CHANGE FOR THE BETTER

BIENNIAL REPORT JULY 1, 2004-JUNE 30, 2006

VDOT Virginia Department of Transportation

Timothy M. Kaine,
Governor

Pierce Homer,
Secretary of Transportation

David S. Ekern, P.E.
Commonwealth Transportation Commissioner
(appointed Sept. 8, 2006)

This report traces VDOT's progress from July 1, 2004- June 30, 2006, which includes our anniversary year and the 50th year of the nation's interstate highway system.

100 YEARS OF TRANSPORTATION EXCELLENCE

As this biennium closes, the Virginia Department of Transportation celebrates 100 years of transportation excellence. The first State Highway Commission formed on March 6, 1906, and numerous changes and transformations have occurred over the last 100 years to get the agency where it is today. Our name has changed four times to reflect our changing responsibilities, and we have gone from mud to mobility and on to multimodalism in the course of a century.

Coincidentally, 2006 also marks the 50th anniversary of the Interstate Highway System. Fifty years ago on June 29, 1956, President Dwight D. Eisenhower signed the Federal-Aid Highway Act of 1956 – the legislation credited with creating the National System of Interstate and Defense Highways. It is fitting that the commemorative reverse convoy of the cross-country route taken in 1919 by a then-young Lt. Col. Eisenhower ended on June 29, 2006, by traversing the Woodrow Wilson Bridge into Virginia and on to Washington, D.C. The replacement of the Wilson Bridge is the largest active transportation project currently under construction in the country and is a stellar example of a mega-project that is on time and on budget. And, ironically, the original Woodrow Wilson Bridge was built during the Eisenhower administration.

Pinners Point Interchange (also on front and back cover)

CONTENTS

BUILDING ON SUCCESS

Philip A. Shucet

*In the first year of the biennium, Commissioner **Philip A. Shucet** gained national recognition for holding VDOT accountable to taxpayers. He raised the bar on accountability to a level never seen in VDOT's history. As a result of his leadership, the agency dramatically improved its performance in delivering more projects on time and on budget.*

At the core of Shucet's success was making incremental and sustainable improvements to VDOT's business operations by putting the right people in the right jobs and holding them accountable, setting clear goals and measuring their progress. He is also heralded for developing business tools to help staff reach those goals and conducting the taxpayers' business in the full view of the public eye.

ON TIME

The results are clear: VDOT continues to improve performance by delivering a greater share of contracts on time and on budget. The agency ended FY06 with 84 percent of construction contracts finished on time, an improvement from 75 percent for the fiscal year ending in 2005, and a significant increase compared to 36 percent in FY04. In FY06, 79 percent of maintenance contracts were completed on time, compared to 74 percent in FY05 and 51 percent in FY04.

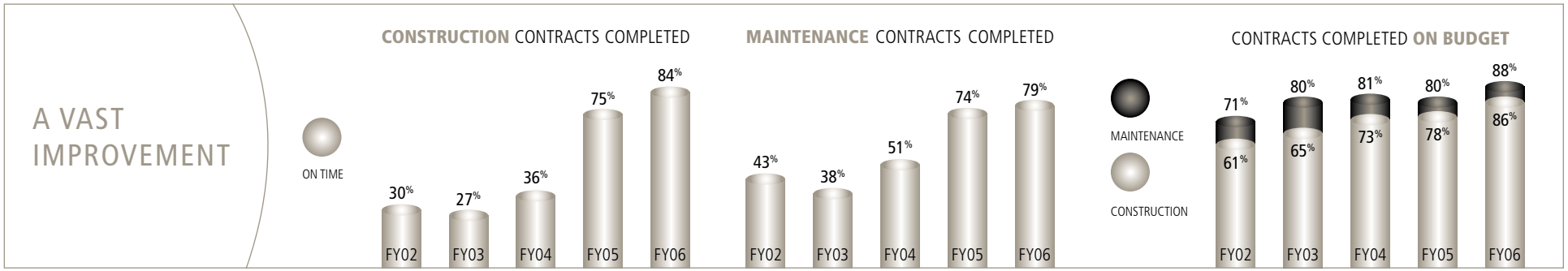
ON BUDGET

VDOT also finished FY06 with 86 percent of construction contracts on budget, compared to 78 percent in FY05 and 73 percent in FY04. Eighty-eight percent of maintenance contracts were on budget for FY06, compared to 80 percent in FY05 and 81 percent in FY04.

To make the improvements sustainable, Shucet made VDOT the most transparent agency in Virginia. Through the Dashboard, a Web-based tracking system for the agency, the public has 24/7 Internet access to the latest status of VDOT's construction projects.

In 2005, VDOT launched ***Dashboard II***, which expanded the original Dashboard sixfold by showing the latest performance of other core business areas, including road maintenance, plans, studies, safety, finances, operations and environmental compliance.

