

2024

a c l e a n s l a t e



The Virginia Department of Transportation is responsible for building, maintaining and operating the state's roads, bridges and tunnels. VDOT maintains more than 57,300 miles of roads – the third largest state-maintained highway system in the country, just behind North Carolina and Texas. The Commonwealth Transportation Board guides the department's work. The Secretary of Transportation serves as chairman and the Commonwealth Transportation Commissioner as vice-chairman. The 17 board members are appointed by the Governor and approved by the General Assembly. This Biennial Report covers VDOT's progress from July 1, 2002 through June 30, 2004.

Mark R. Warner, Governor
Whittington Clement, Secretary of Transportation
Philip A. Shucet, Commonwealth Commissioner

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a clean slate

VDOT Those four letters evoke many feelings. Some good. Some not so good. Hurricane Isabel...the Midtown Tunnel flooding...the I-64 pavement problem...rising steel prices...a \$2.8 billion cut in the Six-Year Improvement Program.

You could look back over the last two years and conclude that the Virginia Department of Transportation is not moving forward. But we are. More importantly, we're making the kind of improvements necessary to become and remain a great agency. We're making sustainable changes.

VDOT. To me it is the women and men who come to work every day burning with a passion to do their best to Keep Virginia Moving, and give you the Power of Go. Construction managers. Designers. Historians and archaeologists. Maintenance workers. Right of Way agents. A cadre of professional, technical and administrative people with a common goal: they want to be the best, because they know they can be. Here's a bit of what they accomplished during the past two years:

- They built the Dashboard, a nationally recognized tool for project managers.
- They designed and delivered a statewide Project Cost Estimating System (PCES®) now used for every project.
- They brought project programming into the 21st century with an online database, replacing an outdated manual process.
- And they improved performance, delivering more projects on-time and on-budget.



These accomplishments came from employee ranks that are 950 people fewer than just two years ago, avoiding about \$40 million annually in additional personnel costs. The agency is getting better, not bigger.

The successful people at VDOT made important commitments two years ago. A commitment to focus on the most important goals and to measure their progress toward those goals. A commitment to the right attitude of accountability, where people stand up straight to deal with adversity rather than run from it.

They took VDOT's business to you – the taxpayers. The Dashboard, the integrated Six-Year Improvement Program, the quarterly Report Card and a monthly financial summary are all new to VDOT, and are readily available to the public on the Internet. This Biennial Report is another way to keep you informed, highlighting a few of the more important events of the past two years.

Looking to the future, we know we need to maintain the discipline that brought us this far. We know we need to keep making sustainable changes. Not change for the sake of it. But, change for the better. We will do it.

The women and men at VDOT have earned a fresh start. A clean slate.

It's been a good two years. The best is yet to come.

Chris Nutt

a new foundation

To build something truly extraordinary, you have to start from square one.

The Springfield Interchange Project consists of building more than 50 bridges.

Safely delivering projects on time and on budget is the single most important priority for the Virginia Department of Transportation. It has taken more than a mission statement to make it happen. It has taken a complete change in VDOT's mindset. The thinking has changed from estimates and schedules to budgets and deadlines. The new thinking has been put into action by overhauling the agency, including reorganizing divisions and reporting responsibilities, getting finances in order, developing management tools to track progress, and redefining the way the agency does business. Changes have been incremental yet critical in the ultimate goal of creating not just a great organization, but a sustainably great organization.

Accountability tools

Enter the **Dashboard**. Its prototype was revealed to the Commonwealth Transportation Board in August 2002. The Web-based Dashboard serves as an early warning system for project managers to see in an instant which jobs are at risk of falling behind schedule or going over budget. Using the red, yellow and green colors of a traffic signal, the Dashboard also measures VDOT's success by showing which projects are on track, and it serves as a tool to help managers do the best job possible.

In a move to make the agency's business more transparent, the Dashboard was made available on VDOT's Web site. In March 2003 so that the public also can track a project's status and communicate with project managers. The award-winning Dashboard has attracted interest from other transportation departments, foreign countries and private industry.

Also developed in house, VDOT's **Project Cost Estimating System (PCES®)** was adopted agency wide. It takes the guesswork out of cost estimating and allows for better decisions in the earlier phases of a project.

Before the cost-estimating system was developed, VDOT underestimated project costs by an average of 187 percent. That led to programming more projects than the agency had money to build. After one year of using the new cost-estimating system, VDOT reduced the margin to 30 percent.

Another tracking tool came on-line in June 2004. The **Comprehensive Data and Reporting System (CEDAR)** provides one location for documentation of environmental decisions, streamlining interagency actions and communicating environmental commitments made by the department.

The **Right of Way and Utilities Management System (RUMS)** was already in place at the start of the biennium. It has been so successful at helping keep right of way and utilities activities on schedule that other state transportation agencies are buying the rights to use VDOT's software.

Rebuilding VDOT

Building a sustainable organization required getting the right people in the right jobs and taking a hard look at raising the bar on accountability. VDOT launched a **reorganization** in mid-2002.

The purpose was to draw clear lines of accountability and to push as much decision-making authority as possible into the field. The central office sets policy, but VDOT's nine districts are the decision-makers in the field.

The department's wide-ranging reorganization of top leadership posts and central office divisions is unparalleled in VDOT's history. **Key new positions** include a chief financial officer and a system operations chief. Other management changes due to retirements and transfers include new district administrators for VDOT's Salem, Culpeper, and Bristol districts. New administrators were selected for the Hampton Roads and Northern Virginia districts in FY05.

Also, **VDOT's workforce has shrunk** by nearly 950 people since April 2002. The agency has reduced its number of employees by not filling positions left vacant by retirements and attrition. The leaner workforce saves about \$40 million a year in payroll. As of June 30, 2004, VDOT employed 9,353 people, compared to an all-time high of 11,817 workers in January 1979.

