

**Agency IT Strategic Plan** (Form) / **501 VDOT FY14-16 ITSP** (Item)

(Data as of: Jun 2, 2015)

Form Report, printed by: Truman, Cheryl, **Jun 2, 2015**

<b>IT SUMMARY</b>
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<b>General Information</b>		
<b>Item Name:</b>	501 VDOT FY14-16 ITSP	<i>Choose the CTP-prepared Agency ITSP item for the appropriate biennium</i>
<b>Home Portfolio:</b>	501 VDOT IT Strategic Plans	<i>Choose your Agency Portfolio for ITSP</i>
<b>ITSP Biennium:</b>	FY14-16	
<b>Proponent Secretary:</b>	186 Secretary of Transportation	
<b>Proponent Agency:</b>	501 Department of Transportation	
<b>Submitted by:</b>	Administrator, System	
<b>Agency has BRTs or Investments:</b>	Yes	
<b>Has CETR been updated?</b>	Yes	
<b>Date Submitted:</b>		
<b>For additional CETR information, secure link address or CETR access request go to the following VITA website:</b>		
<b><a href="http://www.vita.virginia.gov/oversight/default.aspx?id=349">http://www.vita.virginia.gov/oversight/default.aspx?id=349</a></b>		

<p><b>About the IT Summary</b></p> <p><b>The purpose of the agency IT Strategic Plan is to establish an agency-wide vision and priorities for agency investments in IT and IT operations so that they promote the achievement of agency’s mission and business outcomes. The IT Plan Summary describes how agency IT strategies, goals, and objectives align with the mission, vision, values, and daily operations identified in the Agency Strategic Plan. This IT Plan Summary identifies the implications outlined in the Agency Strategic Plan and integrates them into implementable objectives and directives.</b></p>
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<p><b>Current Operational IT Investments</b></p> <p><i>In this section, describe the high-level strategy the agency will use to manage existing operational IT investments over the next year to 6 years. This section should align with identified Business Requirements for Existing Technology (BReTs). At minimum, please address the following questions in your description of your agency’s strategy for managing existing operational IT investments:</i></p> <ul style="list-style-type: none"> <li>• <i>Are there existing IT investments that will require additional funding over the next year to 6 years, such as license renewals, re-competition of current IT contracts, or system enhancements required by the Agency Strategic Plan?</i></li> <li>• <i>If there are systems that will no longer support the agency’s business needs, either through poor performance or excessive cost, how does IT leadership in the agency plan to address the issues?</i></li> <li>• <i>If the agency does not have the staff or funding to meet increasing demand for IT services, how will IT leadership fulfill the requests?</i></li> </ul> <p><b>MISSION STATEMENT</b> VDOT will 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.</p> <p><b>VISION STATEMENT</b> Virginians envision a multimodal transportation system that is safe, strategic, and seamless. Travel for people and goods will be safe and uninterrupted. Transportation improvements will consider the environment and the quality of life in Virginia’s communities while enhancing economic opportunity. Transportation improvements will respect and reflect the varied needs of Virginia’s diverse communities and regions. Investments in transportation will be adequate to meet current and future needs. Transportation decisions will be guided by sustained, informed involvement of Virginia’s community leaders and citizens. Full accountability and enduring trust will be the hallmarks of transportation planning and investment decisions throughout the Commonwealth.</p> <p><b>CURRENT OPERATIONAL IT INVESTMENTS</b> The mission of the Department’s Information Technology Program is to optimize VDOT’s operational efficiency through information engineering and innovative deployment of technology. While the business divisions identify their strategic directives and define business</p>
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requirements, Information Technology Division (ITD) is charged with defining and implementing innovative technology solutions. ITD is staffed by state employees, private sector consultants, and service providers who support over 200 data assets and applications. All are charged with delivering high quality, cost effective, and timely IT solutions and services. As the demand on IT services continues to grow, so does the need for a robust and disciplined approach in project, resource, and budget management. To provide the necessary tools for managing these demands, ITD has implemented Microsoft Project Server. The system tracks project requests submitted by the agency's divisions to request new applications and enhancements to existing systems. It assists with the planning and controlling of the IT budget and expenditures while providing a more robust reporting capability valuable to decision makers. This has resulted in improved portfolio management leading to better use of technology resources and focus on VDOT strategic drivers.

As stated in the VDOT Service Area Strategic Plan, the overall objective of Information Technology Services (69902) is to meet the Agency's mission by planning, developing, delivering, operating and maintaining a transportation system that is safe and enables efficient movement of people and goods, enhances the economy and improves the quality of life through a commitment to appropriate management and direction. To this end, ITD has determined the following tactical focus for the upcoming biennium:

- \* Evaluating and deploying COTS (Commercial Off the Shelf) solutions to implement business functionality
- \* Supporting the delivery of public-centric solutions that enhance ease-of-use and improve citizen understanding of information
- \* Providing the best and fastest technical solutions for employees and citizens through multiple channels
- \* Providing seamless, one-stop-shops for general agency users that aggregate access to multiple systems and data sources
- \* Exploiting current data and improving data quality
- \* Spatially enabling data
- \* Enhancing data integration and reporting through agency-wide toolsets
- \* Maintaining a highly-skilled workforce through implementation of a career path management plan
- \* Meeting COV and VDOT Security Policy requirements.

Information Technology will employ state-of-the-art technologies to develop and support IT applications and special projects, using innovative development methodologies, industry-standard best practices, and agency-wide project management tools and measures. Management oversight will ensure compliance with all accountability mandates.

## Factors Impacting the Current IT

*In this section, the agency will describe the changes in their business environment that will require or mandate changes to the agency's current IT investments. These are requirements and mandates from external sources, such as other agencies or business partners, the agency's customer base, product and service providers, or new federal or state legislation or regulations. Each requirement or mandate from an external source must have a corresponding Business Requirement for New Technology (BRnT) or Business Requirement for Existing Technology (BReT) entered into the CTP. The agency must identify the business value of the change, any important deadlines that must be met, and the consequences if the deadlines are not met. In your discussion, be sure to note whether the proposed enhancements are funded or not.*

*If the agency's existing current IT investments will not need enhancement due to requirements or mandates from external sources in the foreseeable future, the agency should enter the following text rather than leave the Factors Impacting the Current IT section blank.*

*• For each mandated change, summarize your agency's response from your Agency Strategic Plan, and is it the opinion of agency IT leadership that the IT portion of the response is adequately funded?*

*• Do the mandated changes effect IT in other Commonwealth agencies, or in other states? If so, how?*

### Factors Impacting IT

- Balance of demands and constraints: Demands require innovation and obsolescence management that balances portfolio management of modern business solutions, supported by reliable technical platforms, with inevitable funding and resource constraints. This balance requires a renewed analysis of the agency's capacity to manage, execute and practice new business processes. The CIO works with agency leaders to balance priorities with available funding, resources and the organization's capacity for change.
- Business process change: As business organizations and processes change, IT must respond accordingly. Both anticipated and unanticipated changes affect an already constrained Information Technology Program
- Ability to attract highly skilled applicants: In order to deliver as promised according to the Division's mission, it is crucial that a highly skilled workforce be procured and maintained. Faced with a classified employee staffing shortage, ITD supplements full-time staff with consultants. The agency's strategy has been to maintain a smaller staff, with technical contractors augmenting the staff as well as working on specific projects. The ability to locate contractors with the skill set needed is challenging.
- Impact of VITA/NG Infrastructure Services.