Taking this transparency and openness a step further, VDOT employees in 2005 developed a tool to expedite public-record requests made through Virginia's Freedom of Information Act (FOIA). The "***FOIA Tracker***" is a statewide Web-based management system used to efficiently coordinate and track citizen requests for data and records in any part of the agency. It replaces antiquated spreadsheets and gives up-to-the-minute information on VDOT's responses to FOIA requests. The system also sends e-mail deadline reminders to VDOT employees to ensure compliance with the law. The agency is copyrighting this information management tool.



REORGANIZING AND REFORMING

Gregory A. Whirley

When Shucet left the agency in 2005, Gov. Mark Warner appointed then-Inspector General Gregory A. Whirley acting commissioner effective July 1 of that year – a position he held beyond the end of the biennium. Whirley, a 17-year VDOT veteran and certified public accountant, immediately began putting his fiscal sensibilities to work. Demands for the agency to do more with less continued, and Whirley delivered VDOT's Business Plan, the first such detailed strategy to chart a course for the future.

Leveraging public-private partnerships, assisting localities to take over management of their construction programs and outsourcing are among the smart business approaches this plan outlines to get the most value from Virginia taxpayers' dollars.

Meanwhile, VDOT continued to get better – not bigger. As of June 30, 2006, VDOT employed 9,089 people compared to 9,353 as of July 1, 2004 – a 3 percent decrease by the end of the biennium. The agency has reduced its workforce by 1,300 people over the last five years, resulting in $81 million in salary and benefit savings. During the same five-year period, 2,894 lane miles were added, and other demands have continued to grow at a rapid pace.

LOCAL PARTNERSHIP FUND

One way of doing more with less is allowing more localities to take over management of their own construction projects. The 2005 Virginia General Assembly expanded eligibility to cities and towns in the urban system, administered a $40 million infusion in the Local Partnership Fund and waived the 2 percent urban matching fund requirement for First Cities for FY06.

First Cities is a program that began July 1, 2004 when Hampton, Richmond and Virginia Beach became the first cities in the commonwealth to take over management of their local road construction programs. This measure has grown since 2004 to include Charlottesville (FY06), Harrisonburg and Bridgewater (FY07). In the past three years, 27 percent of the urban construction program has been taken over by the cities.

VDOT also supported localities that wished to take over maintenance responsibilities. Suffolk was to be the first to assume all maintenance responsibilities for the city, effective July 1, 2006.

OUTSOURCING

By the end of fiscal year 2006, VDOT was outsourcing 77 percent of its interstate maintenance expenditures. Whirley's business plan calls for privatizing all interstate maintenance by July 1, 2009, as required by General Assembly legislation.

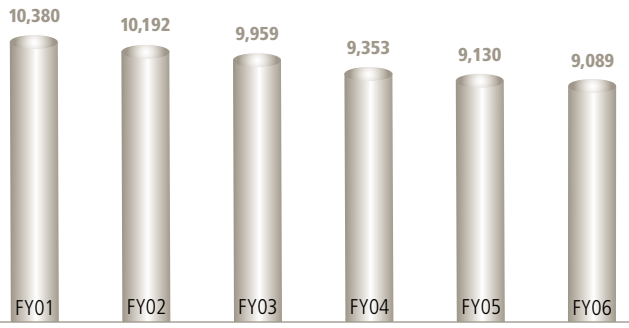
FINANCIAL MANAGEMENT

VDOT continued the practice of strong financial management during this biennium by eliminating construction deficits and obtaining and obligating all available federal funds. Virginia used all core federal highway funds and received an additional $60 million because of its strong financial management efforts.

CHALLENGES

Despite efforts to maximize federal funding, downsize, outsource and privatize, VDOT, like most transportation agencies across the country, faced other challenges including unfavorable market conditions. In 2004, the price of steel shot up as did asphalt paving costs, with both categories rising 45 percent. Sharp increases in diesel fuel prices followed. That increase spread in 2005 to core contractor materials. Overall, construction costs were up 11 percent in 2006 over 2005, which adds $1 billion in new costs to the Six-Year Improvement Program.

VDOT EMPLOYEE NUMBERS



MOVING FORWARD

511 sign unveiled on I-295

Because of a lack of dedicated transportation funding, VDOT turned its attention from building roads to moving traffic more efficiently on the existing infrastructure.

*In February 2005, Virginia's **511** system went statewide. This traffic and travel information system allows motorists to make better traveling decisions by dialing 5-1-1 or by checking the 511Virginia.org Web site. The system includes all Virginia interstates and 55 major primary roads. In March 2006, the service expanded to include four tunnels and seven bridges in Hampton Roads and Northern Virginia. E-mail alerts were also added in this biennium to allow users to get real-time traffic information sent to their computer or mobile device.*

SHIFTING OPERATIONS

While the term "reorganization" has been used in the past to describe shifting the organizational structure of the agency, it was used in this biennium to better describe how VDOT will direct ***systems operations*** going forward. Instead of managing traffic and incidents along VDOT's nine district boundaries, the commonwealth was better divided around operational boundaries based on major traffic corridors.