Financial makeover

VDOT also tackled getting finances in order. A critical component was improving cash management. Now, VDOT runs a cash flow analysis to make certain that cash is available before project plans are approved. (For more on finances, see page 22.)

VDOT overhauled its six-year programming process to one the agency can actually deliver. It is realistic, and, for the first time, the agency developed an on-line system.



Getting finances in order and having the right tools in place to measure performance and estimate costs were instrumental in turning the agency around.

Better project management

Reorganization has also played a key role in the agency's transformation. Following the Hampton Roads I-64 pavement problem discovered in the spring of 2003, VDOT made further improvements to project management. The problem of improper water drainage was not identified until the 2.5-mile section of interstate was nearly due to open to the public. It took an additional 15 weeks and \$2.7 million in additional drainage work to rectify.

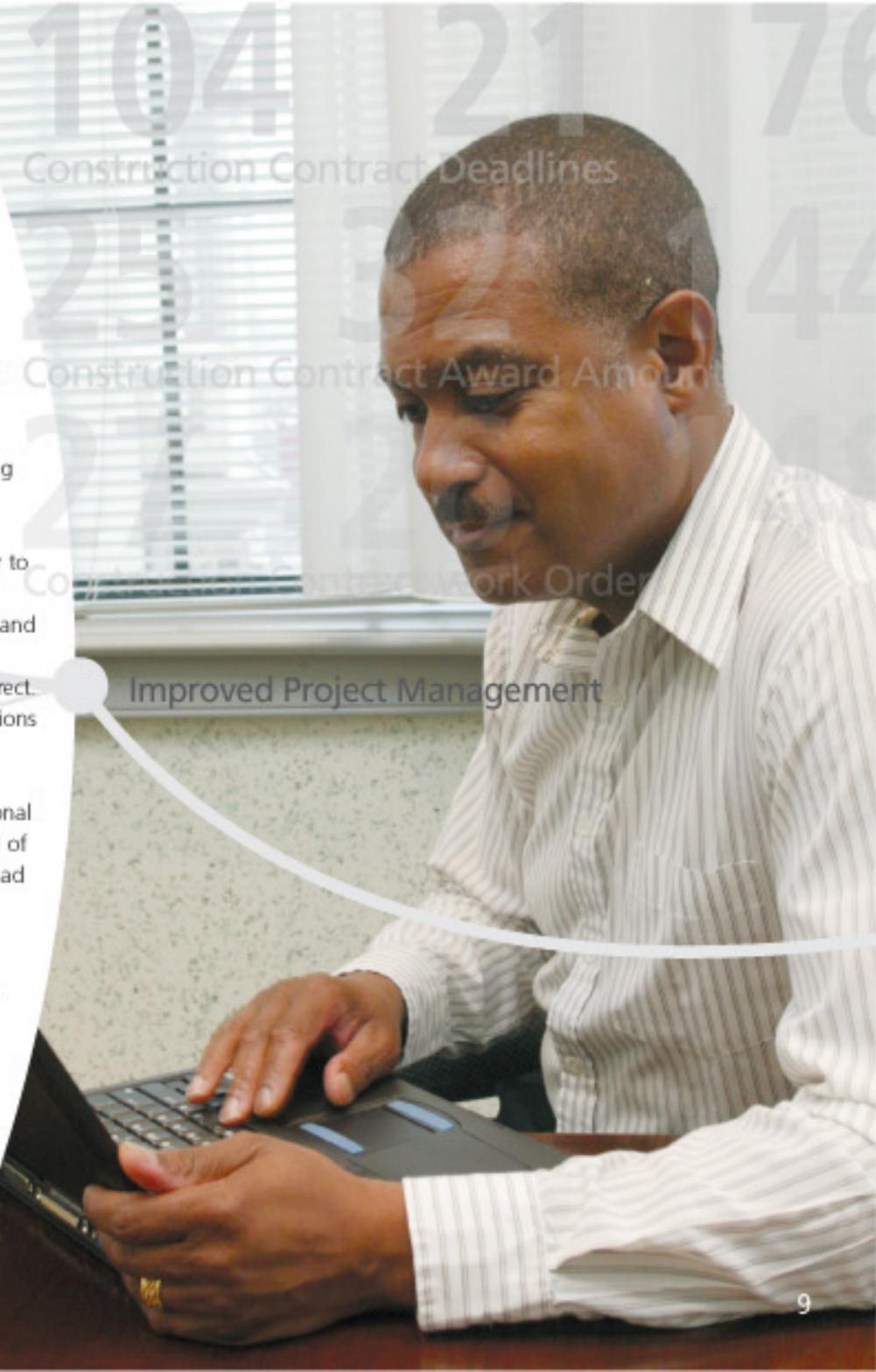
Key to the improvements was accelerating efforts to push as much decision-making authority as possible to the field. Initiatives included:

- Reorganizing the agency so that VDOT's nine district administrators report directly to the Commissioner. Districts are ultimately accountable for their projects.
- Holding regular CEO round-table discussions with VDOT chiefs, major contractors and consultants.
- Conducting constructability reviews early in the design process to ensure plans are correct.
- Using existing vacancies to hire 50 additional professional engineers (PEs) for positions in the field.

To improve professionalism at VDOT, a national recruitment campaign for professional engineers began in late 2003 – 42 of the 50 positions have been filled. By the end of fiscal year 2004, VDOT had 270 licensed engineers. Two years earlier, the agency had only 182 PEs.

Getting results

While the assignment of full-time project managers with authority and accountability began a few years ago, it was primarily for the larger projects that affect a district or a region. As of fiscal year 2004, the project manager concept extended to construction projects of all sizes. Some project managers across the state are responsible for several projects at one time.



With new project management tools in place, increased professionalism and greater accountability, VDOT has seen measurable improvements.