### Anticipated IT Changes

- More external customers accessing VDOT applications: VDOT will continue to become more transparent in business decisions, activities, and reporting. ITD will be heavily involved in this process.
- Continued collaborative projects with other agencies: VITA oversight of projects includes a review for possible enterprise impact. This process will continue into the new biennium and results in project delays that cannot be generally anticipated.
- Continued exploration and use of the latest technologies to improve process efficiencies: to include mobile technologies, cloud services and improved business data analytic tools.

## Proposed IT Solutions

*In this section, describe the high-level strategy the agency will use to initiate new IT investments over the next year to 6 years in support of the agency strategic objectives documented in your Agency Strategic Plan. The agency does not need to consider specific technologies at this time, however, the strategy should identify how the IT implementation will provide business value to the organization. This section should align with identified Business Requirements for New Technology (BRnTs). At minimum, please address the following questions in your description of your agency's strategy for initiating new IT investments:*

*• What are the most important solutions, based on the priority assigned to the requirements by the business sponsors in your agency, and what is the approach to achieving these priority solutions?*

• If any new IT initiatives will be started in the upcoming budget biennium, is it the opinion of agency IT leadership that it is adequately funded?

• Does the agency's current IT staff have the appropriate skill set needed to support future agency technologies? If not, what skill sets need to be acquired?

• If the agency will be engaged in multiple new IT initiatives, how will agency IT staff and agency subject matter experts be used across the initiatives?

The Agency's highest service area objective is to improve highway safety for the traveling public. An integral part of improving highway safety is more efficient and effective turnaround of IT projects to both serve VDOT and the traveling public. It is important that IT react to requests for service in a timely manner and as promised to the business. Current IT investments recorded in Appendix A provide business value for the Agency as follows:

- FMS Sun Set & Data Marts: The implementation of the Cardinal Project has necessitated the sun setting of both the FMSI and FMSII Financial Systems and retention of business critical data. Sun Setting of these systems in an organized fashion will create greatly reduced operational expenses from VITA. The FMS Data Marts will retain critical data from the FMSI and FMSII Financial Systems and create a Financial Data Store for reporting purposes. The objective of this project is to have the data store information available to VDOT internal systems to merge with Cardinal financial data for business intelligence reporting.
- Customer Service Center (CSC) System 2.0: The Customer Service Center Portal 2.0 project will enhance the functionality and usability of the Customer Service Center Portal, and will: – Enable Customer Service Center Agents to better respond to customer inquiries; – Promote VDOT's ability to share information throughout the agency; and – Enhance VDOT's ability to quickly and efficiently respond to citizen requests for roadway service/maintenance.
- HR Electronic Content Management (ECM) and Workflow Optimization: The benefits of this project will increase the efficiency and effectiveness of Human Resources by converting three manual paper-based workflows into an electronic content management system with automated workflows. It will improve HR's overall productivity, service levels, and data accuracy while maintaining cost effectiveness and compliance with HR, IT, and records management's regulations, policies, and standards. Secure access to electronic personnel files regardless of time and location will enable a culture of collaboration across the enterprise.
- Construction Documentation Management: This project will develop standardized business process workflows that will automate the creation, storage and status designation of construction documents. It will step personnel through designated workflows, storing construction documents in a standard SharePoint repository that will have a standard set of folders for documents at each level of the construction process from final design through the end of construction.
- Inventory Module (Cardinal): The project will replace the WebIMS application with the PeopleSoft Inventory Module. This will integrate the inventory function at VDOT with the Cardinal system. This implementation is required because the current application technology is reaching the end of its productive life, and the business process warrants it be incorporated within the financial system. Microsoft Corporation ended support for Active Server Pages software in 2008. It is no longer possible to make changes to certain sections of the application.

Annual cost forecasts for the Cardinal (Inventory Module) Project are not included in the 'Proposed IT Investments' table as part of the "Major IT Projects" cost.

Agency Projected Total IT Budget for FY15 includes both ITD and business funds supporting major IT projects.

- Safety Loss Control Data Management System – This effort includes global management of Safety and Health forms related to Injuries, Tort, Drug Testing, Training Certifications, etc. Internal resources will be required for data migration and interfaces to existing systems.
- Straight Line Diagram (SLD): The Roadway Network System (RNS) Program provides the means of tracking and managing Virginia's road inventory and associated assets and attributes in a tabular, linear, and geospatial context. One of the most effective methods to visualize multiple data elements along a route is with a straight line diagram. The Traffic and Engineering Division is requesting a replacement to the existing SLD application. The existing SLD does not provide all of the functionality required from the creators of the data or users of the data. Technology improvements now make this functionality available, which will improve the efficiency of managing the data, enhance the quality of the data, and advance the usability of the data through an updated web user-interface.
- Traffic Data Performance Management System - Implement iPeMS, (Iteris Performance Management System), the selected COTs product, to archive and support analysis of VDOT's traffic performance related data. The iPeMS extracts information from real-time intelligent transportation systems (ITS) data and other sources, processes it, and stores in a data warehouse where it is available to users in various forms.
- PreConstruction/CRLMS Project - Implement Web Transport system to manage project and proposal information, automate processes, produce reports and provide a Civil Rights Labor Management System to collect and process data required for Federal and State Civil Rights and labor compliance.

#### NEW AGENCY IT INVESTMENTS:

- Maintenance Management Solution – COTS-based solution to replace the VDOT Asset Management System (AMS) to improve the planning, implementation and evaluation of the statewide Maintenance Program.
- Project Portfolio Management (PpM) at VDOT - In support of requirements specified in Virginia General Assembly House Bill 2 and other similar initiatives, VDOT desires a portfolio optimization solution that will assure the highest priority projects are selected through the use of a complex, advanced prioritization process and that funds are optimally allocated to maximize benefits realized from projects selected in the Six Year Improvement Program.

# Report Title: Strategic Plan

Agency: Department of Transportation Date: 6/2/2015

## Current IT Services

Category	Costs Year 1		Costs Year 2	
	GF	NGF	GF	NGF
Projected Service Fees	\$0	\$55,484,880	\$0	\$56,872,002
VITA Infrastructure Changes	\$0	\$0	\$0	\$0
Estimated VITA Infrastructure	\$0	\$55,484,880	\$0	\$56,872,002
Specialized Infrastructure	\$0	\$0	\$0	\$0
Agency IT Staff	\$0	\$6,936,635	\$0	\$7,630,297
Non-agency IT Staff	\$0	\$17,280,401	\$0	\$19,008,448
Cloud Computing Service	\$0	\$12,562	\$0	\$12,562
Other Application Costs	\$0	\$247,192	\$0	\$247,192
<b>Total</b>	<b>\$0</b>	<b>\$79,961,671</b>	<b>\$0</b>	<b>\$83,770,501</b>

## Proposed IT Investments

Category	Costs Year 1		Costs Year 2	
	GF	NGF	GF	NGF
Major IT Projects	\$0	\$10,691,509	\$0	\$9,107,618
Non-Major IT Projects	\$0	\$750,000	\$0	\$0
Agency-Level IT Projects	\$0	\$4,295,142	\$0	\$4,724,656
Major Stand Alone IT Procurements	\$0	\$25,744,966	\$0	\$310,000
Non-Major Stand Alone IT Procurements	\$0	\$1,447,826	\$0	\$0
Agency-Level Stand Alone IT Procurements	\$0	\$664,815	\$0	\$731,296
<b>Total</b>	<b>\$0</b>	<b>\$18,232,792</b>	<b>\$0</b>	<b>\$14,873,570</b>