New Smart Traffic Centers were added with advanced traffic monitoring capability, and five regional operations directors were hired to implement this new approach. As much as 30 percent of congestion is caused by traffic incidents, and these regional centers along with strengthened Safety Service Patrols will help reduce incident duration and congestion. The five regions, organized around major travel corridors, were set to begin operations in July 2006.

By the end of the biennium, reorganization and consolidation were also being considered for VDOT's area maintenance headquarters. As of June 30, 2006, there was at least one ***area maintenance headquarters*** in each of Virginia's counties. Because of the impending outsourcing of all interstate maintenance, the Virginia Transportation Research Council developed a methodology to provide an objective view of superintendents' workload in these area headquarters. Representatives from the Central Office, the Research Council, districts and residencies then analyzed the data factoring in local considerations. No decisions to close any specific area headquarters had been made by the end of the fiscal year.

VDOT is also upgrading its ***rest areas and welcome centers.*** The state's Appropriations Act, adopted in spring 2005, allocated $20 million in funding for improvements—$17 million to rebuild three facilities: the welcome center on I-81 near Winchester, and the rest areas at I-95 southbound near Fredericksburg and I-64 westbound in New Kent. All three are scheduled to open by early summer 2007. The remaining $3 million is slated for site improvements at 12 locations across the commonwealth. The first reconstruction project expected to be completed is the I-81 welcome center, which is due to open in spring 2007.

PROJECTS

While VDOT's construction program was slowing, by the end of the biennium, the agency had completed large and important construction projects, and had others under way.

COMPLETED PROJECTS INCLUDE:

Route 17 (Chesapeake) adds two lanes on the east side of existing Route 17 for about 1.3 miles north of the North Carolina state line. The $40 million project

Left: *Madison Heights Bypass was completed in 2005.*
Center: *Route 17 in Chesapeake added two lanes for 1.3 miles.*
Right: *Nick Nicholson is the Woodrow Wilson Bridge Project manager.*

also includes construction of a new 10.3-mile section about 1,000 yards east of the current road. As part of this project, VDOT donated 758 acres of wetlands to the Virginia Department of Game and Inland Fisheries as wetland preservation. Wildlife passages are included throughout the project allowing animals to go under the new highway along the Northwest River. It is on time and on budget.
Cost: $40.2 million
Begin date: March 2003
Completion date: November 2005

Pinners Point Interchange (Hampton Roads) includes a new, 1.5-mile bridge over the Elizabeth River. The bridge features a six-lane divided roadway for 3,500 feet that connects to an interchange with Route 58 and the Midtown Tunnel. The interchange reduces traffic in the historic Port Norfolk neighborhood by more than 80 percent, provides a more direct route for industrial traffic to and from the Portsmouth Marine Terminal, and ensures faster, easier access to the Midtown Tunnel for commuters.
Cost: $153 million
Begin date: March 2002
Completion date: October 2005

Route 29 (Lynchburg/Madison Heights) Bypass provides an alternative to the heavily congested U.S. 29 Business route from the city of Lynchburg, through the community of Madison Heights and to the town of Amherst in Amherst County. The 13-mile bypass lies east of existing Route 29 and has major interchanges on the south end at Route 460 and on the north end at Route 29. There are two additional connections from the bypass to Route 29 in Madison Heights, one at the Route 210 interchange and the second at a new interchange with Route 130.
Cost: $272 million
Begin date: June 1998
Completion date: October 2005

MAJOR PROJECTS UNDER WAY INCLUDE:
Springfield Interchange (Northern Virginia) consists of building more than 50 bridges and widening I-95 to 24 lanes between the Beltway and Franconia Road. More than 430,000 vehicles pass through the Springfield interchange daily. VDOT is rebuilding the interchange making it safer for commuters and long-distance travelers by separating their traffic. The eight-year, seven-phase construction project is one of the largest construction projects in the nation. It is on time and on budget.
Cost: Within $676 million
Begin date: March 1999
Estimated completion date: Late 2007

Woodrow Wilson Bridge (Northern Virginia) involves Virginia, Maryland and the District of Columbia, a new bridge over the Potomac River, 7.5 miles of Capital Beltway (I-95/I-495) reconstruction, 12 lanes of highway, demolition of existing buildings and the old bridge, and

TOP 10 VDOT CONSTRUCTION PROJECTS

Active projects that had not been closed out as of June 30, 2006. All are on budget, and all except I-66 and I-295 are on time.