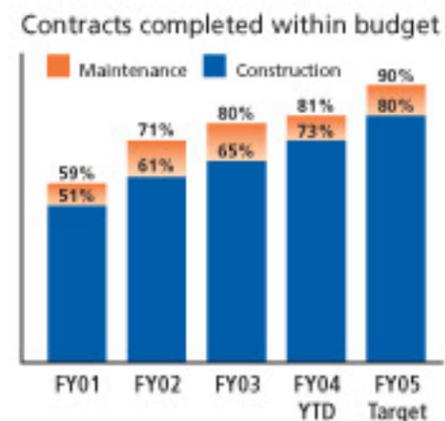
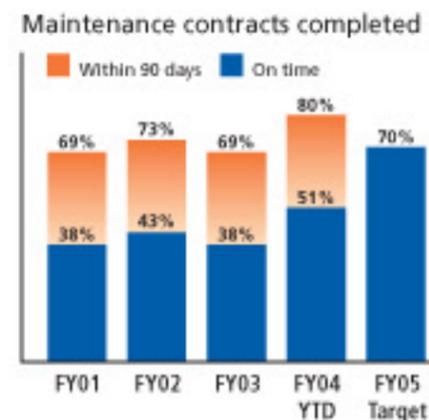
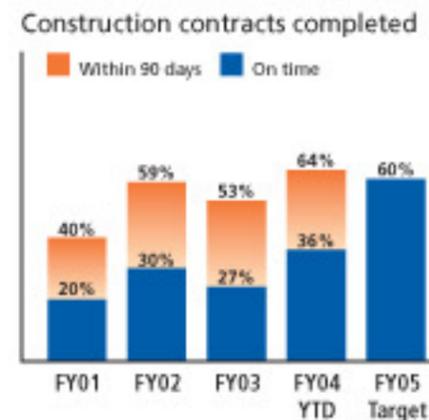
For fiscal year 2004, VDOT completed 36 percent of highway construction projects on time, an improvement over the 20 percent on-time performance at the end of the last biennium. The agency is on track to deliver 60 percent of projects on time for fiscal year 2005.

VDOT uses the strictest definition of "on-time" – meaning a project is finished on the original contract completion date, regardless of any justified time extensions.

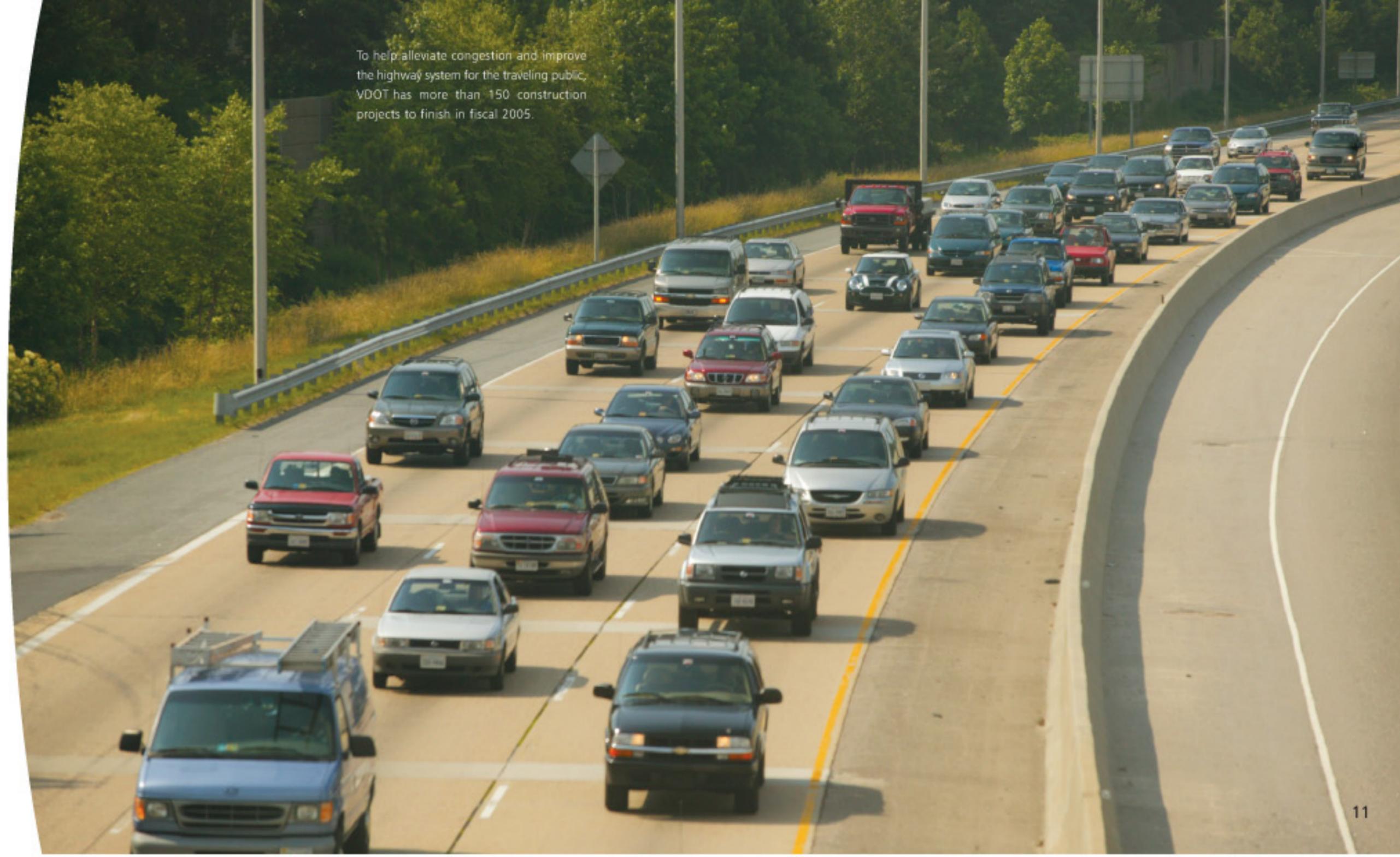
Seventy-three percent of construction contracts were delivered within budget in FY04, compared with 51 percent in FY01.