**Projected Total IT Budget**

<b>Category</b>	<b>Costs Year 1</b>		<b>Costs Year 2</b>		<b>Total Costs</b>
	<b>GF</b>	<b>NGF</b>	<b>GF</b>	<b>NGF</b>	
<b>Current IT Services</b>	\$0	\$79,961,671	\$0	\$83,770,501	\$163,732,172
<b>Proposed IT Investments</b>	\$0	\$18,232,792	\$0	\$14,873,570	\$33,106,363
<b>Total</b>	\$0	\$98,194,464	\$0	\$98,644,072	\$196,838,536

# Report Title: Business Requirements For Technology

Agency: Department of Transportation (VDOT)

Date: 6/2/2015

## BReT HTRS Shutdown

**BRT Type:** Business Requirement for Existing Technology

**Date Submitted:** 7/30/2014

**Mandate:** No

**Mission Critical:** No

### Description:

The Highway and Traffic Records Information System (HTRIS) has been replaced and geo-enabled by the Roadway Network System (RNS) Program. The remaining legacy HTRIS subsystems are now available for historical reference only. This business requirement is to sunset the HTRIS mainframe system.

## BReT VDOT IT Contingent Labor

**BRT Type:** Business Requirement for Existing Technology

**Date Submitted:** 7/28/2014

**Mandate:** No

**Mission Critical:** Yes

### Description:

The VDOT IT Program requires the support of IT contingent labor to meet ongoing agency demands for: \* Application Maintenance and Support Services \* New Development \* System Engineering and Architecture Services \* Program Governance, Administration and Oversight \* and \* Enterprise Data Management Services. The Commonwealth IT contingent labor program contract provides an easy and quick way for public bodies to access quality information technology (IT) labor resources. Resources can be in the form of IT contractors, paid an hourly rate based on their skills, or in the form of a deliverables-based statement of work solution for initiatives totaling less than \$2 million. The hourly-based resource solution, also called staff augmentation, covers a broad range of services with fifty IT job titles that are available at varying degrees of experience. Each of these titles has a not-to-exceed hourly rate based on the latest market conditions in two of the major economic zones in the commonwealth. The deliverables-based solution provides fixed price statement of work initiatives in one of the 15 specialty areas currently in demand throughout Virginia.

## BReT VDOT IT Existing Technology Support

**BRT Type:** Business Requirement for Existing Technology

**Date Submitted:** 7/30/2014

**Mandate:** No

<b>Mission Critical:</b>	Yes
<b>Description:</b>	
<p>This business requirement is to support the current portfolio of VDOT IT programs, applications, data assets and services. The support of current IT assets requires salaried employees, staff augmentation and deliverables based SOW work. IT services are also provided through a mix of in-house and outsourced resources. Examples of ongoing outsourced services include media teleconferencing services and 511 Virginia. In addition, ongoing costs for VITA/NG infrastructure services are incurred monthly to support the existing VDOT IT technology asset portfolio.</p>	
<b>BReT VDOT IT Software Renewals</b>	
<b>BRT Type:</b>	Business Requirement for Existing Technology
<b>Date Submitted:</b>	8/4/2014
<b>Mandate:</b>	No
<b>Mission Critical:</b>	Yes
<b>Description:</b>	
<p>This business requirement is for the ongoing annual renewals of software licenses and maintenance agreements at VDOT. VDOT uses a wide array of software packages to support the mission and goals of the agency, ranging from complex engineering decision support tools to common desktop tools such as Adobe products and Visio.</p>	
<b>BReT VDOT IT Software/Technology Upgrades 14-16</b>	
<b>BRT Type:</b>	Business Requirement for Existing Technology
<b>Date Submitted:</b>	8/15/2014
<b>Mandate:</b>	No
<b>Mission Critical:</b>	
<b>Description:</b>	
<p>This business requirement is to address several Operational Risks and Issues identified by VITA related to software/technology that is no longer supported or will no longer be supported in the upcoming biennium. Titles include:</p> <ul style="list-style-type: none"> <li>- MS Server 2000 ended on 7/13/2010</li> <li>- MS Server 2003 operating system will end 7/14/2015</li> <li>- MS SQL Server 2000 database ended 4/9/2013</li> <li>- MS SQL Server 2005 database will end 4/12/2016</li> <li>- Oracle Database 10.2 ended on 7/1/2013</li> <li>- Oracle Database 9.2 ended on 7/1/2010</li> <li>- Red Hat Linux 3 operating system ended 10/31/2010</li> <li>- Red Hat Linux 4 operating system ended 2/29/2012</li> <li>- Windows XP operating system ended 04/08/2014</li> </ul>	
<b>BRnT -MPFPT Budget Program Enhancement</b>	

<b>BRT Type:</b>	Business Requirement for New Technology
<b>Date Submitted:</b>	1/26/2015
<b>Mandate:</b>	No
<b>Mission Critical:</b>	
<b>Description:</b>	
<p>MPFPT (Maintenance Program Fund Planning Tool) Budget Program Enhancement - This business need is to replace the current stand-alone Budget Program System with an integrated Budget Management &amp; Planning System. This project builds upon the integration and platform of the new Spend Plan System and provides a simple user friendly single point of entry process for all OPO users to enter and manage budget and planning activities.</p>	
<b>BRnT Electronic Customer Payment and Application Intake</b>	
<b>BRT Type:</b>	Business Requirement for New Technology
<b>Date Submitted:</b>	8/21/2014
<b>Mandate:</b>	No
<b>Mission Critical:</b>	No
<b>Description:</b>	
<p>This business requirement for technology is to develop electronic customer facing systems to expand electronic payment capability and electronic application intake. This is Objective 5.7.2 in the VDOT FY 2015 Business Plan. An example would be creating a web service to enable acceptance of online credit card payments for the issuance of land use permits.</p>	
<b>BRnT Enterprise Identity and Access Management Solution</b>	
<b>BRT Type:</b>	Business Requirement for New Technology
<b>Date Submitted:</b>	9/2/2014
<b>Mandate:</b>	
<b>Mission Critical:</b>	
<b>Description:</b>	
<p>This business requirement is to improve and streamline identity and access management to buildings, systems and applications at VDOT across the state. Identity and access management presents several risks and challenges, to include security, efficiency and reliability. Several types of technologies are available to manage user identity data across the enterprise. These systems focus on streamlining the identity management process and managing data consistently across multiple systems.</p>	
<b>BRnT Enterprise Mobile Management Solution</b>	
<b>BRT Type:</b>	Business Requirement for New Technology

<b>Date Submitted:</b>	9/2/2014
<b>Mandate:</b>	
<b>Mission Critical:</b>	

**Description:**

This BRT addresses the need for a standardized strategy for addressing the agency's need for mobile technologies in multiple lines of business across the state. A standardized strategy would provide a framework of technologies, processes and resources for all initiatives requiring mobile technology solutions at VDOT. Standards would address hardware, data exchanges, security, application development and deployment, and mobile use guidelines.

**BRnT Environmental Process Improvements**

<b>BRT Type:</b>	Business Requirement for New Technology
<b>Date Submitted:</b>	8/13/2014
<b>Mandate:</b>	No
<b>Mission Critical:</b>	No

**Description:**

The continued expansion of electronic government will increase the efficiency of environmental processes and procedures in VDOT. The implementation of CEDAR and further enhancements and improvements to the GIS will provide greater efficiencies in the conduct of environmental reviews and transparency to the public regarding reporting compliance.

