

Chapter 5

VTrans2035 Investment Priorities

Virginians look for different things from their transportation system, but what is consistent is the need for a quality system that enhances the Commonwealth's long-term economic competitiveness and improves the quality of life for its citizens. Previous chapters included discussions on how Virginia will change in the future and what must be done to address those changes. Common themes that point the way to what should be at the top of Virginia's list of investments include:

- Congestion ranks as a major issue for Virginia's long-term competitiveness and quality of life;
- Investment in transit as well as both passenger and freight rail would support Virginia's key economic engines (Dulles Airport and Port of Virginia), at the same time as addressing safety, congestion, and climate change issues;
- Technology provides opportunities to increase capacity in a cost-efficient, sustainable, and environmentally sensitive manner;
- Land use decisions must be better coordinated with transportation planning and investment decisions to better address congestion, regional accessibility, climate change, and the cost of transportation improvements;
- There is a backlog of maintenance needs now, and as the transportation system grows, the costs to maintain the system will increase; and
- As needs continue to grow, long term trends in fuel consumption as well as inflation are adversely affecting traditional funding mechanisms for transportation investment.

What Are Virginia's Transportation Priorities?

The immediate economic and financial challenges cannot be dismissed, but they also cannot be allowed to dictate or constrain the future. Maintenance keeps Virginia's transportation system functioning, but investment in it moves the Commonwealth forward. The preceding chapters illustrated that Virginia's transportation needs will continue to emerge quickly as Virginia continues to grow, both in population and employment. The needs are across the Commonwealth and across all modes.

There will always be a sizable gap between available revenues and transportation needs. Instead of following the VTrans2025 methodology of identifying the gap, VTrans2035 takes a more strategic and focused approach to needs by identifying key transportation investment priorities Virginia needs to prosper and thrive in a fast changing environment. The VTrans2035 investment priorities are listed in Exhibit 29.

VTrans2035 Investment Priorities	
I. Make Strategic Investment in Infrastructure for the Future	For Example: <ul style="list-style-type: none">▪ High Speed Rail Between Washington D.C., Richmond, and Hampton Roads, and Metrorail and/or Commuter Rail Extensions in NoVA along I-95 to Fredericksburg▪ Freight Rail Along I-81▪ Tunnels in Hampton Roads▪ Smart System Technology Leadership
II. Address Safety and Maintenance Needs	<ul style="list-style-type: none">▪ Provide Safe Operations and Services▪ Repair Deficient Pavements▪ Rehabilitate Structurally Deficient Bridges▪ Ensure State of Good Repair in Transit▪ Use Sustainable and Environmentally Sensitive Methods
III. Enhance Economic Competitiveness	<ul style="list-style-type: none">▪ Expand the Port and Related Intermodal Facilities and Services▪ Support Dulles International Airport and Growth of the Dulles Corridor▪ Plan for and Invest in High Speed and Intercity Rail▪ Improve Freight Mobility▪ Improve Rural Connectivity▪ Review and Refine PPTA Process to Leverage Private Dollars for Publically Beneficial Projects▪ Develop Master Plans for Needs of Corridors of Statewide Significance
IV. Minimize Congestion	<ul style="list-style-type: none">▪ Integrate Regional Land Uses and Highway Capacity▪ Implement Pricing and Demand Management▪ Increase Transit Usage and Supporting Land Uses

Exhibit 29. VTrans2035 Investment Priorities

There are four broad categories of investment priorities to guide Virginia over the next 25 years. They include:

- Strategic, game-changing megaprojects that are crucial for Virginia to realize its future potential as a quality place to live and do business;
- Safety and maintenance needs to protect Virginians as well as past investments in infrastructure;
- Investments to enhance Virginia’s economic competitiveness; and
- Actions to minimize congestion.

While the investment priorities are grouped into these categories, there is overlap. Actions that minimize congestion help to enhance economic competitiveness by improving the reliability of the transportation system. A safe and well maintained transportation system also supports economic competitiveness and helps to minimize congestion by reducing the potential for incidents that disrupt the flow of people and goods.

These investment priorities paint a picture of a different transportation system than exists today. There are more transportation choices, more high-speed connections for people, goods, and information, and better land use and transportation integration to reduce travel demands. Making these investment priorities a reality will yield a sustainable transportation system that does not degrade the environment and enhances quality of life.

The investment priorities speak to Virginians of every age and almost every transportation concern. Better integration of land use and highway capacity encourages compact developments that are conducive to walking and bicycling. More transit increases the mobility options of the elderly and helps reduce congestion. These investment priorities are not only about addressing the transportation issues of today's urbanized areas, but are also for guiding transportation investments and decisions in the rural and suburban areas that face their own mobility and congestion problems.

A snapshot description of each investment priority category and the individual priorities within them follow. Order-of-magnitude preliminary planning estimates in 2009 dollars of unfunded needs are included, and are summarized in Exhibit 30. These planning estimates provide a general sense of the level of additional investment that would be required to implement the investment priorities and are subject to revision as additional information becomes available.

The investment priorities and their unfunded needs are presented in a menu format. This permits the reader to focus on the background and unfunded needs for an individual investment priority. In most cases the Commonwealth is likely to be the primary funding source, but in some cases the cost of the priorities may be borne by other funding partners (i.e., federal, local, and private partners). At this preliminary planning stage, a detailed breakdown is not available, but costs would be revised as priorities advance through the project development process. The anticipated unfunded need totals at least an average of \$1.4 to \$1.5 billion annually for the next 25 years.

There is overlap in some of the investment priorities. For example, Tunnels in Hampton Roads include projects that are also included in the Expand the Port priority. Some of the PPTA projects relate to freight mobility. The unfunded cost appears just once. When the improvement is part of a subsequent priority, reference is made to the fact that the unfunded need was included in a previous priority.

Investment Priority Group	Investment Priority	Preliminary Planning Estimate of Annual Unfunded Need (2009\$) over 25-year Period*
Make Strategic Investment in Infrastructure for the Future – For Example	High Speed Rail Between Washington, D.C., Richmond, and Hampton Roads, and Metrorail and/or Commuter Rail Extensions in NoVA Along I-95 to Fredericksburg	\$128-\$148 million
	Freight Rail Along I-81	\$26 million
	Tunnels in Hampton Roads	\$272-\$320 million
	Smart System Technology Leadership	To be determined
Address Safety and Maintenance Needs	Provide Safe Operations and Services	\$184 million
	Repair Deficient Pavements	\$278 million
	Rehabilitate Structurally Deficient Bridges	\$150 million
	Ensure State of Good Repair in Transit	\$233 million
	Use Sustainable and Environmentally Sensitive Methods	To be determined
Enhance Economic Competitiveness	Expand the Port and Related Intermodal Facilities and Services	\$8 million
	Support Dulles International Airport and Growth of the Dulles Corridor	\$14 million
	Plan for and Invest in High Speed and Intercity Rail	To be determined
	Improve Freight Mobility	To be determined
	Improve Rural Connectivity	To be determined
	Review and Refine PPTA Process to Leverage Private Dollars for Publically Beneficial Projects	\$140-\$168 million
	Develop Master Plans for Needs of Corridors of Statewide Significance	To be determined
	Minimize Congestion	Integrate Regional Land Uses and Highway Capacity
Implement Pricing and Demand Management		To be determined
Increase Transit Usage and Supporting Land Uses		To be determined

*Unfunded needs are preliminary planning estimates and are subject to revision as additional information becomes available. Estimates are average annual costs over a 25-year period.

Exhibit 30. Unfunded Needs of VTrans2035 Investment Priorities

I. Make Strategic Investment in Infrastructure for the Future

There are “game-changing investments” that can reposition Virginia’s competitiveness and quality of life over the next quarter-century. They will be megaprojects, rising above other projects in their overall benefits to the Commonwealth. A game-changing investment will be one that if not completed the economy of Virginia as a whole could be adversely affected. These projects will move both people and goods through Virginia, improving mobility, and enhancing economic competitiveness.

For example, the combination of improved rail through the I-95 corridor (including expanded regional/commuter rail in Northern Virginia, fully functional, modern freight rail in the I-81 corridor, an expanded network of tunnels in Hampton Roads, and smart system technology leadership can provide benefits for all Virginians by enhancing statewide economic opportunities, improving congestion in corridors critical to Virginia, and creating cost-effective capacity through technology.

Make Strategic Investment in Infrastructure for the Future Priorities

For Example:

- High Speed Rail between Washington, D.C., Richmond and Hampton Roads, and Metrorail and/or Commuter Rail Extensions in NoVA along I-95 to Fredericksburg
- Freight Rail along I-81
- Tunnels in Hampton Roads
- Smart System Technology Leadership

These projects deliver extraordinary statewide benefits but are too big to be completed through year to year allocation of existing funding sources. They should be funded through current sources, and new resources should be sought to continue and accelerate implementation.

A VTrans2035 recommendation is for the establishment of a Strategic Infrastructure Investment Fund. This would be funded with new revenue sources that must be found to move Virginia toward its vision.

Recommendation:

- Establish Strategic Infrastructure Investment Fund

High Speed Rail between Washington, D.C., Richmond, and Hampton Roads, and Metrorail and/or Commuter Rail Extensions in NoVA along I-95 to Fredericksburg

High speed rail will dramatically change lives much like the completion of the interstate highway system did. It is a clean, energy-efficient mode that would reduce traffic volumes, decrease greenhouse gases, improve safety through reduced traffic volumes, create jobs, support the economy, and promote sustainable communities. It requires the same focus and dedication to become a reality that the construction of the interstate system received.

High speed rail is one component in a network of passenger rail and transit improvements that will connect Virginia’s communities. High speed rail along I-95 would serve as the backbone or spine of a system connecting to regional rail (WMATA) in NoVA and in the future to The Tide light rail system in Norfolk and Virginia Beach. Regular transit service would be another component of the system, such as the planned bus rapid transit system in Richmond that will serve Main Street station.