1. **WOODROW WILSON BRIDGE** (Northern Virginia) VDOT portion: **$1.06 billion**
2. **SPRINGFIELD INTERCHANGE** (Northern Virginia) **$676 million**
3. **ROUTE 28** (Northern Virginia) **$174.8 million**
4. **PINNERS POINT** (Hampton Roads) **$153 million**
5. **WEST POINT BRIDGE REPLACEMENT** (Middle Peninsula) **$676 million** *(two projects)*
6. **BATTLEFIELD BOULEVARD** (Hampton Roads) **$98.6 million**
7. **I-295 FLYOVER** (Central Virginia) **$676 million**
8. **I-66 WIDENING** (Northern Virginia) **$37.1 million**
9. **I-77 BRIDGES** (Wythe County) **approximately $41 million**
10. **I-81 BUFFALO CREEK BRIDGES** (Rockbridge County) **$27 million**

ground-breaking innovations such as a see-through sound wall. The new bridge uses pre-cast components to reduce construction time and high-performance concrete for a longer-lasting structure. Construction is taking place over the course of almost a dozen years. It is one of the largest transportation construction projects in the nation and is on time and on budget.
Cost: $1.06 billion (VDOT portion)
Begin date: October 2000
Estimated completion date: Early 2008

Route 58 (southern Virginia) is Virginia's longest roadway, stretching 500 miles from the Atlantic Ocean to the southwest tip of Virginia. The Virginia General Assembly established the Route 58 Corridor Development Program in 1989 to enhance economic development potential across this largely rural portion of the state. The program encompasses improvements to more than 640 lane miles of Route 58 and adjoining roadways.
Cost: $1.04 billion (program expenditures as of June 30, 2006.)
Begin date: 1989
Estimated completion date: Not established; $1.6 billion needed for completion.

MULTIMODALISM

Presented with a report outlining a transportation crisis because of a multi-billion dollar under-investment in funding, the Virginia General Assembly mandated development of a comprehensive long-range multimodal plan to address transportation needs. Multimodal transportation planning is a process that provides more transportation choices, better accessibility to activities and increased mobility.

Called ***VTrans2025***, the plan is a blueprint for shaping the commonwealth's future transportation decisions. Among plan strategies, intermodal connectivity is key. This means, for example, that park-and-ride facilities are located adjacent to high occupancy vehicle (HOV) lanes, and bicycle and pedestrian facilities are provided at transit stations.

The Multimodal Office is conducting a Statewide ***Multimodal Freight Study*** that is expected to be complete by fall 2007. The purpose of the study is to understand the magnitude of freight movement in Virginia, establish a basis for decision-making, and recommend proposals on freight movement transportation issues. Initial efforts include a freight stakeholder forum and questionnaire to large shippers and employers, who provided information on key freight movement issues.

VDOT considers accommodations for pedestrians and bicyclists in all projects and activities. For example, the Pinners Point project in Hampton Roads, complete in 2005, includes two new bike paths. Also in 2005-06, construction was under way on the 54-mile Virginia Capital Trail, adding bicycling and pedestrian paths along Route 5 from Richmond to Williamsburg.

VDOT considers accommodations for pedestrians and bicyclists in all projects and activities.

TEAMING UP

Route 288: PPTA finished in 2004.

It is not only Virginia, but the entire country that is experiencing challenges in terms of transportation financing. VDOT saw the transportation funding crisis coming years ago, and had already begun focusing on privatization, tolling options and other means of innovative financing to get roads built.

The day before the end of this biennium, the Commonwealth Transportation Board approved final adjustments to the Six-Year Improvement Program for FY 2007-2012 based on budget appropriations from the 2006 Virginia General Assembly. While enough money was allocated to continue critical transportation services and programs, there remains a $610 million funding shortage for highway improvements to the primary, secondary and urban systems. Declining growth in key transportation funding sources, rising costs for asphalt and other materials, and growing maintenance needs led to shrinking transportation improvements to the core road systems.

In one effort to find ways to do more with less, VDOT has established itself as a national leader in public-private partnerships and has aggressively pursued them. The agency's strong public-private partnership program includes mandatory risk sharing and the ability to use federal funds in projects. As of the end of the biennium, eight new toll facility proposals were under development, comprising a construction value of more than $11 billion.

PPTA PROJECTS COMPLETED INCLUDE:

Route 199-Work on Route 199 and Route 31 in James City County and Williamsburg in anticipation of the 400th anniversary commemoration of the settling of Jamestown in 2007; completed September 2005.

Route 288-Approximately 17.5 miles between the Powhite Parkway Extension in Chesterfield County and I-64 in Goochland County; completed November 2004.

Route 58, Hillsville to Stuart (Salem area)-Comprehensive agreement signed December 2003; The first design-build contract was completed May 2006.

ACTIVE PPTA PROJECTS NOW UNDER WAY INCLUDE:

Route 28, Northern Virginia-Work began in September 2002; first phase to be completed spring 2007.

Capital Beltway (I-495) Highway Occupancy Toll (HOT) Lanes, Northern Virginia-Comprehensive agreement signed April 2005; includes construction of new lanes and subsequent operation of HOT lanes through 2065.

Coalfields Expressway, Bristol area-Initial engineering work authorized September 2002. Initial engineering contract completed January 2006; VDOT working with two local coal companies to continue project.