This business requirement for technology is to:

- Enhance existing CEDAR project status reporting
- Facilitate customer service opportunities that enhance relationships with internal and external stakeholders
- Update existing geographic information system (GIS) data and investigate opportunities to further use GIS for Division programs

**BRnT Expand Interactive Public Web Resources**

<b>BRT Type:</b>	Business Requirement for New Technology
<b>Date Submitted:</b>	8/21/2014
<b>Mandate:</b>	No
<b>Mission Critical:</b>	No

**Description:**

This business requirement is to develop additional online interactive web resources to increase public engagement, participation and outreach. This is objective 5.8.1 of the agency's FY 15 Business Plan.

**BRnT Inventory Module (Cardinal)**

<b>BRT Type:</b>	Business Requirement for New Technology
<b>Date Submitted:</b>	8/13/2014
<b>Mandate:</b>	
<b>Mission Critical:</b>	Yes

**Description:**

This business need is to integrate the inventory function at VDOT with the Cardinal system. This implementation is required because the current application technology is reaching the end of its productive life, and the business process warrants it be incorporated within the financial system. Microsoft Corporation ended support for Active Server Pages software in 2008. It is no longer possible to make changes to certain sections of the application. The project will replace the WebIMS application with the PeopleSoft Inventory Module.

**BRnT Learning Management System (LMS) Replacement**

<b>BRT Type:</b>	Business Requirement for New Technology
<b>Date Submitted:</b>	4/17/2015
<b>Mandate:</b>	No
<b>Mission Critical:</b>	

**Description:**

The Learning Center is seeking an upgrade to its Virtual Campus Learning Management System (LMS). The current product, introduced in May, 2005, is reaching the end of its viability from a technology perspective. The solution path we are pursuing, in collaboration with IT Governance & Security, is a Software as a Service cloud-based solution. It should be noted that this is fundamentally the same way that the Learning Center has operated since 2005, with the Meridian product “ hosted outside the VDOT firewall.

The specific 2015 Business Action Item that this supports is:  
Objective 5.3: To build a leadership pipeline program through career planning and mapping.

Action Items:  
5.3.1 Establish career maps for 10 critical groups by January 1, 2015 and introduce training and development programs that support advancement within each.  
5.3.2 Develop leadership enhancement programs for mid and senior managers, and focus the Core Development Program to broad VDOT operations by July 1, 2015.

To stress the importance of this infrastructure, the following bullets highlight some of the ways the LMS serves VDOT as a critical software system. It is an imperative system for a business of our size.

- Provides a single centralized repository for agency training resources
  - o Provides end user access to over 1,000 asynchronous online courseware titles
  - o Provides access to all VDOT sponsored instructor-led (ILT) classroom offerings
  - o Links learning opportunities to specific competencies for development
  - o Provides electronic approval workflow for access/enrollment
  - o Limits access where appropriate, enforces prerequisites
- Collects and provides critical reporting data
  - o Evaluate compliance
  - o Monitor employee development
  - o Feed other data systems, including VA Performs
- Provides certification and program management support

- o Internal and external stakeholders
- o E-Commerce

### BRnT Linear Reference System (LRS) Blitz

**BRT Type:** Business Requirement for Existing Technology

**Date Submitted:** 7/30/2014

**Mandate:** Yes

**Mission Critical:**

**Description:**

Surge resources to complete the backlog of LRS activities pending against all state and locally managed routes in Virginia in RNS. Prioritize LRS backlog to address mission critical activities first. Objective is to ensure accurate and thorough availability of all public roadways within the LRS for federal reporting and operational management at VDOT. The backlogged activities are:

- Optimization of LRS Processing, defect corrections
- Implement Mile Post processing in RNS Core
- Re-projection of the maps to a supported standard (WGS84)
- Intersection Design, Intersection Tools, data import and manual corrections
- Editing of routes and sequencing for the existing Errors and Omissions (E&O's) and QA identified problem areas for the interstate, primary, secondary and local roadways. Route numbers and street names are both included in this effort.
- LRS Build Processing of all current and incoming County Resolutions, VDOT projects and nonVDOT projects
- QA Script Enhancements, QA Processing (Pre & Post LRS Build runs), LRS Dashboard

### BRnT Maintenance Management Solution

**BRT Type:** Business Requirement for New Technology

**Date Submitted:** 8/13/2014

**Mandate:** No

**Mission Critical:**

**Description:**

This business requirement is to replace the VDOT Asset Management System (AMS) with a comprehensive solution to improve the planning, implementation and evaluation of the statewide Maintenance Program.

### BRnT ModTag Rewrite

**BRT Type:** Business Requirement for New Technology

**Date Submitted:** 12/3/2014

**Mandate:**

**Mission**

<b>Critical:</b>	
<b>Description:</b>	
<p>This business requirement is to rewrite the ModComp and Tag (ModTag) software, so it is compatible with Windows 7. The old software works off of DOS and is difficult to load.</p> <p>ModComp and Tag (ModTag) structural analysis software automates the pavement evaluation and analysis process. ModTag calculates the structural index of pavement using a falling weight deflectometer (FWD) and allows for multiple instances of data validation prior to performing a final analysis, with multiple test runs recorded in a single file. The application is used by other states DOTs and Federal agencies. ModTag was written in-house using Visual Basic 6 and C#.net with an Access 2003 back end. There is no interface with any other VDOT application. Data can be downloaded into Excel. ModTag also uses a back calculation program developed by Cornell University called ModComp that is written in Fortran.</p>	
<b>BRnT Operations Dashboard</b>	
<b>BRT Type:</b>	Business Requirement for New Technology
<b>Date Submitted:</b>	8/22/2014
<b>Mandate:</b>	No
<b>Mission Critical:</b>	No
<b>Description:</b>	
<p>This business requirement is to create an operations dashboard to monitor metrics such as road incidents and delays, road conditions, VSP data, and snow removal operations. The dashboard would allow views at a state level with the capability to drill down to District and Residency levels.</p>	
<b>BRnT Physical Access Control System Upgrade and Replacement</b>	
<b>BRT Type:</b>	Business Requirement for New Technology
<b>Date Submitted:</b>	3/11/2015
<b>Mandate:</b>	
<b>Mission Critical:</b>	
<b>Description:</b>	
<p>This business requirement for technology is to replace the physical access control system (PACS) at VDOT and to address 2 operational risks/issues (ORIs) for obsolete technology. The work effort includes replacement of panels, controllers, software, and the badging workstations that reside on the COV network. The current solution is running on Windows 2000 servers and requires XP workstations. VDOT is paying a higher cost for 60 XP workstations at this time.</p>	
<b>BRnT Project Portfolio Management (PpM) at VDOT</b>	
<b>BRT Type:</b>	Business Requirement for New Technology
<b>Date</b>	7/30/2014