Make Strategic Investment in Infrastructure for the Future
Priority: High Speed Rail between Washington, D.C., Richmond, and Hampton Roads, and Metrorail and/or Commuter Rail Extensions in NoVA along I-95 to Fredericksburg
Unfunded Need: \$80-\$100 million annually for a total of \$2.0 to \$2.5 billion minimum cost for high speed rail portion, \$48 million annually for a total of \$1.2 billion for improvements to Metrorail and/or commuter rail between Washington and Fredericksburg
<p>Background:</p> <ul style="list-style-type: none"> • High Speed Rail service can strengthen the economy and decrease congestion, two of the VTrans2035 Investment Priority categories • High Speed Rail can sustain the environment by reducing greenhouse gas emissions and pollutants • Virginia has submitted two high speed rail applications for funding from the American Reinvestment and Recovery Act • Further investment in Metrorail and/or commuter rail extensions is needed to address congestion along the I-95 corridor

Virginia has worked to advance high speed rail in the I-95 corridor for many years. The Southeast High Speed Rail Corridor will extend service from Washington, D.C. to Richmond, and on to Raleigh, N.C. and Charlotte, N.C. It will also expand east from Richmond to Hampton Roads.

Recently, Virginia submitted two high speed rail applications for America Recovery and Reinvestment Act funds totaling over \$1.8 billion and has identified approximately \$330 - \$844 million of capital needs for high speed rail between Richmond and Hampton Roads, pending route selection. Once the preferred alternative is selected, the route would be eligible for federal high speed rail funding.

The infrastructure improvements being proposed would allow for trains to travel up to 90 mph, with opportunity for improvement to 110 mph, a speed that would reduce the travel time and increase train reliability compared to what it is today. Many of the improvements could also benefit rail freight movements in the corridor and commuter travel on the VRE.

The area between Washington, D.C. and Fredericksburg is expected to have the highest percentage growth in population and jobs in Virginia over the next 25 years. Expansion of multimodal options must be a key consideration. Improved frequencies, capacity, and route extensions of VRE between Washington, D.C. and Fredericksburg and possible extension of Metrorail farther out are crucial investments not only for the communities along this section of I-95, but for the safety and security of the nation as a whole. The I-95 corridor is of strategic military importance and protecting the capacity of it with expanded regional multimodal options benefits all.

Freight Rail along I-81

Today, there is both truck and rail service in the I-81 corridor. I-81 has the highest share of truck traffic and carries the second-highest number of trucks of any major route in Virginia. I-95 carries more trucks than I-81 but it has more travel lanes and more automobile traffic. Approximately, three and a half million trucks use I-81 annually, and this number is expected to more than double by 2035. The majority of the trucks (62%) have no origin or destination in Virginia making this an appealing market for diversion to rail. If rail can offer improved cost, reliability, and speed relative to trucking, then some share of trucks could be expected to divert to rail.

Make Strategic Investment in Infrastructure for the Future
Priority: Freight Rail along I-81
Unfunded Need: \$26 million annually for a total of \$662 million
Background: <ul style="list-style-type: none"> • I-81 is a major freight corridor handling nearly 3.4 million trucks in 2008 • Truck traffic is expected to more than double by 2035 to 7.1 million trucks • Crescent Corridor rail improvements can address freight mobility needs and reduce truck traffic on I-81

The *Draft Report Feasibility Plan for Maximum Truck to Rail Diversion in Virginia's I-81 Corridor* completed in 2009 determined that shifting truck to rail can be accomplished through improvements to conventional technology and shifting to open technology. Norfolk Southern is the owner and operator of the two primary rail routes paralleling I-81 – the Piedmont Line and the Shenandoah Line. Improving both lines in Virginia and other states could divert about 458,000 trucks annually – 13.5% of all trucks – from I-81 and cost approximately \$512 million in the Commonwealth of Virginia, alone. The use of open technology which transfers entire truck bodies onto and off of railcars would divert an additional 229,000 trucks per year and cost an additional \$50 million in Virginia. If both of these, as well as improvements to intermodal facilities, are implemented, they could result in a total of 772,340 diverted trucks representing 22.8% of the I-81 trucks, at a cost within the Commonwealth of Virginia of \$662 million or \$857 per unit. Additional strategies and their costs are discussed in Draft Report although the feasibility of those strategies is unknown.

Tunnels in Hampton Roads

Following the Washington, D.C./Northern Virginia metropolitan area, the Hampton Roads area is the second most congested in Virginia. According to the Texas Transportation Institute 2009 *Urban Mobility Report*, in 2007 a typical traveler in the Hampton Roads area spent 29 hours per year sitting in traffic, typically at tunnels and bridges. Employment and population growth projections coupled with growth in cargo through the Port of Virginia will decrease mobility further over the next 25 years. The Hampton Roads Third Crossing, Hampton Roads Bridge-Tunnel Expansion, and Downtown/Midtown Tunnel and Martin Luther King Freeway (MLK) Extension projects not only address mobility issues for the area but also enhance economic competitiveness for the region and Commonwealth, improve safety for motorists, and enhance emergency evacuation capacity.

Make Strategic Investment in Infrastructure for the Future
Priority: Tunnels in Hampton Roads
Unfunded Need: \$272-\$320 million annually for a total of \$6.8-\$8.0 billion
Background: <ul style="list-style-type: none"> • Viability of the Hampton Roads area is important to the entire well-being of the Commonwealth • Tunnels are critical to safety, mobility, and economic competitiveness of the region • Improvements are needed for: <ul style="list-style-type: none"> – Hampton Roads Third Crossing – Hampton Roads Bridge-Tunnel Expansion – Downtown/Midtown Tunnel and MLK Extension

Hampton Roads Third Crossing - The Hampton Roads Third Crossing Study was initiated in late 1993 to investigate methods of improving mobility across Hampton Roads and relieving congestion at the I-64 Hampton Roads Bridge-Tunnel. Several alternatives were considered in selecting a crossing design and location. Both the Hampton Roads MPO and the CTB reviewed the alternatives and selected Corridor 9 as the locally preferred corridor. Corridor 9 involves the following:

- Widening I-664 in Newport News to eight lanes;
- Constructing two new tubes parallel to the Monitor Merrimac Memorial Bridge Tunnel, adding four more lanes for travel;
- Constructing an additional new multimodal tube to add transit/rail lines from the Monitor Merrimac Memorial Bridge Tunnel to near the Norfolk Naval Station;
- Adding a new four-lane highway connector from the new bridge tunnel to the Western Freeway in Portsmouth; and
- Widening I-664 to six lanes from the Monitor Merrimac Memorial Bridge Tunnel to the Bowers Hill interchange.

Benefits from this project include but are not limited to: reduced congestion in the Hampton Roads Bridge-Tunnel; improved total mobility across Hampton Roads; new access to Norfolk International Terminals and Naval Base; improved access to the Newport News Marine Terminal and Newport News Shipbuilding and Drydock Company; improved access to the Portsmouth Marine Terminal and Portsmouth Naval facilities; and connections to existing expressways on the Peninsula and Southside.

In 2004, VDOT received unsolicited competing conceptual proposals for creating the Hampton Roads Crossing. The estimated cost for completing the project is \$4.3 billion (2009 dollars).

Hampton Roads Bridge-Tunnel Expansion – In 2008, VDOT contracted with a team of engineering consultants to study and assess each of the six alternatives to mitigate the recurring congestion at the Hampton Roads Bridge-Tunnel (HRBT). The study area is generally described as the portion of I-64 stretching from I-64/I-664 Interchange in the City of Hampton on the Peninsula to the I-64/I-564 Interchange in the City of Norfolk on the Southside. The six study alternatives were defined as follows:

- Alternative 1: Add two additional lanes of bridge-tunnel capacity to provide a contiguous, six-lane facility;
- Alternative 2: Add two additional lanes of reversible bridge-tunnel capacity to provide greater peak period and evacuation capacity;
- Alternative 3: Add four additional lanes of bridge-tunnel capacity; approximate corridor limits are from I-64/I-664 Interchange to I-64/I-564 Interchange;
- Alternative 4: Add four additional lanes of bridge-tunnel capacity, including two multimodal lanes;
- Alternative 5: Add two additional lanes of bridge capacity to provide a contiguous, six-lane facility; and
- Alternative 6: Add four additional lanes of bridge capacity.

The *Hampton Roads Bridge-Tunnel, Expansion Feasibility Study* was completed in December 2008. The construction cost estimates for the alternatives ranged from \$2.2 billion (2009 dollars) to \$3.2 billion (2009 dollars).

Downtown/Midtown Tunnel and MLK Extension - The Downtown Tunnel/Midtown Tunnel/MLK Extension is located in the cities of Norfolk and Portsmouth, Virginia. The project is comprised of: a new two-lane tunnel under the Elizabeth River parallel to the existing Midtown Tunnel; maintenance and safety improvements to the existing Midtown Tunnel; minor modifications to the interchange at Brambleton Avenue/Hampton Boulevard in Norfolk; maintenance and safety improvements to the existing Downtown Tunnel; and extending the MLK from London Boulevard to I-264, with an interchange at High Street. Completion of this project will increase capacity, reduce congestion and facilitate emergency evacuation.

As this document is being finalized, VDOT is negotiating the terms of an Interim PPTA Agreement with a private partner. Estimated public funds required to complete this project range from \$300 million to \$500 million dollars (2009 dollars) to provide an acceptable toll rate and account for risk contingencies that may be retained by VDOT.

Smart System Technology Leadership

As computers, the internet, and cell phone technology changed our lives in the last 25 years, so will continued advancements in technology in the next 25 years. Technology can deliver transportation capacity improvements and services rather than surfaces (i.e., roadway widening, new roadways, etc.). Smart technology can support the environment, provide capacity, improve safety, and be cost-effective. Virginia needs to be at the forefront of investments in smart technology.

Make Strategic Investment in Infrastructure for the Future
Priority: Smart System Technology Leadership
Unfunded Need: To be determined
Background: <ul style="list-style-type: none"> • Technology will continue to improve transportation efficiency and effectiveness and at the same time be cost-effective and environmentally friendly • Virginia needs to be a leader in development and application of smart technology

The Commonwealth has developed a framework for the deployment of technology solutions to address incidents and improve communication with the public. These technology developments range from major communication systems such as *511 Virginia*, where individuals can telephone or check on the internet for incidents, work zone, or weather-related problems on specific routes, to technologies to provide information on fog/inclement weather. These localized weather conditions can result in reduced visibility and hazardous driving and flying conditions.

