Overview

The Virginia Department of Transportation manages the maintenance of about 128,500 lane miles of pavement, divided into these categories:

- Interstate – about 5,500 lane miles
- Primary – about 22,000 lane miles
- Secondary – about 100,300 lane miles
- Frontage – about 650 lane miles

Cities and towns also manage about 10,500 miles of urban streets while two counties, Henrico County (1,373 miles) and Arlington County (366 miles), maintain their own roads.

In addition to pavement, Virginia’s transportation network infrastructure also includes:

- More than 11,900 bridges and 7,550 culverts
- Four underwater crossings in the Hampton Roads area
- Two mountain tunnels on Interstate 77 in southwest Virginia: East River and Big Walker
- Rosslyn Tunnel on Interstate 66
- Eleven movable bridges
- Five Traffic Operations Centers and two Customer Service Centers
- Three toll roads (Northern Virginia’s Dulles Toll Road, The Powhite Parkway Extension and Pocahontas Parkway near Richmond)
- One toll bridge (The George P. Coleman Bridge)
- Three ferry services (Jamestown-Scotland, Sunnybank, and Merry Point)
- Forty-one safety rest areas and 12 welcome centers along major highways
- More than 100 commuter parking lots
- The Virginia Capital Trail bicycle and walking path
I’m pleased to present the Virginia Department of Transportation (VDOT) business plan for CY 2018 - 2021.

Our mission is to plan, deliver, operate and maintain a transportation system that is safe, enables easy movement of people and goods, enhances the economy and improves our quality of life.

The following agency goals are at the forefront of our efforts to pursue that mission:

- **Executing the program.** Keep projects on-time and on-budget.
- **Maintaining the infrastructure.** Assess needs, establish goals and keep infrastructure and facilities in good repair.
- **Ensuring a sustainable pipeline of projects.** Plan for, design and construct projects that meet Virginia’s transportation needs.
- **Operating our system efficiently.** Focus on moving people and goods.
- **Developing and maintaining a highly trained workforce.** Get the right people with the right skills in the right positions.
- **Being transparent.** Let employees, partners and customers know what we are doing, and why.
- **Managing the business.** Time is money.
- **Being innovative.** Transportation is changing, and we must take advantage of technological advances.
- **Being safe.** Safety is not just a slogan, and we are all accountable.

These objectives, detailed in the following pages, set a clear direction for our path moving forward. At VDOT, each of us has a responsibility to uphold these tenets and see that each action item is achieved as we continue working to make Virginia’s transportation system the best in the country.

Stephen C. Brich, P.E.
Commissioner
VDOT’s Mission

Our mission is to plan, deliver, operate and maintain a transportation system that is safe, enables easy movement of people and goods, enhances the economy and improves our quality of life.

Workforce Code of Ethics and Values

VDOT Code of Ethics

Each employee will:

- Commit to be a trusted steward of public resources
- Act with integrity in all relationships and actions in the work environment
- Abide by Virginia’s Standards of Conduct for employees
- Not engage in conflicts of interest between private interest and professional role
- Not use public resources for personal gain
- Not accept or give gifts in violation of the State and Local Government Conflict of Interests Act
- Not knowingly make a false or fraudulent statement
- Not knowingly conduct or condone any illegal or improper activity

VDOT Shared Values

Each employee will:

- Be responsive to customer needs, consider what VDOT does in terms of how it benefits our customers, and treat customers with respect, courtesy, and fairness
- Commit to safety and continuous improvement in everything we do, learning from mistakes and successes alike
- Trust, respect, support and encourage each other
- Respect and protect the public investment
- Make decisions based on facts and sound judgement and accept accountability for our actions
- Strengthen our expertise in using information, tools, and technology to achieve high performance and stay on the cutting edge
- Think ahead, acting and planning creatively for today and tomorrow
Agency Goals

VDOT will:

**Execute the Program**
It is our job to execute the program, even with one-third of our construction projects being locally administered. High-level focus will remain on safety, delivering projects ahead of schedule and under budget, and improving infrastructure condition.

We will develop strong partnerships with localities and foster open collaboration with business partners. Each partner has an important role to play and successful execution requires effort from us all.