<b>Submitted:</b>	
<b>Mandate:</b>	Yes
<b>Mission Critical:</b>	Yes
<b>Description:</b>	
<p>Project Portfolio Management (PPM) is the management of processes, methods, and technologies used by project managers and program managers to analyze and collectively manage current or proposed projects/programs based on numerous key characteristics. In support of House Bill 2 and other similar initiatives, VDOT desires a portfolio management solution that will enable optimal utilization of available funding to maximize program delivery and benefits from projects objectively and quantifiably selected through the Six Year Improvement Program (SYIP) process, and to provide tools to aide in the management and execution of the program. Existing technologies supporting this need include the iSYP Suite of applications. The technical platform for the VDOT SYIP Technology Suite is grossly outdated and current business processes supporting the development of the SYIP are cumbersome and inefficient. Project selection and procurement is listed as a key risk factor in the VDOT Strategic Plan. This business need aligns with Agency Goal #1: Plan " Effectively prioritize, plan and fund programs, projects, and services to deliver a safe and reliable transportation system.</p>	
<b>BRnT Safety Loss Control Data Management System</b>	
<b>BRT Type:</b>	Business Requirement for New Technology
<b>Date Submitted:</b>	
<b>Mandate:</b>	
<b>Mission Critical:</b>	Yes
<b>Description:</b>	
<p>Global management of Safety and Health forms related to Injuries, Tort, Drug Testing, Training Certifications, etc. Internal resources would be required for data migration and interfaces to existing systems.</p>	
<b>BRnT Statewide Advanced Traffic Management Systems (ATMS)</b>	
<b>BRT Type:</b>	Business Requirement for New Technology
<b>Date Submitted:</b>	8/4/2014
<b>Mandate:</b>	
<b>Mission Critical:</b>	Yes
<b>Description:</b>	
<p>BRnT - VDOT Transportation Operations Centers and Statewide Advanced Traffic Management Systems Services  Purpose: To operate, integrate and innovate the state's 5 regional Transportation Operations Centers (TOC™s).  Proposed Outcomes Include:  • Improved interoperability between five TOCs through technology, people and processes.  • Developing, implementing, operating and maintaining a new state-wide ATMS</p>	

platform across five TOCs that is flexible for future enhancements and includes advanced components such as interoperability, Integrated Corridor Management, Active Traffic Management and Arterial Signal Management. Increase operational efficiency and safety through economies of scale gained by having one contract for responsible for traffic operations and ATMS.

• Providing performance-based management of TOC Operations and ATMS services.

• Develop consistent standard operating procedures across the state, while accommodating regional characteristics.

• Protect and enhance current asset value/investment.

• Providing a platform for innovation of VDOT's traffic operations and an opportunity for the private sector to test new products and strategies

For more information, visit

[http://www.virginia-dot.org/business/traffic\\_operations\\_centers.asp](http://www.virginia-dot.org/business/traffic_operations_centers.asp)

### BRnT Statewide Technology Asset Repository

**BRT Type:** Business Requirement for New Technology

**Date Submitted:** 8/26/2014

**Mandate:** No

**Mission Critical:** No

#### Description:

The Information Technology Division requires an IT Asset Management (ITAM) System to track and manage the assignment, transfer, renewal and disposal of all VDOT IT assets (hardware, software, desktop printers, etc.). The system will include an inventory of all hardware equipment and software licenses. The current process utilizes spreadsheets, network files and e-mails, and is out of compliance with the Commonwealth and Agency IT security standards.

Supporting technology requirements include the LANDesk (LD) COTS package for Asset Lifecycle Management (ALM) and Data Analytics for Managed Intelligence (DA-MI). LANDesk Management Suite (LDMS) is the tool used by VITA/NG for ITAM. The use of LD products by VDOT will enable the sharing of discovery data from agents on NG leased assets for hardware inventory and software compliance management. Through this data sharing, VDOT avoids the cost of purchasing the LDMS core and deploying redundant agents on 7,000 leased assets.

### BRnT Straight Line Diagram

**BRT Type:** Business Requirement for New Technology

**Date Submitted:** 7/28/2014

**Mandate:** Yes

**Mission Critical:** No

#### Description:

As part of the Agency's FY 15 business plan, Straight Line Diagram (SLD) capability is required to enable VDOT business units to prepare and analyze data for use in current federally mandated reports. The SLD allows multiple data types to be displayed at the same time, facilitating simple analysis. VDOT provides this geospatially enabled data to local, state and federal agencies to support future

planning and engineering and a variety of specialized government reports and analysis. This data will be used to meet many of VDOT's upcoming MAP-21 reporting obligations

#### BRnT Tableau Server

**BRT Type:** Business Requirement for New Technology

**Date Submitted:** 4/8/2015

**Mandate:** No

**Mission Critical:** No

#### Description:

VDOT has been using Tableau for two years now. Successful adoption of the product prompted us to expand from named-user license on Tableau Server to an 8-core License in 2014. Usage of Tableau has continued to grow since that time. We need to expand our total license from 8 cores to 16 cores to ensure adequate performance for existing content and several high-profile initiatives currently under development.

#### BRnT Traffic Data Performance Management System

**BRT Type:** Business Requirement for New Technology

**Date Submitted:**

**Mandate:**

**Mission Critical:** Yes

#### Description:

The purpose of the TDPMS project is to implement a reliable, web-accessible solution for analysts to access, view, and consolidate traffic volume and safety data from different sources in order to effectively plan and respond to data calls and to conduct analysis of congestion and its causes.

Specific Solution - The iPeMS extracts information from real-time intelligent transportation systems (ITS) and other sources, processes it, and stores in a data warehouse for user access through a web application. There are three main components to the iPeMS solution: the data processing engine, data warehouse, and user interface application. The user interface application is an object-oriented PHP application running on an Apache web server. It provides the user with real-time traffic condition views, detector health, freeway performance measures, and administrative functions such as access control, user account management, and usage reports.

Customers - Key customers within VDOT served by this project are:

- Traffic Engineering Division
- Operations Division
- Information Technology Division
- Transportation and Mobility Planning Division
- Regional Operations
- District Planning Divisions
- Virginia Center for Transportation Research Innovation and Research
- Business Transformation Office

Benefits – Completion of the project will provide the following benefits:

- data sharing across divisions and regions within VDOT
- access to data not previously available
- efficiencies in work processes
- visualization of data
- new functionalities to analyze data to include map-based displays

### BRnT VDOT Cardinal

**BRT Type:** Business Requirement for New Technology

**Date Submitted:** 9/19/2014

**Mandate:** No

**Mission Critical:**

**Description:**

Part 3 of Cardinal – the statewide rollout of General Ledger, Accounts Payable, Expense, and Accounts Receivable – Cash Receipts functionality is scheduled for completion in February 2016. VDOT will need its own instance of Cardinal in order to move forward with implementing additional modules unique to VDOT such as Inventory or Human Resources.

### BRnT VDOT Document and Process Management

**BRT Type:** Business Requirement for New Technology

**Date Submitted:** 10/7/2014

**Mandate:**

**Mission Critical:**

**Description:**

This business requirement is for a comprehensive work flow solution for document and process management at VDOT. The solution will enable visibility into when processes begin and end; identify process bottlenecks; and enable dashboard and metrics reporting. This requirement was identified by the VDOT Business Transformation Office.

### BRnT VDOT Succession Management Project

**BRT Type:** Business Requirement for New Technology

**Date Submitted:**

**Mandate:**

**Mission Critical:** No

**Description:**

VDOT needs to perform an in depth analysis of the solution requirements for a Succession Management system at VDOT; recommend either an internally developed or external vendor implementation; and to manage the solution

implementation performed by the selected provider.