In addition, there were several PPTA proposals under review by VDOT's Innovative Project Delivery Division:

- **I-81 widening (325-mile corridor)**-Negotiations currently are under way between VDOT and STAR Solutions.
- **I-95/395 HOT Lanes Proposals**-VDOT is negotiating an interim agreement with Fluor/Transurban
- **Hampton Roads Third Crossing**-Detailed proposals due December 2006.
- **Dulles Corridor Mobility Initiative**-VDOT received unsolicited proposals October 2005 and suspended evaluation of these proposals March 2006. The commonwealth has a memorandum of agreement with the Metropolitan Washington Airports Authority for operation of Dulles Toll Road and completion of the Dulles Rail project.
- **U.S. Route 460 Corridor Improvements**-VDOT issued a solicitation for proposals February 2006; conceptual proposals due Sept. 14, 2006.

OTHER PARTNERSHIPS

International contractors came into the picture over the past two years with HOT lanes proposals from Australia's Transurban group for I-95/495 and a proposal from Swedish firm Skanska to develop the Hampton Roads Third Crossing project. In June 2006, the Pocahontas Parkway in Richmond was privatized when the agency closed on a $522-million, 99-year lease of Route 895 to Transurban.

Building Route 199 in Williamsburg involved a partnership among contractors (front row, left to right) Andy Curtis, Barry Bryant, Gary Massie; and (back row, left) Kevin Gregg, and VDOT. Representing VDOT is David Black (back row, right), Williamsburg Residency construction manager.

REACHING OUT

Two new Highway Safety Corridors were named.

***Safety** has always been the top priority for VDOT, and it is being scrutinized and measured more than ever. The 2005 federal transportation appropriation act called SAFETEA-LU (Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users) authorized spending on an unprecedented number of congressionally designated projects and focused strongly on safety. The act requires states to develop a "**Strategic Highway Safety Plan**" with goals for reducing highway fatalities and injuries. Virginia was on its way to finalizing its plan by the end of the biennium.*

*Already taking steps in that direction, the commonwealth has established "**Highway Safety Corridors**" on high-crash stretches of interstate. In these corridors, state police enforce speed limits more aggressively and higher fines are imposed.*

In January 2005, 13 miles of I-95 in Richmond became the second area in Virginia to be designated a Highway Safety Corridor. Two months later, an 11-mile stretch of I-95 in Prince William County became the third. Virginia's first Highway Safety Corridor designation was a 15-mile section of I-81 in the Roanoke area posted in early 2004. The results are encouraging. The number of crashes decreased by 29 percent in the I-81 safety corridor, and were down by 13 percent in the I-95 section of Richmond in 2005 as compared to the previous year. Statistics were not yet available for the Northern Virginia corridor.

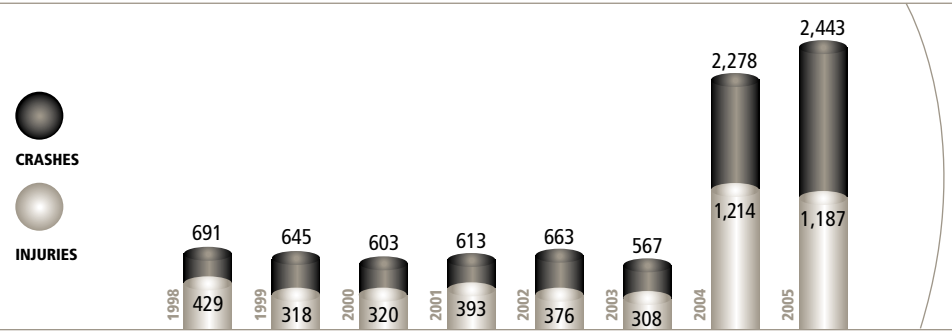
Work zone safety awareness has always been a primary focus for VDOT. Next year will mark a decade of recognizing Work Zone Safety Awareness Week statewide in Virginia. Work zone fatalities and injuries were down slightly in 2005 (the last year statistics were available) compared to 2004, but crashes were up. Fifteen deaths occurred in work zones in 2004 and 14 in 2005. There were 2,443 crashes in 2005 and 1,187 injuries compared to 2,278 crashes and 1,214 injuries in 2004.

To further reduce crashes, injuries and fatalities in work zones, VDOT and Virginia Transportation Construction Alliance (VTCA) volunteers continue to make ***work zone safety presentations*** to Virginia's newest drivers by visiting high school driver education classes. During the 2005-06 school year, VDOT and VTCA reached more than 29,700 students. More than 58,000 students have heard the message since the statewide program's inception in 2004.

In September 2004, a long-awaited ***VDOT Workers' Memorial*** was dedicated in honor of highway workers who have died of work-related causes. Located on a scenic overlook on eastbound I-64, east of Afton Mountain, the granite memorial is engraved with more than 130 names of employees who have died since 1928. The memorial was funded entirely with donations from VDOT employees and retirees, family members, businesses and organizations throughout the state.

The VDOT Workers' Memorial was dedicated September 17, 2004.