**Maintain Infrastructure**
We will maintain infrastructure to a state of good repair. Significant strides have been made; preventative maintenance and rehabilitative efforts will continue, but most of the ‘low hanging fruit’ has been picked.

As assets age beyond the reach of rehabilitation, we must work with localities, regional entities and business partners to prepare for reconstruction.

**Ensure a Sustainable Project Pipeline**
We will work with localities and regional partners to develop and maintain a sustainable pipeline of quality projects. This collaboration will ensure readiness for SMART SCALE and State of Good Repair (SGR) program consideration, from planning and design through construction.

Successful implementation of this pipeline relies on having a stable, highly trained, and experienced workforce.

**Ensure Efficient Highway Operations**
We will operate our roadway network more efficiently, focusing on moving people and goods using tactics like improved signal timing.

We will implement incident management, traffic management and innovative technological solutions such as using unmanned aerial systems in crash reconstruction and congestion/incident management.

**Develop the Workforce**
We will develop a highly trained workforce, able to meet today’s objectives while being prepared to anticipate and tackle tomorrow’s opportunities. Partnering with the private sector to develop staff is key to getting the right people with the right skills into the right positions.

VDOT is committed to:

**Be Transparent**
We will maintain focus on performance management, continuing to openly provide information to the public. Partners and customers should know what we are doing and why we are doing it.

We will work with localities, regional entities and business partners to help them gain a better understanding of their impact on the Commonwealth’s performance.

**Be Innovative**
Technology is changing the way we do business. We will be innovative, taking advantage of technological advances such as connected and automated vehicle technology.

The transportation industry is changing and we will improve the policies, administrative practices and speed/quality of construction, maintenance and procurement program delivery.

**Be Business Focused**
Our business focus will continue to be based on strong performance management practices and objectives, while streamlining our processes.

We will establish fair and reasonable project delivery goals, while ensuring that our local and private-industry partners understand their role in success program delivery.

**Be Safe**
Safety is not just a slogan; it is an expectation. We will work with law enforcement and communications partners to enhance traveler safety, while continuing to implement engineering and operational safety solutions. We remain committed to providing a safe working environment and will continue to foster an active workforce safety culture.

We Keep Virginia Moving
1. Execute the Program
We will keep high-level focus on safety and delivering projects ahead of schedule and under budget.

- Meet Six-Year Improvement Program (SYIP) project development and delivery targets
  - Award 70 percent of projects by the planned award date.
  - Ensure 74 percent of projects have estimates within the approved project budget.
  - Complete 77 percent of contracts on time.
  - Complete 85 percent of contracts on budget.
  - Ensure 85 percent of projects complete federal financial closure on-time.

- Enhance and streamline procurement processes
  We will assess and implement cost-effective practices and tools to reduce procurement time.
  1.1: Complete a pilot of a progressive design-build project management approach that promotes collaboration of all interested parties early in the process.
  1.2: Further improve the Consultant Procurement process to ensure that 80 percent of procurements are completed within 110 business days.
  1.3: Develop a comprehensive approach to improve project cost estimating.

- Strengthen the locally administered program
  The locally administered program is a growing part of the transportation program. VDOT cannot execute the program successfully without its local partners.
  VDOT will review the local program and develop a list of recommendations designed to mitigate risks and increase the success rate. This review may include:
  1.4: Defining roles for VDOT and localities
  1.5: Optimizing project administration based on risk and cost factors
  1.6: Creating a Local Assistance Qualification program
2. Maintain Infrastructure

We will maintain our infrastructure to a state of good repair.

- Assess needs, establish goals and maintain infrastructure and facilities in good repair
  
  **2.1:** Determine the level of investment needed to create a sustainable program for Interstate, Primary and Secondary pavements and bridges.
  
  **2.2:** Establish new performance measure goals down to the Area Headquarters level for Interstate, Primary and Secondary pavements and bridges.
  
  **2.3:** Develop and implement a plan to address VITAL (Very large, Indispensable, Transportation Asset List) Infrastructure long-term maintenance needs. The plan should identify funding sources as well as a life-cycle based work plan for each structure.
  
  **2.4:** Develop a contingency plan for State of Good Repair (SGR) Program projects if a project becomes over-expended.
  
  **2.5:** Develop a life cycle plan for major assets that schedules major rehabilitative work as well as plans for end-of-life asset replacement.
  
