by redirecting cargo from trucks to rail and diverting people from cars to passenger rail. DRPT is responsible for identifying and updating rail needs, priority corridors, and capacity chokepoints across the state through the development of a Statewide Rail Plan.

### State of Good Repair

Standard of maintenance required by the FTA to ensure safe and reliable service by public transportation systems.

### Transportation Demand Management

Comprises strategies and methods for reducing automobile usage, such as promoting carpooling, transit, telecommuting, and non-motorized transportation.

### Fixed Route Bus and Rail Transit

Fixed route services follow a published route and schedule that provide local or regional travel.

### Demand Response Transit

Form of public transportation characterized by flexible routing and scheduling of small/medium vehicles providing pick-up and drop-off services at locations according to passengers' needs. Paratransit service is provided to those who cannot use fixed route service.

### Human Services Transportation

Provides transportation service to individuals with disabilities, older adults, and low income individuals.

The Statewide Rail Plan<sup>1</sup> is updated every five years and addresses new challenges and opportunities for passenger and freight rail in Virginia. The current plan was completed in 2008.

The 2008 Statewide Rail Plan provides high-level information on existing rail conditions and programs in Virginia today as well as rail needs for the future, with a focus on identifying key corridors and potential investments to meet the Commonwealth's transportation goals.

Virginia's rail planning recommendations are project specific and they have a particularly strong focus on developing higher speed passenger rail and improving current infrastructure to accommodate this type of service. The list of recommendations is updated every five years in conjunction with VTrans updates and is coordinated with long-range planning recommendations from:

- Virginia Port Authority Strategic Plan
- VDOT's long-range highway planning recommendations

## FREIGHT ELEMENT

Virginia completed its first Statewide Multimodal Freight Study in 2009. The study identifies the Commonwealth's freight-supporting infrastructure, forecasts traffic and future needs, and provides recommendations for statewide transportation planning and programming policies. The Multimodal Office coordinated this effort across four modal agencies – VDOT, DOAV, VPA and DRPT. A multimodal freight advisory committee comprised of private and public sector stakeholders provided input to and feedback on the Freight Study and provided recommendations to the Secretary of Transportation that include issues, needs, and concerns of the Commonwealth's private freight industry.

<sup>1</sup> <http://www.drpt.virginia.gov/studies/default.aspx>

### The Virginia Statewide Multimodal Freight Study:

- provides an inventory of the existing freight network by its key components: highway, rail, air, ports, intermodal facilities and connectors, and distribution centers;
- identifies current and future needs on the system;
- addresses the economic impact of freight movement at a high level;
- provides recommendations for statewide transportation planning and programming policies; and
- includes an extensive program of coordination among public sector agencies, including regional planning bodies, and outreach to public and private stakeholders.

The Freight Study includes recommendations for strategic capital investment and policy. The list of recommendations is updated every five years in conjunction with VTrans updates and is coordinated with long-range planning recommendations from:

- Metropolitan Planning Organization (MPO) Plans
- Planning District Commission (PDC) Regional Long-Range Plans\*
- Local Comprehensive Plans
- State Rail Plan
- VDOT's long-range highway planning recommendations

## BICYCLE AND PEDESTRIAN ELEMENT

The Policy for Integrating Bicycle and Pedestrian Accommodations<sup>2</sup> stipulates that VDOT initiate all highway construction and maintenance projects with the presumption that the projects shall accommodate bicycling and walking. VDOT has embarked on a three-tiered approach to further integrate the policy in daily VDOT business practices, which includes:

\*Note that many PDCs are still developing Regional Long-Range Plans at the time of this writing.

- Development of a Bicycle Policy Plan
- Development of a Pedestrian Policy Plan
- Implementation Plan for both the Bicycle and Pedestrian Policy Plans

VDOT is currently developing a Statewide Bicycle Policy Plan that provides a framework to implement the bicycle portion of that policy and establishes a vision for the future of bicycling in the Commonwealth. It builds upon past VDOT initiatives to ensure that bicycle facilities are an integral component of the transportation system. It provides goals and objectives, recommends actions, and sets a platform for the development of a series of performance measures that will track progress over time. The Statewide Bicycle Policy Plan specifically addresses the following areas:

- The Plan provides strategies for enhancing the implementation of the Policy for Integrating Bicycle and Pedestrian Accommodations approved by the CTB in 2004.
- It establishes policies to guide the planning and design of bicycle facilities.
- It identifies opportunities for enhancing coordination between and within the various levels of VDOT, as well as with stakeholders outside of the organization.
- It recommends training programs needed for professionals who are responsible for planning and designing bicycle facilities.
- It sets forward benchmarks for tracking the implementation over time.

The Bicycle Policy Plan does not identify specific bicycle and pedestrian projects, but provides planning level guidance and policies that have been integrated into the recommendations of the VSTP and addresses the need for providing access, connectivity, and integration across individual modes to make bicycling a safe and feasible commuting and recreational alternative.