WORK ZONE CRASHES



*Reporting procedures changed in 2004

VDOT and VTCA volunteers have taught work zone safety to more than 58,000 students since 2004.

VDOT has long been known for its quick and sometimes heroic responses to snowstorms, hurricanes, floods and other emergency situations. Fortunately, no overwhelming ***statewide emergencies*** occurred during this biennium, so the agency focused efforts on planning for future potential catastrophic events.

Because Virginia, and in particular much of southeastern Virginia, is affected by hurricanes or severe weather during peak storm seasons, VDOT worked with more than 20 emergency response groups and representatives to create the ***Virginia Hurricane Guide*** to meet the needs of the Hampton Roads region. VDOT distributed the guide to nearly 80,000 residents, government offices and community centers in August 2005. It offers information on hurricane wind speeds and categories, maps that explain lane reversals and a list of items to include in a disaster preparation kit. Another 1,400 copies of the guide have been requested and mailed through VDOT's Web site.

Also in preparation for a potential hurricane, the Virginia Transportation Research Council developed a ***Hurricane Evacuation Route Analysis*** that recommended alterations to Hampton Roads' existing

Virginia prepared for hurricanes with a Hurricane Evacuation Route Analysis and an upgraded lane-reversal plan. (Artist's rendering, at left).

traffic control evacuation plan to allow for smoother flow and less congestion at interstate entrance ramps. VDOT implemented this research by upgrading its lane-reversal plan.

Also, in April 2006, the agency began installing 67 gates to help workers close on- and off-ramps and reverse Interstate 64 traffic flows during a major evacuation of Hampton Roads.

The Virginia Hurricane Guide was distributed to nearly 80,000 Hampton Roads residents.

CHANGING FACE

Maureen Hammer meets with VDOT project managers to facilitate trading knowledge.

The Virginia Department of Transportation enjoys a proud history of employee longevity in the workplace. At the end of the fiscal year 2006, VDOT had more than 2,000 employees with 25 years or more of experience, and six people had 50 or more years with the agency. Yet, more people are retiring each year, and with them go many years of knowledge and experience. To stem the tide of this "brain drain," VDOT in 2003, established one of the first Knowledge Management divisions for a state transportation agency. In February 2006, Governing magazine cited Maureen Hammer, director of the ***Knowledge Management Division****, as one of "a new breed of government employee" as she leads the agency's efforts to capture employee and retiree knowledge. In "Expert Exodus," the author highlights knowledge mapping and communities of practice as two techniques that have brought the concepts of effective knowledge use from the private to the public sector.*

The Knowledge Management Division also oversees ***VDOT's research library***, housed at the Research Council in Charlottesville, which in October 2004 converted its extensive holdings to an online catalog that, as of the end of FY06, boasts more than 26,400 item records representing nearly 35,000 volumes.

Another ***demographic change*** facing the agency is the explosive growth in the number of minorities in the state's population. According to the U.S. Census, Hispanic and Asian populations ballooned 37 percent and 29 percent respectively from April 2000 to July 2005. VDOT has responded to that change by offering English as a Second Language, Spanish classes and a translation service through the Civil Rights Division. In addition, it has translated important Web site information and critical publications into Spanish.

In addition to making changes internally, VDOT is aggressively reaching out to small, women- and minority-owned (***SWAM***) businesses to ensure that they have the chance to bid on state projects. To increase SWAM participation, VDOT has been de-bundling contracts where possible creating more opportunities for these vendors. The agency has also supported legislation that would increase the bonding limit from $100,000 to $250,000, providing a greater opportunity for small and minority businesses to bid on contracts. As of the end of fiscal year 2006, 12 percent of VDOT's business went to SWAM firms.

Bridging the Gap is a procurement, contracting and networking conference aimed at small, women- and minority-owned businesses.

DOING GOOD

Researcher Bridget Donaldson uses infrared cameras to monitor animal movement in underpasses and culverts.

VDOT has numerous programs in place to ensure the future of the commonwealth's natural and historic resources, and to minimize the impact of its construction projects.

The Virginia Transportation Research Council concluded a year-long study in 2005 to determine how well deer and other wildlife use highway underpasses and culverts to get to the other side of the road. Data from remote cameras at seven underpasses throughout Virginia revealed that animals do use these structures to safely cross roads, proving that properly designed ***animal passageways*** *are a good investment for VDOT. Infrared camera images show more than 2,000 animals using some of the sites studied.*

This study speaks to an issue many drivers care about – deer-vehicle collisions. About 200 people nationwide die annually in animal-related car crashes. The research noted that while many successful crossing structures cost less than $200,000, studies estimate the cost of a single human traffic fatality at more than $3 million in lost income, medical costs and property damage.