Congestion can be reduced through the effective use of advanced technology. Virginia’s five regional Transportation Operations Centers monitor traffic and road conditions 24/7 and post messages on overhead signs (changeable message signs) and on highway advisory radio. Future technologies hold much promise for making our roads safer and using capacity as effectively as possible. IntelliDriveSM provides vehicles with 360-degree awareness to inform a driver of hazards and situations they can not see surrounding the vehicle. IntelliDriveSM has the potential to eventually transform surface transportation management and system performance by providing real time data that are far more robust and ubiquitous than currently available information.

In the future one expects technology to play an even bigger role in transit and roadway operations than it does today. In the near term there will be real-time information at transit stops identifying the bus schedule and route. Information at park and ride lots will inform the driver of empty spaces. There will be real-time bus routing to enhance the performance characteristics of transit and make it more like a car. Messages would be routed to the Global Positioning System in the individual car. Alternative routes will be identified based on real-time information on traffic flow. Ultimately, environmental sensors will not merely measure temperatures but will administer the chemicals to prevent freezing.

Virginia has industries well suited for continued development of these technologies. Virginia should become a testing ground for development and application of smart transportation technology and look to technology solutions whenever and wherever feasible.

II. Address Safety and Maintenance Needs

The safety and security of the traveling public are a fundamental responsibility of transportation agencies. Under current law, maintenance of existing transportation assets to ensure the safety of the public is the first priority in allocation of transportation resources. The cost of maintaining this system is increasing faster than available revenues.

If infrastructure is not in good condition or allowed to deteriorate, the results could be potholes that create safety hazards, use restrictions on bridges (either weight limitations or closure) that impact accessibility and economic competitiveness, buses that break down and cause mobility and congestion problems, and frequent crashes that cause delays and congestion. A safe and well maintained system can support economic competitiveness and minimize congestion by reducing traffic incidents.

The Commonwealth is also a major funding partner for local transit operators throughout Virginia. Significant funding will be necessary to ensure a state of good repair for Virginia's transit operators. Expanded transit service is expected to play a major role in the future in reducing congestion, improving mobility, and addressing climate change issues. There is already a current backlog of transit maintenance needs, and as systems expand and buses run more frequently, the costs to keep the transit systems in a state of good repair will increase.

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 environment. There will be zero tolerance for further degradation of the environment as Virginia moves forward.

Address Safety and Maintenance Needs Priorities

- Provide Safe Operations and Services
- Repair Deficient Pavements
- Rehabilitate Structurally Deficient Bridges
- Ensure State of Good Repair in Transit
- Use Sustainable and Environmentally Sensitive Methods

Provide Safe Operations and Services

Safety is a concern for all modes, but improvement in highway safety can have the most profound impact on the lives of Virginians. Traffic crashes adversely affect the operation of the transportation system causing congestion and travel delays that impact the movement of goods and people. These costs are difficult to estimate but have major economic implications. The 2008 American Automobile Association study, *Crashes vs. Congestion: What's the Cost to Society?*, concludes that the cost of traffic crashes in the urban areas studied is nearly two and half times the cost of congestion, and that 40% to 50% of all non-recurring congestion is associated with traffic incidents.

Address Safety and Maintenance Needs
Priority: Provide Safe Operations and Services
Unfunded Need: \$184 million per year
Background: <ul style="list-style-type: none"> • Half of non-recurring congestion is associated with traffic incidents • Enhanced safe operations and services using technology can address safety and capacity concerns in a cost-effective and environmentally friendly manner • VDOT should invest in and implement lane reversal plans for the Route 58, I-664 and I-64 area

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. Emergency response is one of the most important responsibilities of the state and includes the communication with the public and media to guarantee they are informed about the impacts incidents have on transportation safety. Safe operations includes 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.

Currently, Virginia uses 42 sites and five mobile units to collect road weather information. Most sites 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.

Safety is enhanced with safety service patrols where drivers of vehicles that have broken-down on the highways are given assistance. Enactment of quick clearance laws have also enhanced the ability of the police to move vehicles involved in crashes to the side of the roadway to facilitate traffic flow.

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 lane-reversal plan and will allow the agencies to evaluate the effectiveness of communications tools, inter-agency procedures and the incident-command structure.

VDOT has created an emergency evacuation plan for Hampton Roads that includes a reversal of the eastbound lanes of I-64 to allow for rapid evacuation in the event of a natural or man-made catastrophic event. Recent simulations show that clearance times for those at risk in the Hampton Roads area have increased significantly, particularly at the chokepoint of Route 58, I-664, and I-64. VDOT should invest in and implement lane reversal plans for this chokepoint.

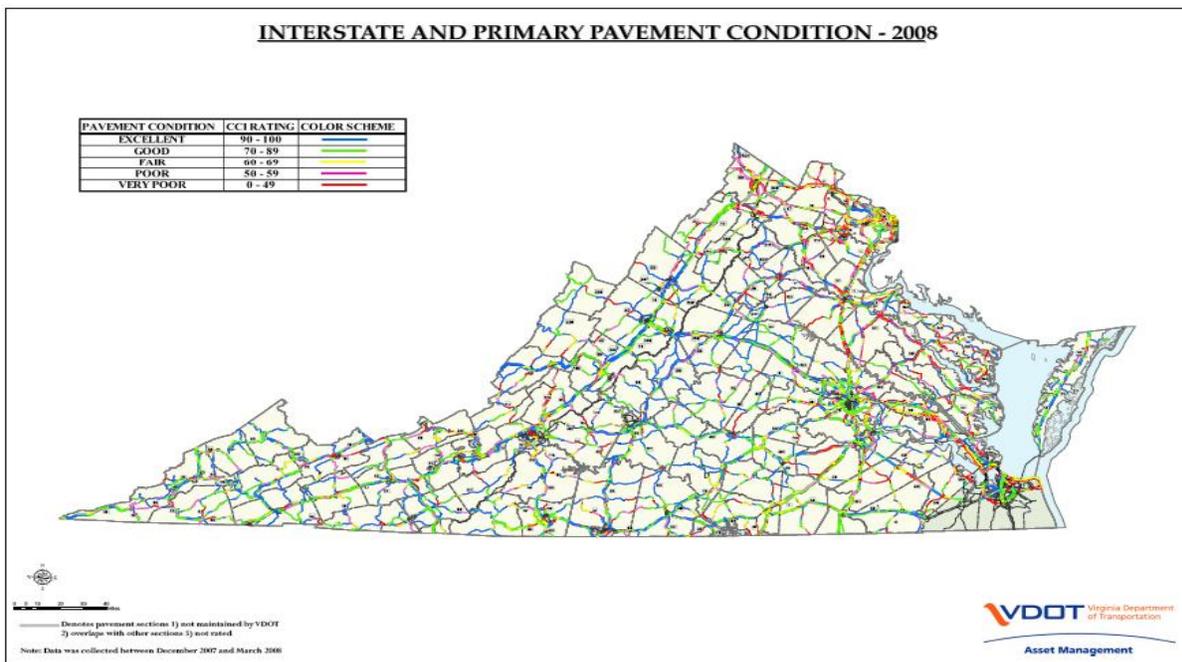
The existing technology must be maintained and the breadth of the technology expanded. Unfunded costs to maintain a safe roadway system is \$184 million per year. The costs for expanding the existing technology, consistent with being a smart system technology leader system, are reflected in the investment priority for smart system technology leadership.

Repair Deficient Pavements

VDOT maintains the third largest state-maintained system in the country. The established performance standard for Interstate and Primary system pavements is no more than 18% deficient; for secondary roads it is 31% or less. Current performance on Interstate and Primary systems does not meet the standard, and trends have shown no improvement.

The implications of poor pavement conditions go beyond just a rough ride. Safety and economic competitiveness are at risk if a reliable transportation system is not in place. A new American Association of State Highway and Transportation Officials report: *Rough Roads Ahead* addresses the costs of poor highways and reports that “rough roads add an average of \$335 to the annual cost of owning a car – in some cities an additional \$740 more – due to damaged tires, suspensions and reduced fuel efficiency.” It also reports that “every \$1 spent in keeping a good road good precludes spending \$6-\$14 to rebuild one that has deteriorated.” The ability to maintain acceptable pavement condition will be under increased pressure as costs continue to rise and the backlog of unmet needs continues to build. The cost of deferred maintenance is much greater than the cost of current maintenance.

Address Safety and Maintenance Needs	
Priority: Repair Deficient Pavements	
Unfunded Need: \$278 million per year	
Background:	
<ul style="list-style-type: none"> • VDOT standard– 18% or less deficient on interstate and primary roads; 31% or less on secondary roads • % Deficient on Interstates <ul style="list-style-type: none"> – 2007 – 19.1% – 2008 – 20.5% • % Deficient on Primary Roads <ul style="list-style-type: none"> – 2007 – 21.2% – 2008 – 24.4% • % Deficient on Secondary Roads <ul style="list-style-type: none"> – 2007 – 24.2% – 2008 – 28.7% 	



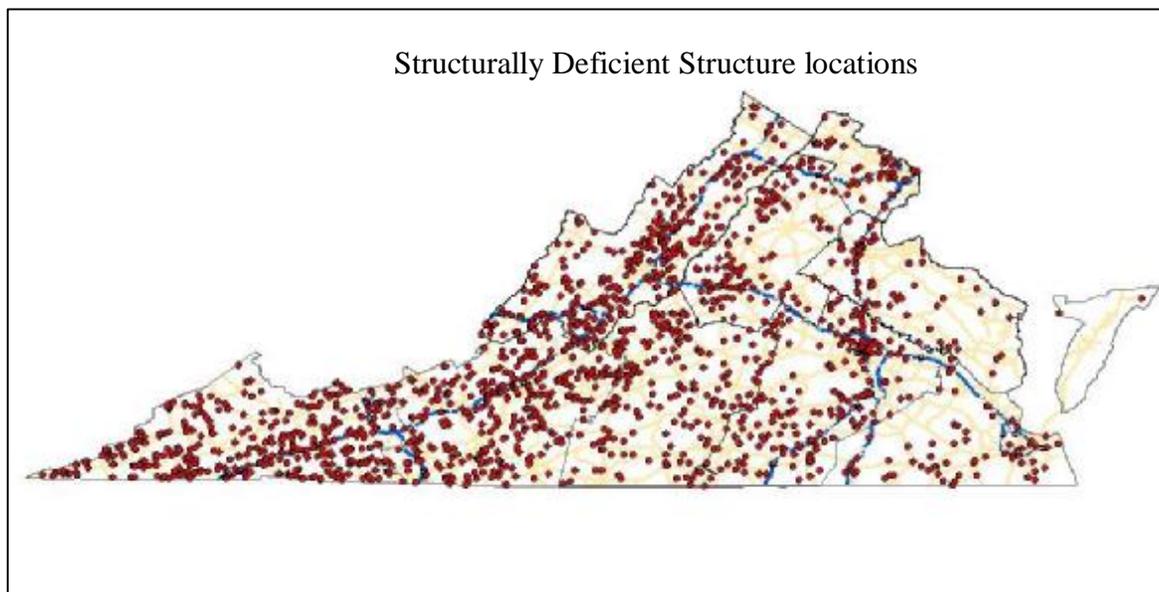
Rehabilitate Structurally Deficient Bridges

Virginia is not meeting its standard of 8% or less of deficient structures, and the trend is that the number of deficient structures is increasing. Structurally deficient means there are elements of the bridge or culvert that need to be monitored and/or repaired. The fact that a bridge is "structurally deficient" *does not* imply that it is likely to collapse or that it is unsafe. It means the bridge must be monitored, inspected, and maintained.