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Report Title: Appendix A 14 - 16 Report

Agency: Department of Transportation (VDOT)

Date: 6/2/2015

Agency Head Approval:

No

<b>Budget Category: Major Projects</b>				
<b>Construction Documentation Management</b>				
<b>Oversight and Governance Category: Category 2: High/Medium or High/Low or Medium/High</b>				
<b>Appropriation Act/Funding Status</b>			<b>Project Initiation Approval - Fully Funded NGF 100%</b>	
The project will develop standardized business process workflows that will automate the creation, storage and status designation of VDOT construction documents. It will step personnel through designated workflows, storing construction documents in a standard SharePoint repository that will have a standard set of folders for documents at each level of the construction process from final design through the end of construction.				
Planned project start date:	1/17/2013	Planned project end date:	4/1/2016	
PPEA Involvement:	No			
<b>Estimated Costs:</b>	<b>Total</b>	<b>General Fund</b>	<b>Nongeneral Fund</b>	<b>Nongeneral Funding Source</b>
Project Cost (estimate at completion):	\$2,516,382			
Estimated project expenditures first year of biennium:	\$1,508,407	\$0	\$1,508,407	
Estimated project expenditures second year of biennium:	\$1,114,194	\$0	\$1,114,194	
<b>Service Area</b>			<b>Weight</b>	
501 VDOT 60315 Highway Construction Program Management			Primary	
501 VDOT 51408 Environmental Monitoring and Compliance for Highway Projects			Secondary	
501 VDOT 60201 Ground Transportation System Planning			Secondary	
501 VDOT 60204 Ground Transportation Program Management and Direction			Secondary	
501 VDOT 60302 Dedicated and Statewide Construction			Secondary	
501 VDOT 60303 Interstate Construction			Secondary	
501 VDOT 60304 Primary Construction			Secondary	
501 VDOT 60306 Secondary Construction			Secondary	
501 VDOT 60307 Urban Construction			Secondary	
<b>Project Related Procurements</b>				
Construction Documentation Management (APR)				
Procurement Description: This project is to implement a consistent way of managing construction				

documents, and in particular electronic documents, across all districts. This initiative will benefit the business by:

1. Significantly reducing server space through the aggregation of documents onto one location, rather than multiple locations, and therefore eliminating the need to store the same documents on various sites.
2. Minimizing the need for site-specific learning and improve proficiencies of multi-project resources who currently must learn a different document management and control system for each project.
3. Increasing efficiencies by implementing best document management practices that streamline processes.
4. Reducing the time needed by new or non-project staff to locate needed documents when there is a consistent file structure across projects and districts.
5. Reducing discovery time of documents for legal requirements.
6. Eliminating the need to maintain different document management systems on the same project because consultants don't have access to our system and documents; leveraging the agency's new SharePoint 2010 environment would give consultants system access and enhance document collaboration between all project resources and streamline the current process.
7. Preparing the business's document management environment for the implementation of document workflows on the agency's new SharePoint 2010; these include, but not limited to, the tracking of documents, automatic transfer and approval, pre-population of forms, common interfaces for project data, and etc.

Planned Delivery Date:	7/31/2013		
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**Procurement for CDM Project**

Procurement Description:	Procurement for CDM		
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Planned Delivery Date:	6/30/2013		
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**CSC System 2.0**

**Oversight and Governance Category: Category 4: Low/Medium, Low/Low**

<b>Appropriation Act/Funding Status</b>	<b>Project Initiation Approval - Fully Funded NGF 100%</b>
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**Project Approach**  
 The approach for the CSC System 2.0 project is comprised of five key activities that include Project Initiation and Planning, Requirements Gathering, System Procurement, System Design and Implementation (Phase 3), and Project Closeout for Phase 1 and Phase 2.

**1 Project Initiation and Planning**

**Overview**

Project Initiation and Planning comprises a key set of project activities designed to ensure that the project team is fully aligned with the client's project objectives and to establish the project management structures that will assist in achieving client business objectives for the project.

To that end, a key task of Project Initiation and Planning is working with the VDOT's Project Sponsor and Project Manager to define and finalize the project scope, approach, and timeline and is reflected in this document.

**Project Schedule Development and Maintenance**

Project schedules are critical tools used to keep projects under control. We will use Microsoft (MS) Project 2002 as the project scheduling software and will provide initial and all subsequent versions of the project schedule in this format. It is our belief that the most detailed level of work defined in a project schedule should have a clearly recognizable end point, where all can agree that the activity planned has, in fact, been successfully completed. Normally, this is done by assigning either well-defined milestones or well-defined deliverables to each activity.

The CSC System 2.0 project team will work with VDOT's Project Manager(s) at project kickoff to develop a schedule for meeting the project objectives in accordance with VDOT's needs. The initial version of the project schedule has estimated start and end dates, which in turn will define the expected duration of the activity. Where dependencies and/or linkages between tasks exist, these will be specifically identified. It will be possible to identify the critical path within the project for those tasks that have been identified.

- Managing vendor evaluations.

- Providing facilitation support for vendor presentations, scoring, negotiations and award.

- Selecting the vendor,

- Negotiating and awarding the vendor contract.

- Refining the project schedule and budget based on the vendor selection.

### 3) System Design and Implementation

System Design and Implementation is to be in Phase 3. This phase will entail managing the vendor through development, testing and implementation of the system.

### 4) Project Closeout

Closeout tasks will include formal Acceptance of final deliverables by VDOT and turn over of all vendor system documentation to VDOT.

In addition, Project Closeout tasks include any final transfer of knowledge from vendor to VDOT.

Planned project start date:	4/1/2014	Planned project end date:	10/30/2015
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PPEA Involvement:	No
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Estimated Costs:	Total	General Fund	Nongeneral Fund	Nongeneral Funding Source
Project Cost (estimate at completion):	\$6,850,003			
Estimated project expenditures first year of biennium:	\$3,081,271	\$0	\$3,081,271	
Estimated project expenditures second year of biennium:	\$504,662	\$0	\$504,662	

Service Area	Weight
501 VDOT 60101 Customer Service Centers Operations	Primary
501 VDOT 69901 General Management and Direction	Secondary
501 VDOT 69902 Information Technology Services	Secondary

### Project Related Procurements

CSC Portal 2.0 (APR)