Buck | Deer | Fox | Bear | Coyote | Fawn | Heron

In an unusual partnership, VDOT teamed up with a wildlife biologist from People for the Ethical Treatment of Animals (PETA) who based her graduate research on beaver control devices, commonly called "***Beaver Deceivers.***™" By the end of FY06, 45 flow devices had been installed at 22 sites in three VDOT districts in Virginia's coastal plain. The devices prevent beavers from getting close enough to dam a culvert and almost eliminate the sensation of moving water so it doesn't trigger beavers' instinct to build a dam. Dams create lakes that flow across and undercut VDOT roads. It's important to prevent this from happening so water doesn't flood and possibly freeze on adjacent roadways.

In deeper waters, VDOT is doing its part to preserve the habitat of another species – ***the mussel***. When the Route 15 bridge over the Rivanna River in Palmyra was being moved downstream, divers moved more than 100 mussels from the footprint where the new bridge would go. Such environmental maneuvers have been going on for years for bridge projects in the Clinch River in southwest Virginia, which is home to the most diverse population of mussels in the world including 40 threatened or endangered species.

Not only a friend to animals, VDOT is also a good steward of historic resources. In addition to building bridges, VDOT sometimes restores them. The ***Tapp's Ford Bridge*** crossing the Rapidan River at Madison Mills was built in 1882 as three spans. They were dismantled in 1934, and one of the metal truss spans was eventually reassembled. Until 2004, the span carried Route 645 linking

The Clarkton Bridge was saved and used as a pedestrian trail.

Rappahannock and Fauquier counties. After almost 123 years of service and trespasses of overweight trucks, it was time for a replacement. VDOT placed a new truss bridge that preserves the sense of history on the existing substructure in spring 2006.

Spanning the Staunton River in Charlotte County, the metal truss ***Clarkton Bridge*** was built in 1901. Considered a significant early example of a "camelback through truss" structure, the bridge carried Route 620 across the river until the late 1990s when it became unsafe for traffic. In 2004, VDOT and the Clarkton Bridge Alliance began working to reconstruct the aging bridge as a pedestrian trail. The alliance and citizens raised money to pay for design and substructure work and a new pedestrian railing, and VDOT took responsibility for ongoing maintenance.

Many don't realize it, but transportation-related projects are the largest source of funds for historic preservation and archaeology.

VDOT's ***Cultural Preservation Program*** regularly conducts field studies of proposed highway construction projects to identify historic properties such as archaeological sites, buildings and other structures, old cemeteries and battlefields. Agency archaeologists and architectural historians review plans for new construction

Morris Walton, VDOT environmental specialist, and Stephanie Boyles, wildlife biologist with PETA, show a beaver-restraining system in Prince George County.

and highway maintenance to ensure that effects on properties of cultural and historical significance are avoided or minimized.

One such archaeological site uncovered during this biennium was the circa 1750 Barrett family plantation discovered along the east bank of the Chickahominy River in James City County. In an excavation for the Route 5 bridge replacement project, archaeologists unearthed structural components from the home as well as late colonial housewares.

For FY04-05 and for FY05-06, the agency achieved more than 94 percent environmental compliance.

The Comprehensive Data and Reporting System (CEDAR) came on line at the end of the last biennium and this online documentation system for environmental decisions and projects has evolved during the last two years. In addition to being integrated with ***Dashboard II*** and the Integrated Project Manager, future plans are to incorporate users from the 20 federal, state and non-profit entities with whom VDOT must coordinate environmental clearances. CEDAR is already accessible to the Federal Highway Administration via the department's external Web site.

Environmental maneuvers that protect the ecosystem for bridge projects in the Clinch River have been going on for years. The river houses the most diverse population of mussels in the world including 40 threatened or endangered species.

INVESTING IN RESEARCH

Research Council projects could account for almost $100 million in savings over five years.

Saving lives, saving time and saving money are among the goals of the ***Virginia Transportation Research Council (VTRC)****, a partnership of VDOT and the University of Virginia since 1948. Research is a key component of VDOT's business plan, so the Research Council strives to ensure that the agency nets a good return on the relatively small investment VDOT makes in supporting one of the nation's highest-regarded transportation research centers. While not all of VTRC's projects lend themselves to tangible monetary benefits, for just a handful of projects the Research Council completed in FY 2005 that can be easily quantified, the annual benefit is conservatively estimated at about $19 million. The results of these projects, when fully implemented, could account for almost $100 million in returns to VDOT over a five-year period.*

Selection, piloting and evaluation of best practices in traffic operations and safety is a project that lets VDOT test innovative practices and technologies that other states or countries use at minimal cost. The agency evaluates those practices with the potential for enhancing highway safety in Virginia. Findings from pilot installations will help traffic engineers decide if certain measures can be deployed throughout the state on a more widespread basis.

VTRC materials research projects completed in 2006 alone are saving VDOT millions of dollars annually. For example, a ***life-cycle cost analysis of stone matrix asphalt*** demonstrated a $29,000-per-mile lifetime savings when used instead of conventional dense-graded hot-mix asphalt on heavily trafficked roads. If the cost savings identified continue to hold true, this research will contribute to more than $14 million per year in savings.