In FY04, 51 percent of maintenance projects were delivered on time and 81 percent were within budget, compared to 38 percent on time and 59 percent within budget at the end of the last biennium.

how VDOT measures up



To help alleviate congestion and improve the highway system for the traveling public, VDOT has more than 150 construction projects to finish in fiscal 2005.



paving the way

With every project, a new path for the future is built.

The Power of Go

By safely delivering projects on time and on budget, VDOT accomplishes its bigger purpose, which is to help citizens experience "the power of go."

Transportation is not about planes, trains, buses and automobiles – it's about getting people where they need to go in order to live their lives. VDOT accomplishes that by building and maintaining roads, bridges, tunnels and a ferry system.

Road Projects

To help alleviate congestion and improve the highway system for the traveling public, VDOT has more than 150 construction projects to finish in fiscal year 2005. Following are the major projects under construction.

Springfield Interchange (Northern Virginia) consists of building more than 50 bridges and widening I-95 to 24 lanes between the Beltway and Franconia Road. The eight-year, seven-phase construction project is one of the largest construction projects in the nation.

Cost: \$676 million • **Begin date:** March 1999

Estimated completion date: Summer 2007 • **Status:** 80% complete

Woodrow Wilson Bridge Project (Northern Virginia) involves three jurisdictions, a new signature bridge, 7.5 miles of Capital Beltway (I-95/I-495) reconstruction, 12 lanes of highway, demolition of existing buildings, and ground-breaking innovations such as a see-through sound wall, noise-reducing pavements and state-of-the-art ground improvement techniques. The new bridge uses pre-cast components to reduce construction time and high-performance concrete to last longer. Construction is taking place over the course of almost a dozen years.

Cost: \$1.06 billion (VDOT portion) • **Begin date:** October 2000

Estimated completion date: Winter 2011 • **Status:** 37% complete



Springfield Interchange



Pinners Point Interchange (Hampton Roads) includes a new, 1.5-mile bridge over the Elizabeth River. The bridge will feature a six-lane divided roadway for 3,500 feet that will connect to an interchange with Route 58 and the Midtown Tunnel. The Interchange will reduce traffic in the historic Port Norfolk neighborhood by more than 80 percent, provide a more direct route for industrial traffic to and from the Portsmouth Marine Terminal, and ensure faster, easier access to the Midtown Tunnel for commuters.

Cost: \$153 million • **Begin date:** March 2002

Estimated completion date: Summer 2005 • **Status:** 89% complete

Route 29, Lynchburg/Madison Heights Bypass consists of nine construction contracts that will provide an alternative to the heavily congested US 29 Business route from the city of Lynchburg, through the community of Madison Heights and to the town of Amherst in Amherst County. The Bypass lies east of existing Route 29 and will have major interchanges on the south end at Route 460, and on the north end at Route 29. There will be 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

Estimated completion date: Winter 2005 • **Status:** 85% complete*

*Contracts in varying stages of completion were averaged for completion percentage.

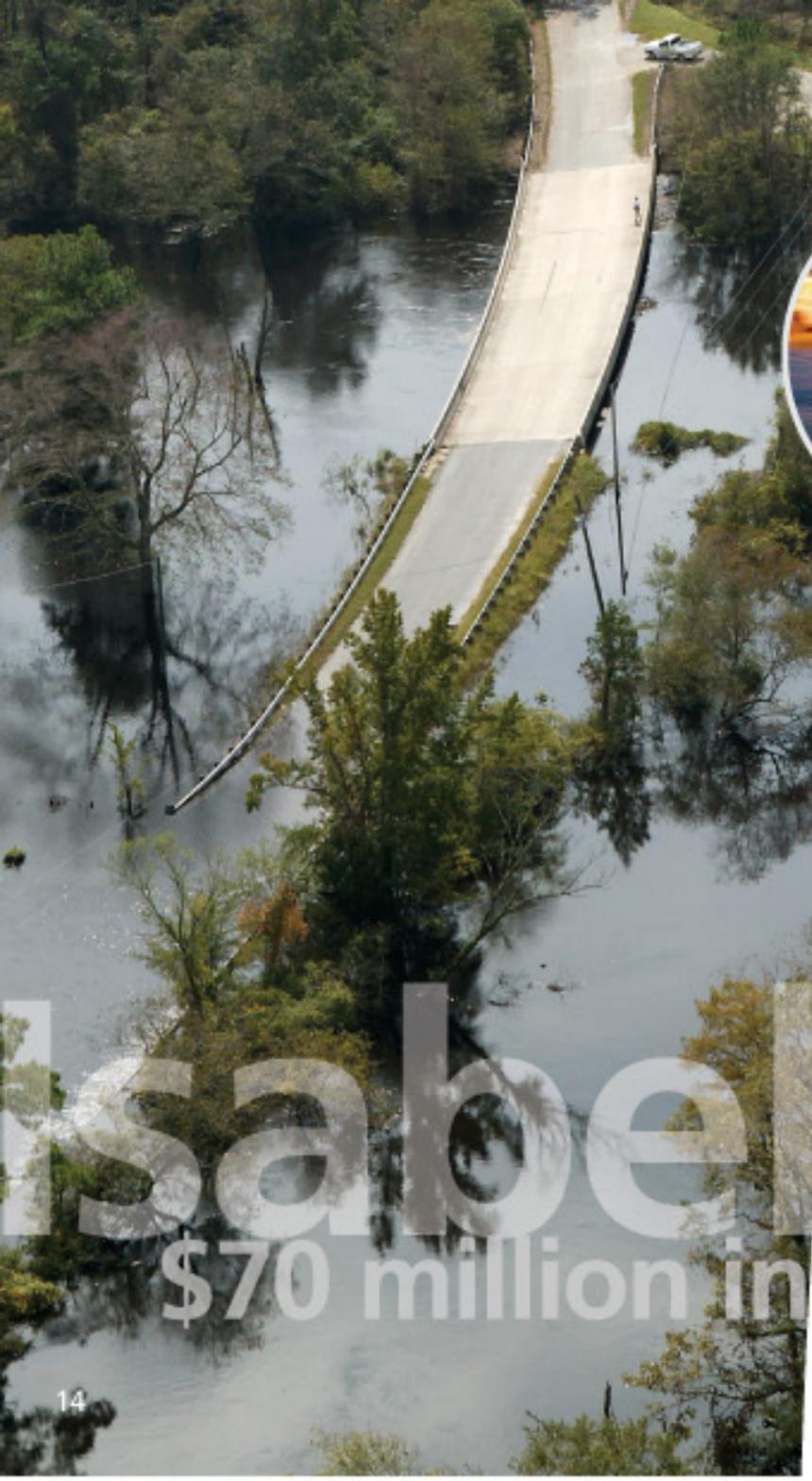
Route 58 (Southwest Virginia) is Virginia's longest roadway, stretching from the Atlantic Ocean to the southwest tip of Virginia. The Virginia General Assembly established the Route 58 Corridor Development Program in 1989 to enhance economic development potential across this largely rural portion of the state. The program encompasses improvements to more than 640 miles of Route 58 and adjoining roadways.