  **2.6:** Develop proactive cyclic work plans for preventive roadway maintenance activities balanced with efficient customer service work order responses. This is a collaborative effort involving the District Engineers, State Maintenance Engineer and statewide working groups.
  
  **2.7:** Develop and implement a statewide facility management plan. This includes addressing issues such as the following:
  - Technology solutions to support collection and management of data
  - Individual facility condition assessments
  - Statewide facility needs assessment based on organization structure and functions
  - Short-term and long-term funding strategies and annual/biennial funding needs
3. Ensure a Sustainable Project Pipeline

We will work with local and regional partners to ensure project applications received are of sufficient quantity and quality to meet Virginia’s transportation needs.

**Improve the project identification process**

3.1: Review the project identification process and available funding sources to take into account the changes brought by SMART SCALE. The review will identify ways to incorporate the following:

- Solicit public input first, prior to developing alternatives
- Work in a collaborative manner with all stakeholders to develop the right alternative early in the project identification process
- Develop more accurate scopes, schedules and cost estimates before the project is approved

3.2: Develop an engagement plan that outlines the services that VDOT can offer to localities to assist in the development of their transportation plans.

**Enhance project development**

Improve the project development process to take into account changes brought by the SMART SCALE and State of Good Repair programs. Changes should include (but not be limited to) the following:

3.4: Reviewing the scoping milestone and public involvement milestones and determining, what, if any activities should be conducted prior to project selection

3.5: Streamlining the project development process so that all SMART SCALE projects are completed within 72 to 90 months of appearing in the SYIP

3.6: Determining how VDOT should adjust its resources
4. Ensure Efficient Highway Operations
We will operate our roadway network more efficiently, focusing on moving people and goods.

- **Address existing mobility challenges**
  We will utilize field expertise to share best practices and implement enhancements that maximize use of resources to attain mobility goals.
  
  4.1: Develop and deploy operational improvement teams. These teams will review, refine and implement improvements such as the following initiatives:
  
  4.2: Establishing an Arterial Mobility Action Plan that includes arterial preservation studies and access management
  
  4.3: Developing a plan to improve signal timing and operations on congested corridors
  
  4.4: Developing site specific community strategies for highly congested intersections
  
  4.5: Refining and expanding the Towing and Recovery Incentive Program statewide
  
  4.6: Updating snow operating procedures to include technological solutions and best practices
  
  4.7: Implement infrastructure-light solutions to include replacing traditional lights with LEDs, replacing crash cushion with retractable crash cushions, and deploy LoRa (long range, low power wireless platform communications) at appropriate lots.
  
  4.8: Establish a plan to replace Active Traffic Management (ATM) gantries with a virtual ATM network and broadcast the information with the ability/format for use with connected and automated vehicles.
  
- **Define Traffic Management of Tomorrow**
  
  4.9: Partner with the private sector to develop a vision for the future of traffic management that improves the quality of information provided to the public while reducing public investment. The vision will address how we will become both a data provider and a data consumer, leveraging private resources and technology to improve policies, procedures, operations and increase resiliency against natural and man-made disasters.
  
- **Develop a plan to implement Traffic Management of Tomorrow**
  
  We will develop a plan to move from the current state to the future state. This includes but is not limited to defining: roles and responsibilities, infrastructure and technology requirements, investment and funding needs, legal and regulatory revisions, and appropriate agreements with localities and other partners.
  
  4.10: Develop a strategy for migrating public-facing 511 features to private sector partners.
  
  4.11: Design a Memoranda of Understanding for Interoperability between State and Local Transportation Operations Centers.
5. Develop the Workforce
We will develop a highly trained workforce, able to meet today’s objectives while being prepared to anticipate and tackle tomorrow’s opportunities.

Define the Workforce of Tomorrow
5.1: Identify desired technical and behavioral competencies, and focus hiring practices on these competencies.
5.2: Develop new employee mentoring and ongoing training programs that ensure critical training is completed.
5.3: Conduct a study to analyze skills and behavioral gaps to develop position-specific training with appropriate delivery mechanisms to help mitigate turnover throughout the agency and provide opportunities for career advancement of our employees.