In another materials research project, VTRC developed ***lightweight high-performance concrete*** used on the Route 33 bridge over the Mattaponi Rivers that saved VDOT $2 million. Additionally, a project that developed incentives and disincentives for a new pavement smoothness specification is now in place saving VDOT approximately $4.6 million annually.

A handful of projects completed by the Virginia Transportation Research Council in fiscal year 2005 alone could lead to about $19 million in savings.

HARD FACTS

Virginia's current business environment presents short- and long-term challenges that require a strong, focused, flexible business plan from VDOT. That environment includes flat revenue, growing construction and maintenance costs and uncertain federal funding.

Construction and maintenance costs have increased 11 percent in the past year, and with escalating oil prices worldwide, there is reason to believe cost increases will continue. Seventy-four percent of Virginia's road construction program is federally funded and by 2012 will approach 80 percent. This means less flexibility in the construction program.

Projected funding for the primary, secondary and urban systems in the FY 2007-12 program is down $610 million from the FY 2006-11 program. Highway maintenance costs are projected to increase 21 percent, from $1.5 billion in fiscal year 2007 to $1.8 billion in 2012, with a significant backlog of maintenance needs still unfunded. The commonwealth continues to be one of the most rapidly growing states, and Northern Virginia is among the three most congested urban areas in the nation. The pressure faced by the transportation network will not decrease.

VDOT is looking at a multitude of ways to address these issues, including an increased emphasis on managing the maintenance program, directing funds where they are needed most and controlling increasing costs.

To do this, the agency is:

- Outsourcing interstate maintenance and expanding outsourcing on other systems where cost effective.
- Working with the asphalt paving industry to evaluate and identify ways to reduce resurfacing costs.
- Using its Research Council to lead development of innovative materials and engineering and construction techniques to build longer-lasting, less-costly pavements and bridges, and to identify best practices to help reduce construction and maintenance costs.
- Working with the private sector to employ economic solutions to congestion management through the use of HOT lanes and variable pricing, based on the level of congestion.
- Partnering with local governments to more effectively integrate land use and transportation planning.
- Working closely with the Secretary of Transportation, the Department of Rail and Public Transportation, the Port Authority, and shippers to identify and establish measures to ensure effective movement of goods.

VDOT is also reviewing internal business practices to reduce administrative and overhead costs and help funnel more funds into maintenance and construction.

The agency is doing this by:

- Reducing the administrative budget and implementing additional cost-saving controls and efficiency reviews.
- Conducting a detailed, statewide business analysis of all maintenance area headquarters and associated facilities for potential consolidation.
- Reviewing functions in the central office, districts, and residencies for possible consolidation.
- Finding the best mix of the right talents, skills and experience in the workforce, and setting employee levels based on recognition of the change in the way VDOT delivers its core services.

FINANCIAL SUMMARY 2004-2006 BIENNIUM

REVENUES

FY2005

State	2,439,550,202
Federal	466,200,440
Local	86,291,001
Total Revenues	2,992,041,643

FY2006

State	2,464,377,159
Federal	484,011,390
Local	83,563,913
Total Revenues	3,031,952,462

EXPENDITURES

FY2005

Administration Program	221,917,501
Construction Program	1,083,666,088
Maintenance Program	1,302,807,221
Debt Service Related Expenses	220,389,822
Other Programs	107,901,738
Transfers to other State Agencies	23,862,564
Total Expenditures	2,960,544,934

FY2006

Administration Program	255,142,248
Construction Program	957,061,975
Maintenance Program	1,379,275,906
Debt Service Related Expenses	235,179,197
Other Programs	126,980,872
Transfers to other State Agencies	27,205,400
Total Expenditures	2,980,845,598

OTHER FINANCING SOURCES (USES)

FY2005

Transfers to other State Agencies	(70,956,311)
Transfers from other State Agencies	71,175,766
Bond Proceeds	347,828,245
Defeasance Payment	(347,105,183)
Transfers In	763,572,782
Transfers Out	(763,572,782)
Total Other Financing Sources (Uses)	942,517
Revenues and Other Sources over (under) Expenditures and Other Uses	32,439,226

FY2006

Transfers to other State Agencies	(140,449,176)
Transfers from other State Agencies	54,809,464
Bond Proceeds	414,173,425
Defeasance Payment	(148,703,266)
Transfers In	737,301,679
Transfers Out	(737,301,679)
Total Other Financing Sources (Uses)	179,830,447
Revenues and Other Sources over (under) Expenditures and Other Uses	230,937,311

FY2005

Beginning fund balance - July 1 **	1,339,276,262
Ending fund balance - June 30	1,371,715,488

FY2006

Beginning fund balance - July 1	1,371,715,488
Ending fund balance - June 30	1,602,652,799

For monthly cash basis reports, go to VDOT's Web site at www.VirginiaDOT.org.

* This financial summary is on the cash basis. FY2006 information is not final at this time. **Restated for FY2005

For additional copies of this document, call VDOT at (804) 786-2802.

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