The Jordan Bridge, an 80-year old structure linking South Norfolk with Portsmouth, was closed in November 2008 for safety reasons, but construction on a privately funded replacement will begin as soon as federal permitting is complete.

In the coming years, the construction boom of the 1960s and 1970s will be felt as infrastructure ages. In the next 10 years an additional 20% of current structures (those built in the 1960s) will reach the average design life of 50 years. Another 16% (those built in the 1970s) will approach average design life in 20 years. This is a doubling of the number of structures that will be 50 years of age or older in the next 20 years. Therefore, bridge maintenance needs will likely intensify between now and 2035.

Address Safety and Maintenance Needs
Priority: Rehabilitate Structurally Deficient Bridges
Unfunded Need: \$150 million annually for a total of \$3.8 billion to replace all structurally deficient bridges
Background: <ul style="list-style-type: none"> • VDOT standard – 8% or less structurally deficient • 2007 – 8.4% structurally deficient • 2008 – 8.4% structurally deficient • In next 20 years the number of structures 50 years of age (average design life) or older will double from 35% to 71%



Ensure State of Good Repair in Transit

Addressing deferred maintenance and replacement of transit vehicles, facilities, and infrastructure that are reaching the end of their useful lives are increasing priorities of transit agencies throughout Virginia. Achieving a state of good repair for Virginia’s transit systems is critical in achieving many of Virginia’s transportation goals. The Commonwealth of Virginia will need additional capital investment over the next 25 years simply to achieve a state of good repair at current levels of service, based on historic levels of state capital assistance, current asset inventory, and strategic planning information reported to the state.

Address Safety and Maintenance Needs
Priority: Ensure State of Good Repair in Transit
Unfunded Need: \$233 million annually
Background: <ul style="list-style-type: none"> • State of good repair in transit is critical for transit to be a safe, reliable mode choice • There is a current backlog of transit maintenance needs of \$280 million • \$150 million annually is required to maintain state of good repair • \$83 million annually is required to maintain historic 20% state match for operating assistance

The current capital investment backlog of approximately \$280 million (current year dollars) will increase to \$10.5 billion by 2035 in year of expenditure dollars under the highest level of current funding expected. Current levels of funding towards asset replacement and renewal are only expected to fill \$5 billion of this capital need, across all sources of funding (federal, state and local). An additional state share of \$150 million annually will be required to maintain the state of good repair of Virginia’s transit assets; of the statewide total need, approximately 60% is for rail and bus investment in Virginia’s share of WMATA’s state of good repair needs.

Historically, the Commonwealth has contributed funding to transit providers that covered 20% of their eligible operating expenses. However, funding projections indicate a decline in revenue that will require a reduction in state operating assistance to a level that would only cover 8% of eligible operating expenses by 2035. Reducing the state’s share of transit operating assistance will shift the funding need to the localities. A shift in funding responsibility may result in increased transit fares, a serious reduction in service, an increase in local funding assistance, or a combination of these funding strategies. To maintain the historic 20% state share of transit operating expenses requires an additional \$83 million annually.

Addressing these needs will demand additional investment but will ensure safer operations, reduce expenses, and improve the customer experience and overall service. If the state of good repair is not properly funded, this growing backlog of deferred maintenance and aging capital assets will affect rail and bus systems across the state, lead to significant increases in operating costs, and impact customer service significantly. A failure to address these needs will reduce the safety of transit service and discourage local governments from participating in new transit service as the Commonwealth will not be able to participate as funding partner.

Use Sustainable and Environmentally Sensitive Methods

Many of the VTrans2035 Investment Priorities embrace sustainable development patterns that address climate change and other environmental issues. Increased transit, passenger rail, and freight rail reduce traffic that would otherwise be on the road, requiring expanded facilities and adding to GHG emissions. The use of technology and the integration of transportation and land use decisions also reduce the need for more surface expansion of facilities that impact stormwater runoff as well as other environmental factors.

Address Safety and Maintenance Needs
Priority: Use Sustainable and Environmentally Sensitive Methods
Unfunded Need: To be determined
Background: <ul style="list-style-type: none"> • Sustainable and environmentally sensitive methods must be an integral part of all transportation projects • Future emphasis on transit, passenger rail, freight rail, technology, and better coordination of transportation and land use decisions support sustainable development • Environmental footprint of projects should be minimized with context sensitive design and other principles

The importance of our natural resources and environment warrants a more specific declaration to ensure that what capacity expansions are needed promote environmental quality. Environmental impacts, especially sustainable development patterns, need to continue to be a key consideration in assessing alternatives. Further, the environmental footprint of projects should be minimized through context sensitive design considerations.

Some of Virginia’s considerable assets are its historic properties and scenic vistas. Environmentally sensitive methods must be used to minimize impacts on these resources, including the use of context sensitive solutions on rural rustic roads.

III. Enhance Economic Competitiveness

Investing in transportation not only benefits the traveling public, but also stimulates jobs and income. Every dollar of the current Six-Year 2009-2014 Improvement Program yields a benefit of \$4 for Virginia.

Virginia is known for its attention to business. For the last four years, Virginia has been ranked as the “Best State for Business” by Forbes.com. Even in the midst of current economic conditions, *US News and World Report* recognized Virginia as one of the top five states to start a business. These awards are supported by the development that is coming to Virginia. Rolls-Royce in Prince George County and Canon in Hampton Roads are two examples of how focusing on how transportation can facilitate economic development. For businesses to continue to come to Virginia there must be continued investment in transportation.

Enhance Economic Competitiveness Priorities

- Expand the Port and Related Intermodal Facilities and Services
- Support Dulles International Airport and Growth of Dulles Corridor
- Plan for and Invest in High Speed and Intercity Rail
- Improve Freight Mobility
- Improve Rural Connectivity
- Review and Refine PPTA Process to Leverage Private Dollars for Publically Beneficial Projects
- Develop Master Plans for Needs of Corridors of Statewide Significance

Virginia has strong ties to the rest of the world through two major global gateways – the Port of Virginia and Dulles International Airport. These economic engines allow Virginia to be a major player in the global economy. Access to world markets through Dulles for passengers and air freight and through Hampton Roads for freight provides opportunity for economic development near and along major corridors.

Connecting to other states with first-class connections for passengers and goods within Virginia and to its borders keeps Virginia competitive by reducing travel time and increasing mobility options. Investment in rail for both passenger and freight mobility will make these first-class connections a reality.

Improved connectivity in the rural areas, both through transportation investments as well as communications (e.g., broadband access), enhances these areas for potential new development. The improvements to passenger and freight rail through Virginia improve accessibility of rural as well as urban areas.

Virginia has made great use of PPTAs to finance projects. Pending PPTAs should be completed and new ones considered when publically beneficial to the Commonwealth.

VTrans2035 begins the journey of establishing visions for CoSS by identifying potential strategies to address their key functions. The CoSS are transportation facilities that must be protected to ensure appropriate levels of mobility to allow for long distance travel. The next step in the planning process will be to develop detailed corridor master plans to turn the vision and strategies into specific improvements.

Expand the Port and Related Intermodal Facilities and Services

One of Virginia’s greatest assets is the Port of Virginia. It is the third largest port on the East Coast of the United States, with direct service to more than 80 foreign ports. A 2008 study estimated that the Port’s total contribution to Virginia’s economy was \$41 billion in annual revenues and 342,000 jobs.

Preparing for the expansion of the Panama Canal and increasing port market share require efficient marine terminals that can take advantage of the natural attributes only Virginia offers to global commerce. The planned new terminal, Craney Island, will provide a state of the art facility that will be more efficient, highly automated and is already desired by global shippers.

Economic growth from port operations requires supporting inland facilities that manufacture our exports and handle the distribution of our imports. More than 200,000 jobs in Virginia result from these facilities located in industrial areas and intermodal parks across the state. Continued development of these opportunities relies on a healthy port and equally, good road and rail access.