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<sup>2</sup> <http://www.vdot.virginia.gov/programs/bk-default.asp>

## HIGHWAY ELEMENT

Using the VTrans2035 goals, VDOT evaluated the performance of the highway system, identified deficiencies, and developed suggested highway improvements to support the highway element of the VSTP. Recommended roadway improvements include capacity expansion (widening existing and adding new facilities), spot improvements (interchange improvements, intersection improvements), ITS and transportation demand management (High Occupancy Vehicle or HOV, Park and Ride, Bike/Ped). From the highway perspective, the VSTP will be used to help identify highway projects for inclusion in the Six-Year Improvement Program and areas for potential public-private transportation projects. It is important to note that the VSTP is a 20-year long-range plan and is not a construction plan. Inclusion of a recommendation in the plan does not represent a commitment to implementation.

The highway element of the VSTP focuses on a Statewide Mobility System (SMS) network of roadways. The SMS network represents the highway system of statewide significance and totals 5,769 centerline miles. The SMS identifies highway facilities that are essential to the movement of people and goods ensuring that all regions of Virginia are reasonably accessible.

The highway element of the VSTP and corresponding recommendations were developed based on the framework established by the VTrans2035 goals and priorities. VDOT's long-range highway planning recommendations focus on improving safety, improving the condition of pavements and structures, and relieving congestion. Recommendations are updated every five years in conjunction with VTrans updates and coordinated with long-range planning recommendations from:

- Metropolitan Planning Organization (MPO) Plans
- Planning District Commission (PDC) Regional Long-Range Plans\*
- Small Urban Area Studies
- Local Comprehensive Plans
- Statewide Multimodal Freight Study

While the VSTP is the state's plan and some recommendations may vary from those presented in the MPO plans, the MPO recommendations were used as the basis for developing the list of suggested projects within each urban study area. MPOs and PDCs were afforded an opportunity to review all VSTP highway recommendations during the development of this plan.

## VSTP DOCUMENT LAYOUT

The VSTP includes proactive, forward-thinking recommendations for highway, public transportation, rail, and freight modes embracing VTrans2035 policy-level recommendations. The VSTP may guide not only future transportation investments but also the policies and initiatives necessary to meet the needs and fulfill the vision presented in the plan. This plan consists of the following elements and chapters:

**CHAPTER 2: Changes in Population, Employment and Travel in Virginia**  
Chapter 2 focuses on the existing and future trends for population and employment growth, daily vehicle miles traveled (DVMT) and jobs / housing balance. Analyses of anticipated changes in these demographic and socioeconomic characteristics provide us with a clear picture of where we are now and where we are heading as a Commonwealth. These changes will have a direct impact on our needs for highway, public transportation, rail, freight, and non-motorized transportation infrastructure.

*\*Note that many PDCs are still developing Regional Long-Range Plans at the time of this writing.*

### CHAPTER 3: Existing Transportation Facilities in Virginia

Virginia has an extensive multimodal transportation system. Virginia's transportation agencies are being asked not only to keep these assets in good condition, but also to expand the supply. Stewardship of these transportation assets is becoming increasingly challenging as both financial and staff resources are shrinking. Chapter 3 provides an overview of the existing transportation assets for each of the modal elements (Highway, Public Transportation, Rail, Freight, Bicycle and Pedestrian) throughout the Commonwealth, an overview of the anticipated future conditions for these modes, and their relationship to transportation needs.

### CHAPTER 4: Developing the Recommendations

Today, decision-makers face unprecedented challenges in funding the operation, maintenance and expansion of the transportation system. Virginians want a quality transportation system that provides a good quality of life and economic prosperity. Fundamentally, it must be safe, reliable and seamless. It will use state-of-the-practice technology to increase public communication, safety and effectiveness across all transportation modes. To achieve these goals and the goals of VTrans2035, Virginia must be proactive and identify innovative, forward-thinking solutions for the future of transportation throughout the Commonwealth. Chapter 4 indicates the methodology used in the development of the detailed recommendations.

### CHAPTER 5: Transportation Funding in Virginia

To address the expansive transportation needs of the Commonwealth there must be innovative, collaborative funding mechanisms as well as streamlined and enhanced collaboration. Chapter 5 provides an overview of each of these areas and how they affect transportation decision-making and the implementation of the recommendations, strategies and policies identified in Chapter 6.

#### Statewide Mobility System (SMS)\*

The 5,769 miles of interstate and primary roads that are essential to the movement of people and goods in Virginia.

#### Centerline Miles

Actual length of roadway in one direction of travel.

#### ITS

Intelligent Transportation Systems are a broad range of information and electronic technologies that improve transportation safety and mobility.

#### HOV – High Occupancy Vehicle

Generally used to describe a lane or lanes dedicated to passenger vehicles transporting more than one individual.

#### Six-Year Improvement Program

Document approved by the CTB that allocates funding for transportation projects proposed for construction, development or study in the next six fiscal years.

### CHAPTER 6: VSTP Recommendations

Chapter 6 includes a comprehensive listing of recommendations, strategies, and policies from all modes to address the goals. This chapter is organized into five sub-sections, one for each VSTP region, which provide an overview of the characteristics, needs and recommendations specific to these areas of the Commonwealth.

*\*For more detail on the SMS see p. 39.*