Procurement Description:	<p>This procurement is for a Statement of Work under the CAI IT Contingency Labor contract to perform the following work in preparation for a major enhancement of the VDOT Customer Service Center portal system. The procurement will deliver:</p> <ul style="list-style-type: none"> <li>• System requirements</li> <li>• RFP for system enhancements</li> <li>• Detailed cost, schedule and scope for the system enhancements</li> </ul>
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	The VDOT Customer Service Center provides 24 x7x365 customer service support to citizens and the travelling public throughout Virginia. Callers to the VDOT Customer Service Center can report road hazards or delays, request information, and request roadway service/maintenance.			
Planned Delivery Date:	12/31/2012			
<b>CSC System 2.0 (APR)</b>				
Procurement Description:	<p>UPDATE COMMENTS 10/28/2013: This approved APR is being updated to reflect the negotiated contract terms from the vendor response to the request for proposal. The Planned Procurement Completion Date is being updated from 1/31/2014 to 3/31/2021. The span of the entire procurement will include two years of system development, plus two years of maintenance, plus three one-year renewal options for maintenance. This comes to a total 7-year contract span. Payments under the contract will begin in 2014. In addition, the APR will cover all procurements related to execution of the CSC 2.0 System project. Under the negotiated contract terms, the vendor will provide services and either VDOT or vendor will procure software and telephony components related to the vendor solution. As of this update, the contract is not yet awarded.</p> <p>ORIGINAL DESCRIPTION This procurement is to obtain vendor services to develop a replacement for the VDOT Customer Service Center system.</p> <p>The VDOT Customer Service Center provides 24 x 7 x 365 customer service support to citizens and the travelling public throughout Virginia. Callers to the VDOT Customer Service Center can report road hazards or delays, request information, request roadway service/maintenance, ask transportation questions or other questions about VDOT and conduct business with VDOT.</p>			
Planned Delivery Date:	3/31/2021			
<b>Highway Maintenance Management System</b>				
<b>Oversight and Governance Category: Category 2: High/Medium or High/Low or Medium/High</b>				
<b>Appropriation Act/Funding Status</b>			<b>Investment Business Case Approval</b>	
			-	
<p>The purpose of this Investment is selection of a COTS package supporting the Highway Maintenance Management System (HMMS) Project to provide an integrated, geospatially-enabled, holistic state-of-the-art solution software that meets VDOT's business and system requirements. The HMMS project will be used to support the development of business processes to:</p> <ul style="list-style-type: none"> <li>• Integrate with, modify, or replace HMMS components for planning, budgeting, asset management, expenditure tracking, work order processing, staff management and time recording, emergency and incident and management, and customer relationship management.</li> <li>• Integrate the HMMS solution with additional asset management inventory and the Roadway Network System (RNS), VDOT's Linear Referencing System (LRS).</li> <li>• Implement analysis and reporting for Pavement, Ancillary Structures, Fixed Bridges and Culverts, Roadside Maintenance, and Moveable Bridges and Tunnels.</li> <li>• Convert and load VDOT's current asset management data and performance models into the HMMS solution.</li> </ul>				
Planned project start date:	7/1/2015	Planned project end date:	6/30/2018	
PPEA Involvement:	No			
<b>Estimated Costs:</b>	<b>Total</b>	<b>General Fund</b>	<b>Nongeneral Fund</b>	<b>Nongeneral Funding Source</b>
Project Cost (estimate)	\$7,014,000	\$0	\$7,014,000	

at completion):				
Estimated project expenditures first year of biennium:	\$230,000	\$0	\$230,000	Non-general - State
Estimated project expenditures second year of biennium:	\$1,507,600	\$0	\$1,507,600	Non-general - State

<b>Funding Required:</b>	<b>Total</b>	<b>General</b>	<b>Nongeneral</b>	<b>Nongeneral Funding Source</b>
Funding required for first year of biennium:	\$230,000	\$0	\$230,000	Non-general - State
Funding required for second year of biennium	\$1,507,600	\$0	\$1,507,600	Non-general - State

<b>Service Area</b>	<b>Weight</b>
There are no service areas for this project.	

**Project Related Procurements**

Highway Maintenance Management System Procurement

Procurement Description:	<p>Review the current business process. Plan on using a RFP to select a Vendor to provide a software solution, and assist in the setup, installation and training to ensure the VDOT Organization is well versed in the tools needed to create reports and perform the necessary support for the different VDOT operation areas and create reports to help manage the Highway Maintenance operations. This is expected to be Will be a COTS Implementation that will seek to:.</p> <ul style="list-style-type: none"> <li>Â: Include an Integrated, geospatially-enabled, holistic state-of-the-art solution software that meets VDOTâ€™s business and system requirements.</li> <li>Â: Develop processes to integrate with, modify, or replace HMMS components for planning, budgeting, asset management, expenditure tracking, work order processing, staff management and time recording, emergency and incident and management, and customer relationship management.</li> <li>Â: Integrate the HMMS solution with additional asset management inventory, and the Roadway Network System (RNS), and VDOTâ€™s Linear Referencing System (LRS).</li> <li>Â: Implement analysis and reporting for Pavement, Ancillary Structures, Fixed Bridges and Culverts, Roadside Maintenance, and Moveable Bridges and Tunnels.</li> <li>Â: Convert and load VDOTâ€™s current asset management data and performance models into the HMMS solution.</li> </ul>			
Planned Delivery Date:	6/30/2018			

**Inventory Module (Cardinal)**

**Oversight and Governance Category: Category 1: High/High**

<b>Appropriation Act/Funding Status</b>	<b>Investment Business Case Approval - Fully Funded NGF 100%</b>
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The project will replace the WebIMS application with the PeopleSoft Inventory Module. This will integrate the inventory function at VDOT with the Cardinal system. This implementation is required because the current application technology is reaching the end of its productive life, and the business process warrants it be incorporated within the financial system. Microsoft Corporation ended support for Active Server Pages software in 2008. It is no longer possible to make changes to certain sections of the application.

Planned project start date:	5/1/2015	Planned project end date:	10/31/2016	
PPEA Involvement:	No			
<b>Estimated Costs:</b>	<b>Total</b>	<b>General Fund</b>	<b>Nongeneral Fund</b>	<b>Nongeneral Funding Source</b>
Project Cost (estimate at completion):	\$9,000,000	\$0	\$9,000,000	
Estimated project expenditures first year of biennium:	\$2,000,000	\$0	\$2,000,000	Non-general - State
Estimated project expenditures second year of biennium:	\$5,000,000	\$0	\$5,000,000	Non-general - State
<b>Funding Required:</b>	<b>Total</b>	<b>General</b>	<b>Nongeneral</b>	<b>Nongeneral Funding Source</b>
Funding required for first year of biennium:	\$2,000,000	\$0	\$2,000,000	Non-general - State
Funding required for second year of biennium	\$5,000,000	\$0	\$5,000,000	Non-general - State
<b>Service Area</b>			<b>Weight</b>	
501 VDOT 60402 Primary Maintenance			Primary	
BRnT Inventory Module (Cardinal)			Primary	
501 VDOT 60403 Secondary Maintenance			Secondary	
<b>Project Related Procurements</b>				
Staff Augmentation Request FY11				
Procurement Description:	This procurement is to obtain the services of highly knowledgeable and skilled technology consultants to supplement current technology staff efforts. Contractors work on projects, operations and maintenance activities where additional personnel services are required, provide technical expertise that can not be hired through the state personnel system due to lack of new FTE positions, and provide supplemental staff coverage for FTE's that may be distributed to other critical areas within the agency. In many cases they also provide transportation expertise that is not available otherwise.			
Planned Delivery Date:	6/30/2011			
Oracle PeopleSoft Inventory Module Enterprise License				
Procurement Description:	This is for the purchase of the PeopleSoft Inventory Module software (Deliverable 164). Note: We will make this purchase via a change order (FMS-CR208) against SOW1 for VITA Contract VA-090827-ACCN, which is the SOW that covered the initial Cardinal software purchase.			
Planned Delivery Date:	12/31/2013			
<b>PPM@VDOT</b>				
<b>Oversight and Governance Category: Category 2: High/Medium or High/Low or Medium/High</b>				
<b>Appropriation Act/Funding Status</b>			<b>Investment Business Case Approval</b>	

**- Fully Funded NGF 100%**

Project Portfolio Management (PPM) is the management of processes, methods, and technologies used by project managers and program managers to analyze and collectively manage current of proposed projects/programs based on numerous key characteristics. In support of House Bill 2 and other similar initiatives, VDOT desires a portfolio management solution that will enable optimal utilization of available funding to maximize program delivery and benefits from projects objectively and quantifiably selected through the Six Year Improvement Program (SYIP) process, and to provide tools to aide in the management and execution of the program. Existing technologies supporting this need include the iSYP Suite of applications. The technical platform for the VDOT SYIP Technology Suite is grossly outdated and current business processes supporting the development of the SYIP are cumbersome and inefficient.