Prioritizing upgrades needed in the Commonwealth, to highlight those with road and rail access to and from the Port, are vital so as not to constrain the freight flows that support our economy. One of the major investments near completion will be the Norfolk Southern Heartland Corridor project, which is being constructed by Norfolk Southern with support from FHWA, and other state partners. Improvements will double freight rail capacity along the line that parallels Route 460 through Virginia, improving freight shipping times to markets in the Midwest. An important component of the Heartland Corridor Project, currently underway, is the Western Freeway Rail Relocation (Route 164), which will eliminate grade crossings in urban Portsmouth and Chesapeake. The proposed Craney Island Road and Rail Connector will provide direct interstate access to and from the Craney Island Marine Terminal. Proposed Norfolk International

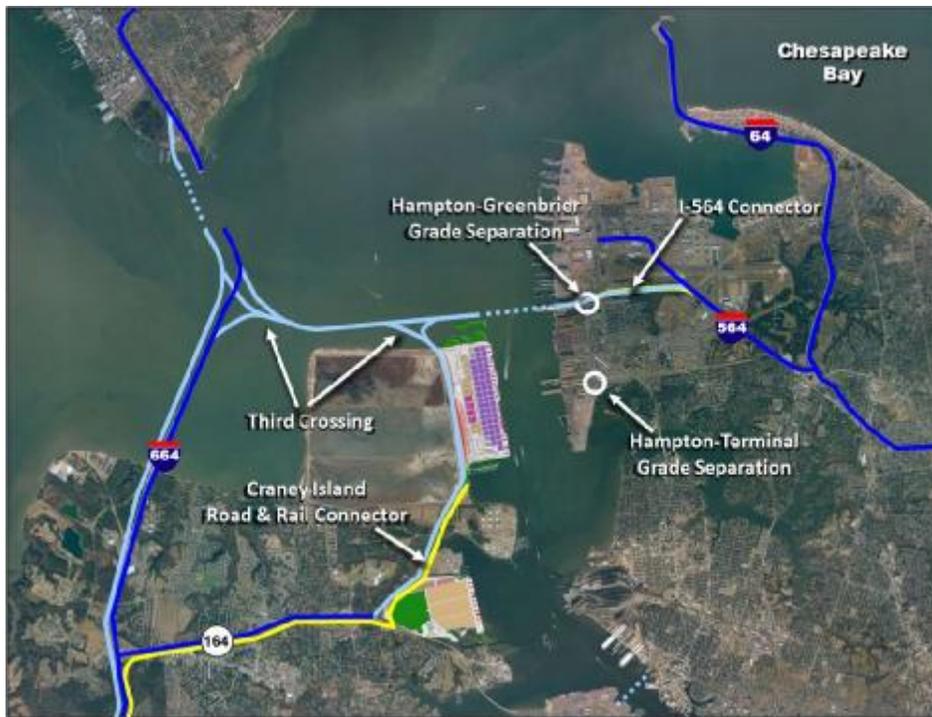
Enhance Economic Competitiveness
Priority: Expand the Port and Related Intermodal Facilities and Services
Unfunded Need: \$8 million annually for a total of \$195 million
<p>Background:</p> <ul style="list-style-type: none"> • Port of Virginia is third largest port on the East Coast • Millions of square feet of industrial facilities focused on logistics have been developed because of freight through the Port • Norfolk Southern’s Heartland Corridor project doubles freight rail capacity • CSX’s National Gateway project will improve routes and transit time from the Port to additional destinations such as Charlotte and Pittsburgh • Major road access improvements include: <ul style="list-style-type: none"> – Hampton Roads Third Harbor Crossing – I-564 Connector – Craney Island Road and Rail Connector – Hampton-Greenbrier Grade Separation – Hampton-Terminal Grade Separation • NIT yard improvements will double on-dock capacity • The Port of Virginia supports and actively develops modal alternatives that reduce highway congestion including the use of barge services and increased rail transportation • Projects not funded are the Third Crossing (need is included in a previous priority), NIT yard improvements, and the I-564 Connector

Terminal (NIT) yard improvements will double on-dock rail capacity, enhance highway grade crossing safety and highway delays at grade crossings.

Another project is CSX's National Gateway Project. This project extends from North Carolina to Ohio and parallels I-95 through Virginia, with a connection to the Port. The project focuses on improving clearances to enable double stack intermodal train operations and will improve routes and transit time from the Port.

In late 2008 the Port of Virginia supported the launching of the I-64 Express barge service. This service moves containers by barge on the James River between the marine terminals in Hampton Roads and the Port of Richmond. Every container moved by barge eliminates truck trips from the state's highways. Movement by barge generates about one third the air emissions per ton of freight compared to that same movement by truck.

Several road projects identified to address regional transportation issues that improve the regions capacity to serve local and inland destinations with international cargo include: the Hampton Roads Third Harbor Crossing, I-564 Connector, Hampton-Greenbrier Grade Separation and Hampton-Terminal Grade Separation. The location of these projects is provided below.



A number of the projects having the additional distinction of being associated with supporting the expansion of the Port are in various stages of development, are being funded, or funding sources have been identified. Projects not funded are the Third Crossing (discussed previously under Tunnels in Hampton Roads), National Gateway Project (\$53.9 million in 2009 dollars), NIT yard improvements (\$43 million in 2009 dollars), and the I-564 Connector (\$98.5 million in 2009 dollars).

Support Dulles International Airport and Growth in the Dulles Corridor

The Washington Dulles International Airport is the other economic engine in the Commonwealth providing access to world markets for Virginia’s commerce, and making Virginia a bridge state between world markets and other states. Dulles Airport serves the nation’s fourth largest economic market and is the eighth largest port of international air commerce in the United States. Planners for the airport are anticipating an operating capacity of more than 55 million passengers per year, double its current level of operation.

Enhance Economic Competitiveness
Priority: Support Dulles International Airport and Growth in the Dulles Corridor
Unfunded Need: \$14 million annually for a total of \$357 million
Background: <ul style="list-style-type: none"> • Each new nonstop air service to a major international market yields \$300 million in commercial development in Virginia • Additional access capacity needed to support future Dulles expansion • Dulles Loop Road, Route 659 improvements, and the Tri-County parkway are critical access improvements • Continued support for the extension of Metrorail must remain a priority

The airport generates \$224 million in state and local taxes and \$383 million in airport-specific taxes to the federal government. The airport also generates direct business revenue of \$11.7 billion (value of sales earned by airlines and other airport businesses) annually. Passenger and air freight activity at the airport supports 230,000 residents of Virginia, Maryland, West Virginia, and the District of Columbia, including both directly generated jobs and the area's visitor industry.

A direct correlation exists between investment from overseas countries and the availability of air service between Virginia and the countries from which the investment came. Each new nonstop air service to a major international market typically is the equivalent of a \$300 million commercial investment in Virginia, in its ability to stimulate good paying new jobs and economic growth.

An effective multimodal ground transportation system, including the Dulles Loop, Metrorail Extension, and other access improvements, is required if Dulles International Airport and the Dulles Corridor are to remain a key economic generator for the Commonwealth.

Improvements to the 18-mile **Dulles Loop** (Routes 50, 28, and 606 surrounding the airport) are needed for local traffic as well as airport access. Approximately 80% of the traffic on the Loop is local – the rest is airport related. Improvements to the Loop can produce a payoff in terms of improved local traffic flow, as well as airport access from the southern and western portions of Virginia. Interim improvements to Route 28 and Route 50 portions of the Loop are funded and under way. Improvements to the Route 606 portion of the Loop – from a two-lane to a four-lane at-grade divided facility – will provide an interim to further expansion to meet future demand.

Greater north-south access is needed including the CTB approved but unfunded Tri-County Parkway and Route 659 improvements between Dulles Greenway and Route 7.

Additionally, at present, the I-95, Route 29, and I-66/I-81 corridors do not have good connections with Dulles, nor are there effective surface links between the Dulles international gateway and neighboring areas in West Virginia, Maryland, and southeastern Pennsylvania.

The continued funding of, and support for, the extension of Metrorail from East Falls Church to Dulles International Airport and Loudoun County must remain a key priority.



Plan for and Invest in High Speed and Intercity Rail

Increasing costs for both new transportation improvements and maintenance of existing systems drive the search for more cost-effective and sustainable modes of travel. There is global competition for finite resources of oil and coal, and the pressure is on to find ways to become more energy efficient and reduce greenhouse gas emissions. Planning for and investing in high speed and intercity rail will play an important role in addressing these challenges and reducing highway congestion and pollution by diverting people from cars to passenger rail. High speed rail was discussed in the previous I-95 priority example and is not included in the unfunded need estimate in this priority.

Investment in rail service throughout the Commonwealth would result in the generation of jobs and revitalization and enhancement of communities. Studies show that when passenger rail service is introduced into a community, retail establishments flourish, commercial and residential property values increase and people enjoy the transportation choices they are able to make in their daily lives. On a regional level, passenger trains can provide cost-effective and convenient multimodal connections between communities and other modal choices, such as bus, trolley, light rail, bicycle, airport, and Park and Ride facilities, and expand economic development opportunities.

In December 2008, DRPT released the *2008 Statewide Rail Resource Allocation Plan*. This Plan identified four passenger rail projects for funding.

- I-95/I-64 Passenger Rail Project – more frequent service, capacity, and travel time savings between Hampton Roads, Richmond, and Washington, D.C. (previously discussed);
- Commuter Rail Improvement Project – expansion of VRE service between Manassas and Gainesville/Haymarket and enhancement of service through signal system and control improvements:
 - Phase I (funded) – capacity/station improvements;
 - Phases II and III (unfunded) – final engineering and construction of extension – total project cost of \$285 million;

Enhance Economic Competitiveness
Priority: Plan for and Invest in High Speed and Intercity Rail
Unfunded Need: To be determined
Background: <ul style="list-style-type: none"> • 2008 Statewide Rail Resource Allocation Plan recommended four passenger rail services <ul style="list-style-type: none"> – I-95/I-64 Passenger Rail Project – improved service between Hampton Roads, Richmond, and Washington, D.C. (included in previous Infrastructure example) – Commuter Rail Improvement Project – extension and improvements to VRE – Southeast High Speed Rail Project – service through Virginia connecting with Northeast Corridor (included in previous Infrastructure example) – I-81/Route 29 Intercity Passenger Rail Project – new passenger rail service to Lynchburg (implemented), Roanoke, and Bristol with connections to Richmond and Washington, D.C.

- Southeast High Speed Rail Project – previously discussed; and
- I-81/Route 29 Intercity Passenger Rail Project – new passenger rail service to Lynchburg (implemented), Roanoke, and Bristol with connections to Richmond and Washington, D.C. including new stations and new passing tracks:
 - Phase I (funded) – service between Washington, D.C. and Lynchburg;
 - Phases II through IV (unfunded) – service to Roanoke and Bristol as well as capacity and station improvements – total project cost of \$170 million; and
 - Anticipated annual operating costs range from \$3.3 million in 2010 to \$108.7 million in 2035.

As noted above, Virginia recently funded passenger rail service from Lynchburg to Washington, which began service in October 2009. The new service is part of a three-year pilot program to determine the viability of enhanced rail service in Virginia. This \$17.2 million pilot project is funded for three years. A sustainable source of operating funds must be identified to continue operations.