Cost: \$958 million (program expenditures as of June 15, 2004)

Begin date: 1989

Estimated completion date: Currently funded construction projects to complete in 2007 • **Status:** More than 170 miles have been widened from two to four lanes under the Route 58 Corridor Development Program; construction is at varying stages of completion to improve another 19 miles. Right of Way acquisition is in process (or complete) on 48 additional miles.





Maintaining the infrastructure

In addition to paving the way with new roads, VDOT is also charged with maintaining existing ones. In fact, maintaining the current infrastructure of highways and bridges must come before planning or building new projects, according to state law.

The last two years wreaked havoc on VDOT's maintenance budget. Between heavier than usual snowfalls (and resulting potholes), flooding, mudslides and even a hurricane, Mother Nature has not been kind to the Commonwealth of Virginia.

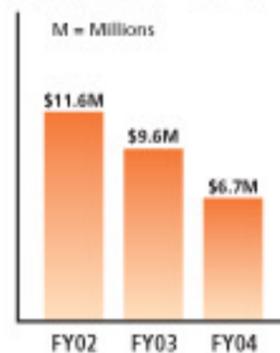
Hurricane Isabel in September 2003 cost VDOT \$70 million in damage repairs and debris removal costs. The \$70 million does not include the cost of construction delays caused by the hurricane.

The winter of 2003 was one of the hardest on record in terms of snowfall. There were 134 **snow events** – 21 percent more than the historical average for Virginia.

In the past, when the snow budget was exceeded, VDOT tapped into its statewide maintenance budget to cover costs. During the 2004 winter, however, VDOT's nine districts were each given their own snow budgets to manage. As a result, all districts reduced their snow removal costs in 2004 by working more efficiently. Statewide, the agency spent an average of 16 percent less per event, despite experiencing more snow than normal.

Following that record-breaking snow season, VDOT launched a **pothole blitz** to fill all potholes on interstates, primary roads and major secondary roads in 14 days. Approximately 3,000 VDOT employees and contract workers repaired about 95,000 potholes during those two weeks.

Cost per snow event



Bridges and tunnels

Route 5 motorists found out firsthand in February 2004 what it means to go without a bridge. When VDOT was forced to close the Judith Stewart Dresser Memorial Bridge spanning the Chickahominy River and connecting Charles City and James City counties, the traffic detour added about 63 miles to their commute.

The bridge reopened in August, but the closing serves as a stark reminder of how crucial VDOT's **19,383 bridges and structures** are to meeting the agency's mission to keep Virginia moving.

Because nearly 30 percent of Virginia's bridges and culverts were built before 1950, keeping them in good repair is a constant effort. At the end of FY04, VDOT engineers determined that 40 percent of the state's 12,025 bridges and 18 percent of its 7,358 culverts were in need of repair, rehabilitation, or replacement. Using the Federal Highway Administration's general condition rating scale, 69 percent of the bridges and culverts were rated satisfactory to excellent. Another 23 percent of the bridges and culverts were rated fair. The seven percent in poor condition have serious deterioration, but are still safe and serviceable. Four bridges in the inventory show advanced deterioration of structural elements such that temporary measures have been taken to ensure safety and the bridges are being monitored closely in case they should be closed. No structure is allowed to remain in service if judged to be unsafe.

Likewise, Hampton Roads commuters in 2003 found out what it was like to do without one of the region's four underwater tunnels connecting the region to the rest of the state. Following Hurricane Isabel in September 2003, the **Midtown Tunnel flooded** and was closed for repairs for a month. Motorists were rerouted to the Downtown Tunnel or one of the area's three bridges that cross the Elizabeth River.

In April 2004, VDOT developed an action plan to address nearly \$30 million worth of maintenance needs for Hampton Roads' four tunnels.

VDOT spent sixteen percent less per snow event in 2004



Bridge conditions



Isabe

\$70 million in damage

fresh thinking

Sometimes the idea that takes you furthest is the one that reinvents the wheel.

The Route 895 project, the first ever constructed under Virginia's Public-Private Transportation Act, was completed in September 2002, \$10 million below its original \$324 million contract.