Develop Leaders of Tomorrow
Develop a comprehensive leadership program throughout the agency.
5.4: Implement the agency succession plan
5.5: Formalize job rotation
5.6: Establish a leadership mentorship program
5.7: Establish a skill development curriculum for leadership positions
5.8: Integrate new leadership competency models

Strengthen the knowledge base
5.9: Develop and implement the Transportation Program Management Academy to help strengthen the financial aspect of project management.
5.10: Develop a certification for VDOT and industry utility coordinators.
5.11: Institutionalize a learning feedback loop to collect, review, share and implement best practices. This includes policies, procedures and lessons learned from internal and external stakeholders.
6. Be Transparent

We will maintain focus on performance management, continuing to openly provide information to the public. Employees, business partners and customers should know what we are doing and why we are doing it. We will work with localities, regional entities and business partners to help them gain a better understanding of their impact on the Commonwealth’s performance.

- Transform engagement
  Transparency starts with listening. We will reinvent internal and external (public, stakeholders, project management partners) engagement to collect feedback and distribute clear, direct communications on major programs, projects, products and services, leveraging technology as appropriate.

  6.1: Identify and implement modern solutions for public engagement in the planning process. This could include using tools to livestream public meetings and promote public involvement and engagement by using digital and social media outlets, such as Facebook, Twitter, YouTube, etc.

  6.2: Complete the upgrade to Dashboard 4.0.

  6.3: Improve the visibility of agency financial information to the public.
7. Be Business Focused

*Time is money.* We will continue to improve performance management practices and objectives, while streamlining our processes.

- **Streamline Processes**
  
  We will analyze, streamline, and document key business processes, and cascade a continuous improvement philosophy throughout the agency.

  7.1: Implement a continuous improvement program deep into the VDOT culture and focus staff on finding simple, cost effective ways of doing their jobs. This will include the following:
  
  - Seeking Innovations to improve products and reduce life cycle costs
  - Estimating Return on Investment (ROI) to determine the innovations with the highest potential
  - Piloting the most promising innovations and evaluating them based on objective measures of success
  - Using the results of the pilot to make an informed decision regarding implementation
  - Validating the ROI over the long term and using data to make adjustments as needed

  7.2: Streamline and strengthen VDOT’s process for identifying and funding operations and information technology projects.

- **Automate Processes**

  7.3: Eliminate paper from all key processes by 2022 using electronic procedures for signatures, document workflows and document archiving.

  7.4: Develop a Content Management Strategy to outline how agency content should be developed, housed, shared, stored and destroyed. We will establish an enterprise architecture to better organize data with business needs.

  Develop and implement a *secure electronic information sharing environment* that enables efficient, accurate, and timely sharing of information within VDOT and with transportation project performers, partners and stakeholders including the following initiatives:

  7.5: Evaluate road issue reporting and tracking needs

  7.6: Evaluate a solution for third party single sign-on access

  7.7: Evaluate additional capabilities of GIS systems

  7.8: Evaluate the use of AASHTOWARE Construction and Materials Data Management System (including funding needs)

  7.9: Evaluate electronic workflow and approval tools such as Project Wise and bidexpress.com

  7.10: Evaluate cloud deployment data and technology efficiencies

  7.11: Develop and implement an *electronic document handling system* to enable agency-wide paperless document creation, review, approval/signature, distribution and centralized storage/access. The initial focusing should be on digital forms, invoices and contracts/agreements processes.
### 8. Be Innovative

We will be innovative, taking advantage of technological advances such as connected and automated vehicle technology. The transportation industry is changing and we will improve the policies, administrative practices and speed/quality of construction, maintenance and procurement program delivery.