For passenger rail to become a reality, the Commonwealth must foster partnerships to balance the competing demands for rail line use, since most rail lines in Virginia are owned and operated by private rail companies.

This type of increased investment in high speed and intercity rail can increase mobility and accessibility to burgeoning metropolitan areas, thus increasing the economic vitality of Virginia. Ultimately, an enhanced, connected rail transportation system in Virginia will provide more transportation choices for people, congestion relief for the state's highway system, energy savings through reduced fuel consumption, and better air quality through reduced emissions.

Improve Freight Mobility

The movement of freight is critical to Virginia’s overall economy. With freight tonnage expected to double in the future, capacity improvements will be needed.

Overall, the freight transportation system is in reasonable shape despite significant bottlenecks throughout the Commonwealth. The more critical challenge will be to maintain and improve levels of

performance in the face of projected growth. Currently, Virginia’s primary freight bottlenecks generally correspond to: major urbanized regions with high levels of congestion (Northern Virginia, Hampton Roads, Richmond); major national travel corridors (I-95, I-81); intersections of major highway arteries (I-495/I-95, I-77/I-81, I-64/I-295/I-95); routes with few or no alternatives (tunnels); rail system points where infrastructure provides inadequate freight capacity; and access into and out of heavily used marine terminal facilities.

A range of initiatives can address freight bottlenecks. While some are freight oriented, others benefit both freight and passengers. Key projects and initiatives are grouped by those included in other VTrans2035 investment priorities and others unique to the freight mobility investment priority.

Improvements Included in Other VTrans2035 Investment Priorities

- I-95/I-395/Capital Beltway HOT lane improvement projects;
- Hampton Roads Third Crossing;
- I-564 Intermodal Connector;
- Downtown and Midtown Tunnel projects;
- Route 460 highway improvements;
- Crescent Rail (I-81) rail corridor improvements; and
- CSX Gateway (I-95) project.

Improvements Included in Only Freight Mobility Investment Priority

- I-81 Near-Term Safety Improvements;
- I-66 and I-64 improvements; and
- Heartland Corridor (Route 460) rail improvements (fully funded).

The unfunded costs of elements unique to the freight mobility investment priority total \$(to be filled in) million or \$(to be filled in) million annually over 25 years.

ITS technologies benefiting trucks include: Low Bridge Clearance Warning Systems for trucks; Weigh-In-Motion scales to detect truck axle weight and vehicle weight; and IntelliDrive technology to warn truck drivers about dangerous driving conditions and provide location-

Enhance Economic Competitiveness
Priority: Improve Freight Mobility
Unfunded Need: To be determined
Background: <ul style="list-style-type: none"> • Freight-related industry accounts for 50% of Virginia’s output, 28% of gross state product, and 34% of employment • Freight tonnage is expected to double by 2035 • Rail, road, and ITS improvements will benefit freight as well as passenger movements

specific traveler information. Other opportunities and innovative strategies may include: time-shifting strategies to encourage off-peak highway use for both freight and passengers; truck parking improvements; advanced truck information systems; and truck-to-rail modal diversion opportunities, to the extent feasible.

Improve Rural Connectivity

In less populated areas, the transportation issue is about connectivity rather than congestion. For transit-dependent persons, access to transit or coordinated human services transportation can make the difference of having a job or not.

Connections to other parts of the state that can enhance business and recreational opportunities can be improved through services such as continuation of expanded intercity rail services, as previously discussed, and Virginia Air Taxi. Virginia Air Taxi is a private enterprise that offers direct, on-demand air service at business airline prices. It is serving those intermediate markets without direct air service.

As important as these improvements are, connecting rural areas to the rest of Virginia, to the rest of the U.S., and to the rest of the world can be as simple as improved broadband internet access, something taken almost as a given in urban areas. Internet connectivity has the potential for reducing traffic demands by providing opportunities for telecommuting, taking educational classes on-line, shopping on-line, and other routine tasks that otherwise have to be accomplished by traveling from place to place. Provision of broadband access requires coordination of right-of-way usage with VDOT. The Klobuchar/Warner Bill introduced in the U.S. Senate in June 2009 would require the integration of underground fiber conduit into the construction and reconstruction of transportation infrastructure by requiring the installation of broadband conduit as part of any federally-funded transportation project.

Enhance Economic Competitiveness
Priority: Improve Rural Connectivity
Unfunded Need: To be determined
Background: <ul style="list-style-type: none"> • Improved rural connectivity can be achieved through transportation improvements such as transit or coordinated human services transportation and Air Taxi service • More broadband internet service can also improve rural connectivity by providing on-line access to school, shopping, and other activities

Recommendation:
VDOT to coordinate right-of-way usage for provision of underground fiber-optic conduit for broadband access

Review and Refine PPTA Process to Leverage Private Dollars for Publically Beneficial Projects

The Public Private Transportation Act (PPTA) of 1995 as amended provides a legislative framework enabling VDOT to enter into agreements authorizing private entities to develop and/or operate transportation facilities. It is the intent of the law, among other policy objectives, to encourage investment in the Commonwealth by private entities that facilitate the timely development and/or operation of transportation facilities.

VDOT has completed six contracts (Routes 288, 895, 199, and 58 - Phase 1, and two Interstate Maintenance contracts), via the PPTA for a combined contract value of \$929 million. Considerable public and private investment has been made in several projects that have been put on hold or are in jeopardy because of the current credit situation and/or lack of public funding.

Maintain Economic Competitiveness
Priority: Review and Refine PPTA Process to Leverage Private Dollars for Publically Beneficial Projects
Unfunded Need: \$140-\$168 million annually for a total of \$3.5 - \$4.2 billion
Background: <ul style="list-style-type: none"> • Five major projects require additional funding to be completed <ul style="list-style-type: none"> – Downtown/Midtown Tunnel and MLK Extension in Hampton Roads area (\$300-\$500 million needed – included in previous priority) – I-95/I-395 HOT Lanes in Northern Virginia (no additional funds needed) – Route 460 (\$0.5-\$1.0 billion needed) – Route 58 (\$400-\$600 million needed) – Coalfields Expressway (\$2.6 billion needed)

Public- Private Partnerships can leverage private sector funding and thus bring new sources of capital for financing projects. Because of that, a project might advance quickly even though it may not represent the highest priority for the Commonwealth. However, few large projects can be completed without some state financial aid and when any public money is put into a project it should be scrutinized to the same degree as others.

A key component is the assignment of risks and in an appropriate partnership the private entity holds the risk. There can be innovations in project delivery and the infrastructure can usually be delivered sooner. However, there is a cost to negotiate balanced contractual agreements, lengthy negotiations, and long-term agreements with high termination costs. Ultimately, the private sector lessee controls the asset.

Section 11143 of Title XI of SAFETEA-LU amends Section 142 of the Internal Revenue Code to add highways and freight transfer facilities to the types of privately developed and operated projects for which private activity bonds may be issued. This change allows private activity on these types of projects, while maintaining the tax-exempt status of the bonds. The law limits the total amount of such bonds to \$15 billion and directs the Secretary of Transportation to allocate this amount among qualified facilities. The \$15 billion in exempt facility bonds is not subject to the state volume cap. As of December 2008, U.S. DOT had approved a total of \$4,927,691,000 in Private Activity Bond allocations for a total of eight

projects. The only project for which bonds had been issued is the Capital Beltway HOT Lanes project.

Virginia should utilize the pending PPTAs and consider new ones when the projects are publically beneficial to the Commonwealth. Discussion of the active PPTAs (I-95/I-395 HOT Lanes, Route 58, and Coalfields Expressway) or active PPTA proposals (Downtown/Midtown Tunnel and MLK Extension in Hampton Roads and Route 460) follows.

Downtown/Midtown Tunnel and MLK Extension - The Downtown Tunnel/Midtown Tunnel/MLK Extension is located in the cities of Norfolk and Portsmouth. The project is comprised of: a new two-lane tunnel under the Elizabeth River parallel to the existing Midtown Tunnel; maintenance and safety improvements to the existing Midtown Tunnel; maintenance and safety improvements to the existing Downtown Tunnel; and extending the MLK from London Boulevard to I-264. Completion of this project will increase capacity, reduce congestion and facilitate emergency evacuation.

The estimated public funds required to complete this project range from \$300 million to \$500 million to provide an acceptable toll rate and account for risk contingencies that may be retained by VDOT. The terms of an Interim Agreement are currently being negotiated with a private partner. The unfunded need for this improvement is included in a previous priority.

I-95/395 HOT Lanes - This project would be made possible through a public-private partnership that VDOT is currently developing under an Interim Agreement with Fluor-Transurban. DRPT is also playing an active role in the multimodal project, which will provide opportunities for expanded public transportation in the corridor. Completion of the project will result in a free-flowing travel facility that is a part of a regional network of managed lanes; congestion management through variable pricing; expansion of high occupancy vehicle (HOV) and transit choices in the corridor; improved access to major employment sites in the corridor; and additional Park and Ride spaces.

The I-95/395 HOT Lanes project would extend 56-miles, add a third lane, and convert the existing 28 miles of HOV lanes between Arlington and Dumfries to HOT lanes, and would include building two new HOT lanes for an additional 28 miles south to Spotsylvania County. The HOT lanes for this project would allow buses, carpools, vanpools and motorcycles to ride in the new lanes for free – just as they do now. Vehicles carrying one or two people could either travel in the regular free lanes, or pay a toll to ride in the HOT lanes when they need a faster trip.

On August 17, 2009, VDOT announced that the project would not reach the originally scheduled commercial close (execution of Comprehensive Agreement) by the end of August 2009 due to local government and community concerns, as well as challenging financial market conditions. The project is currently on hold while VDOT, Fluor and Transurban consider options to address public concerns and financial viability. Public funds will be required for VDOT's contractual responsibilities and/or risk contingencies that it may agree to retain.

Route 460 - The Route 460 project entails the new construction of approximately 55-miles of four-lane divided limited access highway between Petersburg and Suffolk Virginia. The project will extend from the existing Route 460 near its interchange with I-295 in Prince George

County to the Route 58 bypass just south of the existing Route 460 in the City of Suffolk. The CTB approved corridor alignment for this project runs south of the existing Route 460 for its entirety.