At VDOT, doing more with less has become a common refrain. From 1986 to 2003, state transportation revenues have lost 40 percent of their buying power as a result of inflation. At the same time:

- Licensed drivers increased 34 percent
- Vehicle miles traveled grew 79 percent
- Registered vehicles grew 53 percent
- New lane miles grew only 7 percent

As traffic congestion increases and construction budgets decrease, Virginia is using innovative ways to get roads built.

In September 2002, VDOT opened its first **Public-Private Transportation Act (PPTA)** project – the Pocahontas Parkway near Richmond. With the financial backing of private industry, the project was built quickly with limited use of conventional funding. Active PPTA projects include:

- **Route 28**, Northern Virginia. Work began Sept. 2002; completes spring 2007.
- **Route 288**, Richmond area. Work began Dec. 2000; completes winter 2004.
- **Coalfields Expressway**, Bristol area. Initial engineering work authorized Sept. 2002; completes spring 2005.
- **Route 199** (in preparation for Jamestown 2007 commemoration), Hampton Roads area. Comprehensive agreement executed in Oct. 2002; completes late 2005.
- **Route 58**, Patrick and Carroll County. First design-build phase began late Dec. 2003; completes spring 2006.

Other partnerships include working with the **Department of Rail and Public Transportation (DRPT)** to reduce Springfield Interchange congestion. DRPT research showed that motorists who changed driving habits during construction would likely retain them. Five thousand park and ride spaces were added in Northern Virginia to encourage carpooling and mass transit. The 5,000 spots are filled daily.

Innovative approaches

Turning over responsibility for road improvements is another innovation. On July 1, 2004, Hampton, Richmond and Virginia Beach became the first Virginia cities to take over management of their local road construction programs.

While roads less traveled need maintenance just like their more heavily traveled counterparts, a new approach lets rural road pavement follow a different set of criteria. Legislation effective July 1, 2003, lets VDOT pave low-volume roads through the **Rural Rustic Roads** program. Roads that qualify can be built more quickly and with less money because VDOT doesn't have to conduct full-blown engineering studies or buy rights of way from property owners. Completed projects saved the state about \$10 million in one year.

Outsourcing

To increase efficiency, VDOT competed

against the private sector for certain services. The agency took proposals from its Staunton District equipment shops and from private sector companies to manage equipment and vehicle repair. The private sector was chosen.

Smart Traffic

VDOT's **Smart Traffic Centers** are the best tools in the transportation arsenal to keep Virginia moving. Traffic centers and partners such as the Transportation Emergency Operations Center (TEOC) in Richmond keep the public informed of traffic incidents as they happen. Fredericksburg added a limited Smart Traffic facility in the spring of 2002.

In 2003, the Commonwealth entered into an agreement with E-ZPass so motorists with either **Smart Tag or E-ZPass** transponders can travel seamlessly along the East Coast without having to stop to pay tolls. The system was completely integrated in FY05.

Virginia was the second state to pilot the soon-to-be nationwide **511 travel service**. By dialing 5-1-1 along the I-81 corridor, motorists can access Virginia's voice-activated travel information service to get around-the-clock, real-time traffic and road condition updates. Launched in the western part of the state in February 2002, the 511 travel service scored more than 131,100 calls to its voice-activated phone number in the first year.

clearly conscientious

Protecting people, animals and the environment is the right thing to do.

VDOT helps eagles soar.

While it's easy to think of VDOT as a bureaucratic state government machine that churns out construction projects and charges tolls on the roadways, the agency is so much more. In addition to building and maintaining roads and bridges, VDOT is tasked with being a good steward of the environment, keeping roadsides clean and Virginia beautiful. VDOT minimizes the environmental impact of its construction projects, achieving more than 93 percent environmental compliance in FY02-03, and over 95 percent in FY03-04.



Bear boardwalks and possum passageways

VDOT has found novel ways to meet its responsibility to complete construction projects with the least possible impact on the environment. That commitment is demonstrated by the **Route 17** project in Chesapeake, where VDOT installed oversized pipes under the roadway so animals can safely cross from one side to the other. The nearly 12-mile project involves building a new route along the Great Dismal Swamp that will improve safety for motorists and better serve the increased traffic volume heading to North Carolina and the Outer Banks. To mitigate against disturbance to wildlife, VDOT also donated 758 acres of existing wetlands to the Virginia Department of Game and Inland Fisheries for wetland preservation. The project is one of seven in the country that the Federal Highway Administration designated a 2004 Exemplary Ecosystem Initiative.

For the birds

From eagle nests preserved high above the Woodrow Wilson Bridge in Northern Virginia to vegetation planted far below the Potomac River's surface, VDOT's environmental initiatives

surrounding the \$1.06 billion (VDOT portion) Woodrow Wilson Bridge project reach not only far and wide, but also high and low. By coordinating closely with more than 20 regulatory agencies and 13 contractors to comply with a plethora of exacting permits, the project's environmental team is ensuring coexistence between construction and Mother Nature. Mitigation efforts include an **84-acre bald eagle sanctuary** established on Rosalie Island along the Maryland shore, creation and enhancement of 75 acres of wetlands, 22 acres of river grass plantings, and more than 140 acres of reforestation surrounding the project.

VDOT also took a proactive role as a friend to the environment by helping **peregrine falcons** nest comfortably on VDOT bridges. Construction and maintenance around the bridges is suspended during their nesting season. Listed as federally endangered in 1970, the peregrine falcon is coming back into its own thanks to conservation efforts such as VDOT's. A dozen chicks hatched on VDOT's bridges in 2002, 11 in 2003, and 13 in spring 2004. With the help of the Center for Conservation Biology at the College of William and Mary, these chicks are then released into the wild.



Historic agreement

In November 2003, VDOT and the Federal Highway Administration (FHWA) signed a historic Process Streamlining Agreement for the I-81 corridor. The agreement is the first of its kind in Virginia to outline a process to ensure that environmental issues are fully addressed in an agreed-upon timeframe. It allows VDOT to get certain decisions from FHWA and other federal agencies throughout the course of the study, not just at the end. That may position VDOT to go forward with developing some sections of the corridor sooner rather than later.