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<tr>
<th>Establish core responsibilities and performance expectations for VDOT’s Office of Strategic Innovation (OSI) including:</th>
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<tr>
<td><strong>8.1:</strong> Develop protocols to evaluate emerging innovative technologies and establish architectural patterns to implement these new technologies as part of routine business, such as establishing a centralized Unmanned Aerial Systems (a.k.a “Drone”) approach.</td>
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<td><strong>8.2:</strong> Assess the capability to provide broadband to underserved regions of the state by facilitating fiber and wireless service expansion within VDOT’s right-of-way.</td>
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<td><strong>Modernize the transportation networks’ cyber security</strong></td>
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<td>We will strengthen cyber security by managing ever-increasing cyber threats through the testing and implementation of solutions to protect and safeguard VDOT’s workforce, work processes, transportation systems and the traveling public.</td>
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<td><strong>8.3:</strong> Develop a risk-based prioritized remediation work plan to address transportation network security issues.</td>
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<td><strong>8.4:</strong> Implement modern identity and authentication processes, tools, and systems to access transportation network technology assets.</td>
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<td><strong>8.5:</strong> Develop and provide transportation network cyber security training to system developers, system operators, and support staff.</td>
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<td><strong>Develop a statewide Connected and Automated Vehicles (CAV) Strategic Plan</strong></td>
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<td>We will continue to work collaboratively with researchers, industry partners, peer agencies and localities to utilize technological advancements focused on improving safety and mobility and to shape the future transportation network.</td>
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<td><strong>8.6:</strong> Work with the Department of Rail and Public Transportation (DRPT), localities, and industry partners to support mobility-as-a-service concepts and other shared mobility options.</td>
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<td><strong>8.7:</strong> Publish the CAV Strategic Plan which will include items such as:</td>
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<td>- Expanding real-time signal data broadcasting</td>
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<td>- Conducting agency and partner training on CAV technologies</td>
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<td>- Testing Security Credential Management System (SCMS) tools</td>
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9. Be Safe

We will work with law enforcement and communications partners to enhance motorist safety while continuing to implement engineering and operational safety solutions. We remain committed to providing a safe working environment and will continue to foster an active workforce safety culture. Safety is not just a slogan; it is an expectation.

- **Improve work zone safety**
  We will evaluate and implement technology, tools, policies and procedures to improve public awareness and provide additional alerts to reduce the number of work zone incidents and injuries.
  
  9.1: Evaluate and implement alternate information sharing strategies to provide enhanced travel information.
  9.2: Assess the capability of “geo-fence” technology and services.
  9.3: Develop and implement distracted driving campaigns.

- **Improve traffic safety**
  We will deploy, track, analyze and refine programs, policies and procedures to reduce the number of traffic incidents, injuries and deaths.
  
  9.4: Incorporate proven low-cost/high-benefit highway safety treatments at locations with a crash history or risk.
  9.6: Improve qualitative crash analysis capabilities by collecting data from alternate sources and utilizing intelligent big data analysis techniques to identify and develop strategies and predictive solutions.

- **Improve workforce safety**
  We will deploy, track, analyze and refine policies and procedures to improve the safety culture, focusing on reducing the number of office and field workforce injuries and illnesses.
  
  9.7: Set safety participation and performance goals for each District and Division.
  9.8: Assess and modernize safety education, training and awareness.
Photographs

Front cover: The High Rise Bridge on Interstate 64 over the Elizabeth River in Chesapeake. The new bridge will be built south of the existing one, carrying three westbound lanes and having a 100-foot vertical clearance.

Page 2: Interstate 64 Widening Project in York and James City counties and Newport News

Page 6: I-64 High Rise Bridge project, Hampton Roads District

Page 7: Boydton Plank Road (Route 1) Bridge Repairs in Dinwiddie

Page 8: Interstate 81 public meeting, Plecker Center, Blue Ridge Community College

Page 9: Rt. 29 grade-separated intersection at Rio Road, Albemarle County

Page 10: 72nd anniversary of VDOT’s Core Development Program, Safety Competition judging during the Statewide Roadeo and Safety Training Day, and OSHA training held at the Business and Workforce Development Center

Page 11: VDOT project dashboards: SMART SCALE, Dashboard 3.0 and Dashboard 4.0

Page 12: Atlantic Gateway ground breaking ceremony on Interstate 95


Page 14: Safety Service Patrol vehicle demonstration by James J. Smith SSP Contractor, and VDOT Worker’s Memorial on Afton Mountain - cones signed by VDOT employees

Page 15: VDOT truck practicing safe backing during the 2018 Statewide Roadeo and Safety Training Day

Back cover: VDOT Worker’s Memorial on Afton Mountain. Dedicated on Sept. 17, 2004, the monument honors Virginia transportation workers who lost their lives serving the Commonwealth