The Final Environmental Impact Study and Record of Decision have been approved by the Federal Highway Administration. It is anticipated that the project will be a tolled facility with these funds being collected by the Concessionaire and used to pay for project costs. Completion of the project will result in improved travel safety along the corridor; a new westbound emergency evacuation route for Hampton Roads; and improved freight movement for the corridor.

The improvements will be developed as a PPTA project and a private developer will sign a long term concession agreement with VDOT to finance, design, construct, operate and maintain the project. The project has been put on hold due to the current financial market conditions and the apparent gap between project costs and available funding sources needed to make this a viable project. There are currently no public funds allocated for the construction of this project. It is estimated that between \$500 million and \$1.0 billion in public funds will be needed to offset the projected shortfall of toll revenue.

Route 58 – Route 58 is Virginia’s longest roadway, stretching from the Atlantic Ocean to the southwest tip of Virginia. In December 2003, VDOT signed a public-private partnership agreement with Branch Highways Inc. to develop and widen 36 miles of the Route 58 Corridor from Hillsville to Stuart, the last remaining section to complete Route 58 from Virginia Beach to I-77. When completed, this project will enhance the economic development potential across this rural portion of the state and provide another freight route from the Port of Virginia.

The first three-mile phase of this project was completed at the Meadows of Dan in 2006. Construction is currently underway on the Phase 2 Hillsville Bypass, a 5.2 mile segment around Hillsville expected to be completed in 2011. Once the Hillsville Bypass is completed, an estimated 28 miles of improvements will remain to complete this PPTA.

Although this is a PPTA project, the agreement with Branch Highways, Inc. is limited to designing and constructing the facility. State funds have been utilized to fund the first two phases. The estimated public funds required to complete this project range from \$400 million to \$600 million.

Coalfields Expressway - The planned Coalfields Expressway (CFX) is a 51-mile-long corridor, generally along Route 83, from Pound in Wise County, through Dickenson and Buchanan counties, and will link with the West Virginia Coalfields Expressway near Paynesville, West Virginia. Designated as part of the national highway system, the new road will link I-64 and I-77 in West Virginia with Route 23 in Virginia, which links to interstates in Kentucky and Tennessee. When completed, the CFX will provide a modern facility through the coalfields region of southwestern Virginia and enhance the economic development potential for a region of the state experiencing high unemployment and a declining population.

In September 2008, VDOT executed an agreement with Alpha Natural Resources LLC (Alpha) and Pioneer Group Inc. (coal companies) to develop the Hawks Nest Section of the CFX, which is under construction. The agreement also provided for the good faith negotiation and execution of a second agreement with Pioneer for the Rockhouse Section of the CFX. The financial plan for the Rockhouse Section is under review by the Federal Highway Administration (FHWA) prior to commencement of negotiations for the Rockhouse Section. These sections have a combined length of seven miles and will utilize the coal mining – highway construction synergy concept (coal synergy) to provide rough grade roadbed and reduce VDOT costs.

A total of \$20 million in Transportation Partnership Opportunity Fund grants has been awarded to VDOT to finance the CFX project associated with the Hawks Nest and Rockhouse Sections. The estimated public funds required to complete this project is \$2.6 billion.

Develop Master Plans for Needs of Corridors of Statewide Significance

The strategies identified for the CoSS begin to bring into focus how the corridors should be developed. The background information from the CoSS need to be considered in the development of an overall corridor master plan as well as development of regional transportation and local land use plans. The process should fully engage the MPOs and PDCs along the corridor as well as the decision-makers in all localities. A major focus of the master plans needs to be the coordination of land use plans with proposed transportation investments.

Enhance Economic Competitiveness
Priority: Develop Master Plans for Needs of Corridors of Statewide Significance
Unfunded Need: To be determined
Background: <ul style="list-style-type: none"> • CoSS strategies need to be considered in the development of regional transportation and local land use plans • Detailed corridor master plans need to be prepared to protect the functionality of the corridors

The recently completed Route 29 Corridor Study provides a suggestion as to the approach, scope, and potential outcomes of the master plans. The process to develop corridor-wide consensus should include public meetings, regional workshops, studio sessions open to the public, weekly electronic bulletins, and technical advisory meetings. Local governing bodies must be part of the study process if meaningful, robust decisions are to be reached. While initial analyses and discussions can determine areas of common agreement and identify win-win recommendations, a major part of the process needs to be getting decision-makers to the table and working on areas of controversy, such as bypasses and possible improvements. It must be recognized that there will be differences in goals between state and local officials on parts of the corridor and opposing interests need to be pushed to resolution for there to be useful study recommendations.

The functions and strategies contained in the CoSS will serve as background to the first round of discussions with local and regional officials. These discussions and additional analyses should yield the menu of more detailed alternatives in the various sections of the corridor. Once the menu is accepted, more detailed work can begin on an implementation program that takes the improvement concepts to more specific project recommendations and outlines in more detail the land use component of the corridor.

IV. Minimize Congestion

Virginia is going to grow in the next 25 years – population will grow by about one third and jobs will increase by almost 50%. The pattern and location of this growth will play a critical role in the transportation capacity needed to ensure Virginia’s economic competitiveness and quality of life for its citizens. If development patterns of the last 20-30 years continue, the Commonwealth, regional authorities and local governments will not be able to provide the needed transportation capacity with existing or increased revenues.

Virginia will never pave its way out of congestion. Though creating new capacity through construction is always an option, it cannot be the only solution. Decisions about capacity improvements and new developments cannot be made independent of each other. This requires better coordination of transportation and land use policies. Another key factor influencing how congestion is managed now and in the future is climate change. The need to reduce greenhouse gas emissions and at the same time provide for mobility and accessibility point the way to better integration of transportation and land use strategies to manage demand. Technology has been preciously discussed as a way to reduce congestion. Other strategies include value pricing, travel demand management; and increased transit usage.

Minimize Congestion Priorities
<ul style="list-style-type: none">• Integrate Regional Land Uses and Highway Capacity• Implement Pricing and Demand Management• Increase Transit Usage and Supporting Land Uses

Virginia has made much progress in recent years planning for congestion using strategies such as access management, traffic impact regulations, designation of UDAs as well as others. VTrans2035 places continued emphasis on these strategies through use of grants and other funding mechanisms to reward good land use planning and to penalize bad land use decisions relative to the need for transportation investments.

Integrate Regional Land Uses and Highway Capacity

Section 2.2-229 of the Code of Virginia requires the Office of Intermodal Planning and Investment ‘to establish standards for the coordination of transportation investments and land use planning to promote commuter choice and transportation system efficiency.’ In Virginia, land use is the prerogative of local governments, while transportation planning and funding decisions are generally made at the state level. Regardless, there are not enough funds to eliminate congestion with new capacity, so improving the coordination between transportation and land use planning is essential for ensuring sustainable mobility throughout the Commonwealth.

Minimize Congestion
Priority: Integrate Regional Land Uses and Highway Capacity
Unfunded Need: To be determined
Background: <ul style="list-style-type: none"> • Recent legislation such as access management, improved traffic impact regulations, designation of UDAs, etc. has resulted in increased integration of transportation and land use decisions • Work needs to continue, primarily through strengthened ties with local agencies • Use funding programs and grants to reward localities that guarantee through land use planning the long-term functionality of the improvement

The disconnect between land use decision-making authority and planning for transportation presents a fundamental challenge to Virginia. The challenges are often compounded by conflicting goals: while the state strives to maintain acceptable levels of service on existing highways, local governments are focused on local streets and are often eager to allow (or unwilling or unable to stop) development along the highway that generates local traffic, reducing the level of service and in some cases restricting the possibility of future expansions. In areas experiencing rapid growth, the problem is especially acute.

Land development affects the state and deserves close examination with respect to the costs that land development poses to transportation infrastructure. The type, the size, and the timing-phasing features of proposed land developments are continuing to grow in importance because of their transportation implications. Virginia now is implementing improved road design standards, and traffic impact statements must be prepared if major land-use decisions are to be made. As a result of Chapter 527 of the 2006 Acts of the Assembly that requires that VDOT analyze and provide comments to local governments on comprehensive plans and land development proposals that may have a significant impact on state-controlled highways, VDOT has reviewed 369 traffic impact analysis submissions on proposed developments.

The Code of Virginia now is challenging high growth jurisdictions with a requirement to designate compact UDAs in comprehensive plans that will be sufficient to meet projected residential and commercial growth in the locality for a period of at least 10 but not more than 20 years. By 2012, 71 localities must identify UDAs. To the extent possible, state and local transportation, housing and economic development funds are to be directed to these UDAs.

Recent legislation has provided the Office of Intermodal Planning and Investment with the authority to develop regional transportation and land use performance measures and goals for

urban areas and to establish standards for the coordination of transportation investments with land use planning. These measures include but are not be limited to the following: job-to-housing balances within the region; job and housing access to transit and HOV facilities; and density around transit stations. Poor job-to-housing ratios can increase transportation costs and reduce Virginia's economic competitiveness.

The future allocation of primary formula funds and discretionary funds within each VDOT district should be for projects that help meet goals for the regional transportation and land use performance measures. For example, prior to considering whether or not to fund a capacity expansion in locality X the Board would receive a report stating whether or not the improvement will allow growth that helps reduce the job-to-housing balance that exists in locality X. In the Northern Virginia district a project in Arlington County would need to have land use commitments to provide additional residential growth while in Prince William a project would need to demonstrate that it would accommodate increased commercial development to help improve the imbalance between jobs and housing.

The Commonwealth must take steps to use its transportation funds to leverage local land uses that reduce the demand for transportation capacity through partnerships with local governments. This can be accomplished through two methods – a carrot and a stick.

- Under the carrot approach, the Commonwealth would create a competitive grant program in each of the nine districts. Grants would be awarded annually to projects with local land use commitments for development patterns that reduce the demand for transportation capacity. Each grant would be for the full cost of the transportation improvement.
- Another option would be to modify the criteria for the award of secondary and urban formula funds. Localities would only be eligible to receive their formula funds if they developed a comprehensive plan that promoted development patterns that reduced the demand for transportation capacity and approved zoning proposals to allow such patterns to be built. Through the Traffic Impact Analysis process, VDOT would review the comprehensive plan to determine whether or not it promoted such development patterns. If local governments choose to not approve zoning proposals that allowed the planned development patterns to be built they would be required to reimburse the Commonwealth for transportation improvements constructed.