Adopt-a-Highway

is another environmental effort embraced by VDOT. Adopt-a-Highway volunteers clean more than 13,000 miles of highways – about one-quarter of Virginia's state-maintained roads – and provide the equivalent of roughly \$2 million annually in litter-control services to the state.

New legislation effective July 1, 2004 takes the Adopt-a-Highway concept a step further. Businesses and organizations are invited not only to clean up the roadside around them, but also to spruce it up as well. The law directs VDOT to develop a comprehensive

roadside management program that allows communities to participate in the beautification of areas adjacent to state highways. For the first time, private businesses and local organizations may contribute to or finance landscaping and other right of way improvement projects that would not be possible otherwise.

Enhancement program

The Transportation Enhancement Program is a way for localities and organizations to get federal money to improve their communities for non-road construction projects such as bike trails, sidewalks, train station restorations and other beautification efforts. The Commonwealth Transportation Board (CTB) awarded \$38.3 million in federal money for new and ongoing projects funded through the Transportation Enhancement Program in the last biennium (July 1, 2002 through June 30, 2004). No state dollars are used in this program.

States are required to set aside 10 percent of their federal Surface Transportation Program funds for enhancement projects. VDOT administers the application process for Virginia projects.

Scenic Roads

Encouraging Virginians to take the road less traveled is one way to help motorists appreciate the beauty of the Commonwealth while helping rural

economies and alleviating congestion on major roadways at the same time. VDOT produces a Scenic Roads map that highlights many corridors with aesthetic or cultural value.

The latest map, printed in the spring of 2003, showcases 916 more miles of road than the last reprint of the map in 1998. Roads are designated Virginia Byways by the CTB. Twenty-eight roads received scenic byway designation during the last biennium (July 1, 2002 through June 30, 2004).

Statewide bicycle and pedestrian plan

In March 2004, the CTB adopted a *Policy for Integrating Bicycle and Pedestrian Accommodations*. The policy states that VDOT will consider bicycling and walking accommodations in the road-building decision-making process.



Safety first

VDOT is also proactive in matters of safety. Nothing is more important. Yet many of VDOT's employees work in what is considered to be the most hazardous place for workers in the U.S. – highway work zones. Work zones are also dangerous to the driving public. Statistics show that motorists comprise four out of five of all deaths in highway work zones.

Although **work zone crashes** and injuries were down for calendar year 2003 (latest year for which statistics are available) over 2002, fatalities increased 229 percent over the previous year. That is not acceptable. And that is why the agency was charged in 2004 with reaching 10,000 high school students across the state with a message about the importance of safely navigating highway work zones. That goal was exceeded. VDOT teamed up with the

contracting industry to talk to nearly 18,800 students during the 2003-04 school year.

Highway Safety Corridors

Areas of Virginia's highways with an unusually high number of crashes have long been a VDOT concern. In 2003, legislation for Highway Safety Corridors was enacted, and VDOT, the Department of Motor Vehicles and the Virginia State Police worked diligently to move the program forward. At the beginning of 2004, the three agencies designated the first Highway Safety Corridor along I-81. VDOT engineers analyzed safety statistics and identified a 15-mile stretch of highway in Roanoke as having unusually high numbers of crashes. By designating this area as a Highway Safety Corridor, police enforcement increased and higher fines apply to speeding motorists. The program's success is undeniable.



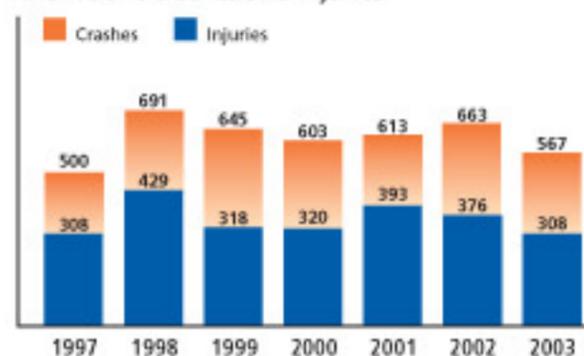
There was a 19 percent decrease in all crashes (64 in FY04 versus an average of 79 in the prior four years) along that 15-mile stretch in the first six months of the program. There also has been a 55 percent reduction in injury crashes (14 in 2004 versus an average of 31 annually in the prior four years).

Get ready to rumble!

VDOT is also using innovation to ensure highway safety. In 2003, VDOT engineer Chung Chen's research recommendations on "rumble strips" won the Governor's Transportation Safety Award for preventing hundreds of highway crashes. Rumble strips are the loud, jarring indentations on highway shoulders that alert drowsy motorists when they are veering off the roadway.

In Virginia alone, engineers estimate that the implementation of Chen's recommendations prevented 1,200 crashes, 55 fatalities, and 1,100 injuries. Chen estimates that at least twice that many have been prevented since that study was conducted. Transportation departments across the nation have adopted rumble strips because of their effectiveness. A federal agency estimates that they have prevented as many as 1,600 fatalities nationwide.

Work zone crashes and injuries



Research shows Chung Chen's rumble strips prevented 1,600 crashes nationwide.



opening the books

By keeping on top of finances, the bottom line is improving.

In early 2002, VDOT was in financial distress. Highway construction projects were routinely running over budget and behind schedule. The department was short of funds to pay contractors even while borrowing heavily against future revenues and allocations to push new projects into the engineering pipeline. The six-year program for improving highways was an unrealistic projection of new projects that had little hope of being funded.

Reforms in the department placed more responsibility for oversight on the Commonwealth Transportation Board (CTB). Almost concurrently, audits of VDOT operations by the State Auditor of Public Accounts was released. With them came recommendations for setting up more stringent financial controls for the agency.

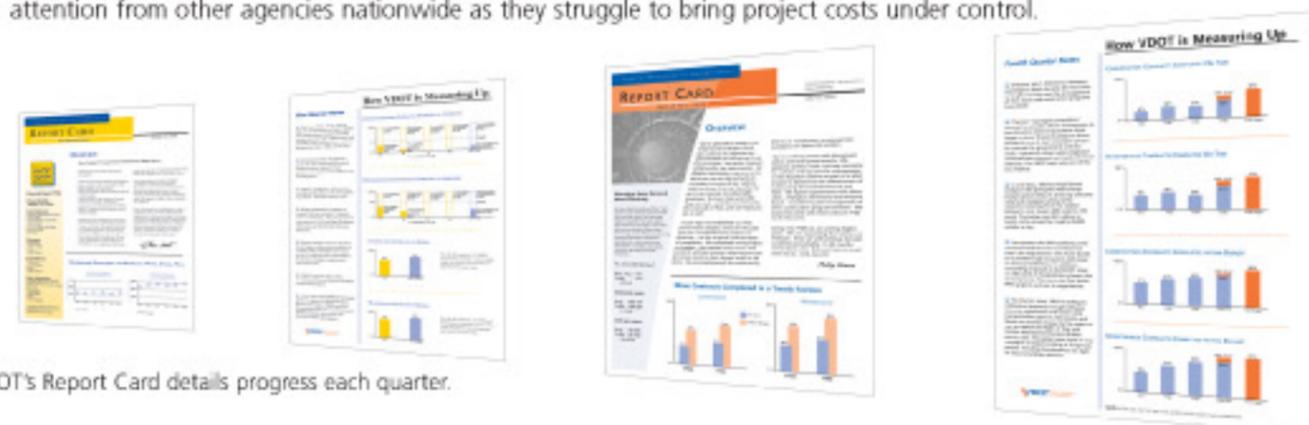
Consequently, dramatic corrective measures were taken by VDOT in the 2002-2004 biennium, including these:

- Incorporating into all programs **new goals set by the CTB**. These goals direct that VDOT will keep public safety a top priority, maintain the transportation infrastructure, minimize use of debt, require new projects to qualify for federal funds, focus on funding deficient bridges and reducing congestion, recognize alternative modes of transportation, and seek opportunities for other public entities and the private sector to make improvements to the infrastructure.
- Using the most recent **official state revenue estimates** from the Department of Taxation, rather than a forecast from the transportation secretariat.
- Implementing a **financial plan** for any transportation project valued above \$100 million. A plan would include clear direction on complete sources of funding for the project from start to finish.



Project Dashboard

- Instituting a **cash management system** to better align spending with revenues.
- **Limiting the use of FRANs** (Federal Highway Revenue Anticipation Notes) to fund projects approved in the Six-Year Improvement Program, in accordance with newly adopted debt management policy.
- Organizing two offices to bring **innovation to project financing**. VDOT's Innovative Finance Office oversees the existing debt programs and investigates innovative financing methods. The Innovative Project Delivery Office evaluates private partnerships through the Public-Private Transportation Act or other innovative means to build projects.
- Developing a **cost-estimating system** to systematically anticipate the wide range of expenditures and complex contingencies for every highway project. The system can be used statewide by incorporating inflation rates and other factors to allow for regional variances. The innovative system was developed in-house by VDOT staff and has drawn attention from other agencies nationwide as they struggle to bring project costs under control.



VDOT's Report Card details progress each quarter.

- Creating a Web-based system called the **Dashboard** to help monitor each construction project. The Dashboard reports whether a project is on time and within budget. The program is built into VDOT operations to encourage efficient reporting and project delivery. The program can be viewed on VDOT's Web site as part of the ongoing effort to make the department's business more transparent to the public.
- Reducing the number of VDOT employees by 950 by not filling vacancies, thereby **reducing payroll costs** by \$40 million annually.
- Implementing most (77 percent) of the **auditors' recommendations** by the end of the biennium (June 2004). The remainder require long-term actions and will be completed in 2005.
- Providing a **quarterly report** to citizens and the General Assembly detailing progress of the department's transportation programs, which is also posted on VDOT's Web site.

financials

Financial Summary 2002-2004 Biennium

	2003	2004
REVENUES		
State	\$2,040,768,255	\$2,211,842,781
Federal	688,014,784	614,986,233
Local	37,722,655	54,946,120
Total Revenues	2,766,505,694	2,881,775,134
EXPENDITURES		
Administration Program	84,753,499	99,949,775
Construction Program	1,295,144,998	1,200,776,344
Maintenance Program	1,156,629,732	1,134,953,867
Debt Service Related Expenses	174,947,166	223,310,468
Other Programs	79,770,427	82,624,148
Transfers to other state agencies	17,850,320	18,060,491
Total Expenditures	2,809,096,142	2,759,675,093
OTHER FINANCING SOURCES (USES)		
Transfers to other state agencies	(457,939,296)	(143,755,561)
Transfers from other state agencies	50,315,736	60,638,623
Bond Proceeds	1,109,984,209	3,493,954
Defeasance payment	(446,562,705)	
Transfers In	843,046,394	502,767,540
Transfers Out	(843,046,394)	(502,767,540)
Total Other Financing Sources (Uses)	255,797,944	(79,622,984)
Revenues and Other Financing		
Sources over (under) Expenditures	213,207,496	42,477,057
Beginning fund balance - July 1	1,094,651,809	1,307,859,305
Ending fund balance - June 30*	\$1,307,859,305	\$1,350,336,362

This financial summary is on an accrual basis. FY2004 information is not final at this time. For monthly cash basis reports, go to VDOT's Web site at www.vdot.virginia.gov.

*Ending fund balances are committed to future projects.



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