There are several potential strategies that the Commonwealth should consider to improve the coordination between transportation and land use. **These strategies can help manage future demand for transportation capacity and provide a more efficient transportation system. Recommendations include:**

- Develop regional transportation and land use performance measures and goals for urban regions in the Commonwealth and prioritize funding for transportation improvements to help meet established goals. Measures would include job-to-housing ratios, and job and housing access to transit and HOV facilities.

- Establish a competitive grant program to “leverage” compact development patterns from local governments. The program would create partnerships between local governments and the state to move transportation improvements forward in harmony with development. Studies have shown that compact development patterns help reduce vehicle miles traveled.

- Provide funding to regional organizations to complete detailed land use scenario plans. The urban

regions of the Commonwealth encompass multiple jurisdictions, and land use decisions in one jurisdiction influence the growth patterns in others. Similarly, transportation networks do not stop at jurisdictional boundaries and must be planned on a regional, state and national basis.

- Provide grants to assist local governments with implementation of transfer of development rights programs and designation of urban development areas. Grants like these would help put in place local plans to concentrate growth which would reduce per capita vehicle miles traveled and reduce congestion.

Recommendations:
<ul style="list-style-type: none"> • Develop regional transportation and land use performance measures and goals for urban regions in the Commonwealth and prioritize funding for transportation improvements to help meet established goals • Use funding programs and grants to reward localities that guarantee through land use planning the long-term functionality of the improvement <ul style="list-style-type: none"> – Future allocation of primary formula funds and discretionary funds within each VDOT district should be for projects that help meet goals for the regional transportation and land use performance measures – Establish and fund an Integrated Transportation/Land Use grant program that would: <ul style="list-style-type: none"> § Provide funding for transportation improvements to local governments with land use plans that encourage compact developments § Provide funding to regional organizations to complete detailed land use scenario plans § Provide assistance to local governments with implementation of transfer of development rights programs and designation of urban development areas

Implement Pricing and Demand Management

As population and economic activity increase throughout the state, Virginia faces a future of increasing traffic congestion. Capacity-increasing projects alone can not meet the demand. Aggressive and innovative steps are needed to manage the forecasted surge in traffic volumes. In addition to technology that was discussed previously, two areas show promise for Virginia – pricing and demand management.

Minimize Congestion
Priority: Implement Pricing and Demand Management
Unfunded Need: To be determined
Background: <ul style="list-style-type: none"> • Develop HOT lane network for NoVA; study potential for congestion pricing in Hampton Roads – particularly on river crossings. • Conduct ITS and Operations Utility Study to investigate new initiatives and implement pilot projects as needed • Continue to support DRPT in its TDM programs. (Park and Ride study, parking info/ITS)

Pricing – Pricing works by shifting a percentage of peak hour highway travel to other transportation modes, to off-peak periods, or to less congested routes. Four main types of pricing strategies are: variable tolls on separated lanes within a highway; variable tolls on entire roadways during peak periods; cordon charges – either variable or fixed charges to drive within or into a congested area within a city; and area-wide charges – per-mile charges on all roads within an area that may vary by level of congestion.

Virginia has begun construction of its first HOT lanes on the I-495 Capital Beltway in Northern Virginia. HOT lanes price travel based on the level of congestion, thereby efficiently allocating road capacity based on market demand. As HOT lanes become congested, the toll increases. When completed in 2013, the project will provide two HOT lanes in each direction stretching 14 miles from the Springfield Interchange to just north of the Dulles Toll Road. As lessons are learned with this strategy and more success is realized, more pricing projects are anticipated in the Northern Virginia and possibly the Hampton Roads area.

Demand Management – Through DRPT, the Commonwealth partners with local commuter assistance programs, MPOs, various Transportation Management Associations, and others to provide TDM programs throughout the Commonwealth. TDM programs help manage travel demand to make our systems more efficient by moving more people in fewer vehicles, moving trips out of the peak period, or eliminating trips altogether. TDM measures include HOV lanes, carpooling and vanpooling, teleworking, and Park and Ride lots.

Each full-time teleworker saves the taxpayer \$2,800 per year in road maintenance and expansion costs. According to a study conducted by DRPT in 2007, 12% of Virginia’s workers teleworked on average at least once a week, up from 3.2 % in 2000. In addition, 21% of Northern Virginia workers (up from 13% in 2004), 13% of Richmond’s workers, and 7% of those in Hampton Roads teleworked.

Increase Transit Usage and Supporting Land Uses

Over the next 25 years as the Commonwealth continues to grow and energy prices increase there will be increased demand for transit service. The current state transit funding programs are typically used for capital maintenance such as bus replacement and operations, and expansion of rapid transit requires successful completion of the time intensive and nationally competitive federal New Starts program.

In many areas of the Commonwealth, transit services are an essential part of the transportation infrastructure. Transit increases access and mobility for Virginia residents by enabling more efficient use of the transportation network, thus saving time, conserving energy, and providing economic benefits to the customers and communities served. An expanded transit network would extend the spine network established by high speed and intercity rail into the major activity centers in the metropolitan areas served.

The Commonwealth needs a Transit Enhancement Fund for major transit construction improvements to expand transit capacity and leverage local and federal dollars. The program would require that local governments make commitments to provide supportive development patterns along corridors where transit expansion occurs. This will allow compact development and supporting infrastructure to advance in harmony – increasing the efficiency of state investments and enhancing quality of life for citizens. Transit supportive land uses improve the home-to-work trip by supporting increased transit usage, reduce roadway congestion by encouraging walking and reducing vehicle trip lengths, and have economic development benefits. The fund would be for capital improvements, require a competitive process and the development of criteria for selection of recipients. It also requires the identification of a funding source.

This Transit Enhancement Fund will provide several transportation benefits. The increased transit service can help accommodate home to work trips and trips for recreational activities, while the increased proximity from supportive development patterns will reduce the length of vehicle trips for shopping and other activities and make walking attractive and comfortable. The net effect of the program would be to make allow transit to service as an attractive option for certain classes of trips and to reduce the highway congestion for other trips due to the shorter distances.

Minimize Congestion
Priority: Increase Transit Usage and Supporting Land Uses
Unfunded Need: To be determined
Background: <ul style="list-style-type: none"> • Transit capacity expansion will be necessary to accommodate increased demand due to Virginia's growing population and higher energy prices • Efficient and convenient transit service is vital to supporting compact development patterns that reduce the pressure on the congested highway network • Strengthen policies and continue initiatives that support transit-oriented development • Establish Transit Enhancement Fund, similar to Rail Enhancement Fund

Recommendation:
Establish Transit Enhancement Fund

The anticipated growth in population and jobs will result in increased demands on transit systems, especially in urban areas, requiring capacity expansion. Even assuming that the share of total trips provided by public transportation remains constant, a large investment in transit capacity will be needed to maintain levels of service.

How Do These Investment Priorities Become a Reality?

These Investment Priorities take time and money to become reality. There are three categories of actions needed to ensure that these Investment Priorities move from ideas and thoughts on paper to the quality Virginia multimodal transportation system. They include:

- **Funding/Investment**
 - **Invest More in Transportation.** The general Assembly must substantially raise investment in transportation to keep Virginia moving. The benefits of such investment, as well as the consequences of underfunding, have been discussed throughout this VTrans2035 report.
 - **Establish Strategic Infrastructure Investment Fund.** This fund would allow for the implementation of game-changing megaprojects such as the four examples provided. The projects initially would be funded through current sources, and 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.
 - **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.
 - **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.
 - **Consider CoSS in Funding Decisions.** The CoSS needs should be one 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.

- **Planning Process**

- **Appoint Planning Policy Committee.** A standing committee of selected CTB members and members from the Port and Aviation Boards should be appointed to advise on all policy issues associated with the development of the statewide plan and associated activities such as the future CoSS master plans.
- **Develop VTrans2035 Action Plan.** This document establishes a framework of Investment Priorities and strategies. An administrative action plan needs to be prepared to implement these recommendations.
- **Develop Regional Transportation and Land Use Performance Measures and Goals for Urban Regions.** These should be developed and transportation funding prioritized based on meeting the goals.
- **VDOT to Coordinate Right-of-Way Usage for Provision of Fiber Optic Connections.** This improves rural connectivity by enabling broadband access.
- **Prepare CoSS Master Plans.** Detailed master plans incorporating both transportation improvements and land use recommendations are required to keep the CoSS process moving and to protect the functionality of the corridors.
- **Review CoSS Periodically.** The CTB should review the CoSS periodically and consider additions or deletions according to the criteria.
- **Continue Surface Transportation Plan and Other Modal Plans.** VTrans2035 establishes the overall policy direction and the next level of plans identify more specific actions and projects. The Surface Transportation Plan as well as the modal updates for the Department of Aviation and the Virginia Port Authority should reflect the VTrans2035 Plan recommendations.
- **Support Use of Economic Planning Tools.** Economic impact analysis should be incorporated more rigorously into analyses and multimodal decision-making.
- **Support Dynamic Dialogue with State, Regional, and Local Partners.** There is the need for continued multi-agency involvement at all levels of government to promote partnership and share lessons learned as Virginia takes great strides to better integrate transportation and land use decisions.
- **Align Subsequent VTrans Updates with Administration Cycles.** The statewide transportation plan needs to be updated at least every five years. The recently elected Administration will serve from January 2010 to January 2014 and the completion of the plan update may not be in this Administration's timeframe. Subsequent updates should be aligned so that every Administration has a Plan produced during its timeframe to guide transportation policy and investment decisions.

- **Staff Resources**

- **Maintain OIPI.** There must be staff whose primary responsibility is following the progress of VTrans2035 across all the implementing agencies.

Staffing and funding levels of OIPI should be continued, including oversight and leadership at the deputy secretary level.

- **Continue the VTrans Multimodal Advisory Committee (MAC).** The MAC assisted in the development of VTrans2035 with staff to prepare and/or review policy papers as well as provide agency coordination. The MAC should continue to monitor VTrans2035 and begin to plan for its update.

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