Planned project start date:	12/15/2014	Planned project end date:	8/31/2016
PPEA Involvement:	No		

<b>Estimated Costs:</b>	<b>Total</b>	<b>General Fund</b>	<b>Nongeneral Fund</b>	<b>Nongeneral Funding Source</b>
Project Cost (estimate at completion):	\$2,500,000	\$0	\$2,500,000	
Estimated project expenditures first year of biennium:	\$500,000	\$0	\$500,000	Non-general - State
Estimated project expenditures second year of biennium:	\$2,000,000	\$0	\$2,000,000	Non-general - State

<b>Funding Required:</b>	<b>Total</b>	<b>General</b>	<b>Nongeneral</b>	<b>Nongeneral Funding Source</b>
Funding required for first year of biennium:	\$500,000	\$0	\$500,000	Non-general - State
Funding required for second year of biennium	\$2,000,000	\$0	\$2,000,000	Non-general - State

<b>Service Area</b>	<b>Weight</b>
There are no service areas for this project.	
There are no procurements for this project.	

**Safety Loss Control Data Management System**

**Oversight and Governance Category: Category 3: Medium/medium, Medium/Low, Low/High**

<b>Appropriation Act/Funding Status</b>	<b>Investment Business Case Approval - Fully Funded NGF 100%</b>
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Global management of Safety and Health forms related to Injuries, Tort, Drug Testing, Training Certifications, etc. Internal resources would be required for data migration and interfaces to existing systems.

Planned project start date:	2/6/2015	Planned project end date:	1/30/2016
PPEA Involvement:	No		

<b>Estimated Costs:</b>	<b>Total</b>	<b>General Fund</b>	<b>Nongeneral Fund</b>	<b>Nongeneral Funding Source</b>
Project Cost (estimate at completion):	\$2,000,000	\$0	\$2,000,000	
Estimated project expenditures first year of biennium:	\$798,479	\$0	\$798,479	Non-general - State
Estimated project expenditures second year of biennium:	\$937,345	\$0	\$937,345	Non-general - State

<b>Funding Required:</b>	<b>Total</b>	<b>General</b>	<b>Nongeneral</b>	
Funding required for first year of biennium:	\$798,479	\$0	\$798,479	
Funding required for second year of biennium:	\$937,345	\$0	\$937,345	

<b>Service Area</b>	<b>Weight</b>
501 VDOT 69902 Information Technology Services	Primary
BRnT Safety Loss Control Data Management System	Primary

**Project Related Procurements**

Safety Loss Process Management Analysis (APR)	
Procurement Description:	Global management of Safety and Health forms related to Injuries, Tort, Drug Testing, Training Certifications, etc. Internal resources would be required for data migration and interfaces to existing systems.  Deliverables include a Project Charter, analysis of current and future state processes, process gap analysis, future state recommendations and a requirements traceability matrix for creating a request for proposal (RFP).
Planned Delivery Date:	9/26/2014

**Straight Line Diagram**

**Oversight and Governance Category: Category 3: Medium/medium, Medium/Low, Low/High**

**Appropriation Act/Funding Status**      **Project Initiation Approval -**

-- Background --

VDOT is responsible for maintaining and managing data for over 57,000 miles of Interstate, Primary and Secondary roads and for over 10,000 miles of urban streets. These questions are asked every day. How long and wide, how many lanes, how many vehicles use the road, how well they connect to each other, how well they are constructed, how well they hold up to use and how they can be made safer?

Traffic Engineering pinpoints the locations of nearly 125,000 motor vehicle crashes a year on both VDOT-maintained roads, and locally-maintained streets. This data may then be searched by all VDOT users, and the results displayed in table, map, and straight line diagram formats.

The RNS provides access to Roadway Inventory, Crash and Traffic data, which when combined with Crash data, supports mandated reporting and analysis. It also supplies the ability to visualize and query crash data geospatially in order to support crucial highway and traffic engineering safety efforts.

VDOT is charged with determining speed limits on all roads under its authority. Maximum speed limits are defined by statute in the Code of Virginia which can be changed after an engineering study, through a resolution signed by the Commissioner of Transportation. Different speed limits exist for cars and trucks, and may be either conventional (applying at all times) or variable (applying only at selected times).

VDOT is required to keep records of all speed zone resolutions and documentation related to the determination of speed limits which supports inquiries from the public and the resolution of court cases involving questions of driver speeds, and as an aid to various engineering analysis.

VDOT is responsible for the inventory and inspection of 20,997 structures (bridges and culverts) across all of the Commonwealth's roadway systems. Of these structures 13,392 are part of the National Bridge Inventory (NBI). VDOT maintains 19,356 of these structures and 1,641 are maintained by localities and private owners.

#### -- Existing System and Business Process --

The Road Network System (RNS) serves as a portal for accessing key mapping and non-mapping roadway related data for VDOT. The application offers users a central point of access to RNS GIS data resources. The core of the application " layers, attributes, labels, initial extents, scale limits, bookmarks, caches, etc " can be modified at any time, allowing for adjustments to be made when changes are made in data, road network, security and users.

The RNS provides access to Roadway Inventory and Traffic data, which when combined with Crash data, supports mandated reporting and analysis. It also supplies the ability to visualize and query crash data geospatially in order to support crucial highway and traffic engineering safety efforts.

The Roadway Inventory Management System (RIMS) is the core system for editing the RNS roadway data.

The RNS Straight Line Diagram is a computer generated representation similar VDOT's earlier paper route logs, that were used for many years to help identify and locate important attributes of Virginia's roadway network.

Presenting road data using the "straight line" format provides an effective and simple way to view the road with its physical representations of ramps, intersections, and bridges as a "stick", while displaying a number of associated business data bars.

The straight line diagram allows other data types to be displayed at the same time, facilitating simple analyses of the data. VDOT provides this geospatially enabled data to local, state and federal agencies to support future planning and engineering as well as a variety of specialized government reports and analysis

The function of the existing SLD is to:

- visualize and query roadway data geospatially

#### --Proposed Solution--

The Traffic and Engineering Division is requesting a replacement to the SLD web-based user interface that can be used by division employees. A replacement system will be built or modified from a COTS by a third party vendor. The solution will be selected based on a combination of suitability to requirements and cost. Upon COTS selection, the selected vendor will be asked to respond to an SOR for the implementation of the software at VDOT. The solution selected may cost substantially less than estimated. The project estimates are conservative to address the full range of potential bids.

As part of the Agency's FY 14-15 business plan, this SLD capability is required to enable VDOT business units to prepare and analyze data for use in a variety of federally mandated reports. Security profiles will provide controls to ensure users can view/access required data. This data will also be used to meet many of VDOT's upcoming obligations contained within MAP-21 which will require many of the same datasets. The existing RNS/RIMS database will be leveraged to support the UI. Routes now generated locally from legacy systems will be produced through the web UI and distributed electronically.

The benefits of these changes include but are not limited to:

- Â· The Traffic and Engineering Division can maintain compliance with VDOT, HSIP and MAP 21 reporting requirements.
- Â· VDOT can evaluate and perform analysis on updated business data immediately when entered into the system.
- Â· There is one simple interface for all users to enter and view roadway data to the SLD.
- Â· The infrastructure of the SLD component is modernized to integrate into the VITA/VDOT Technology Stack .

--The Development Approach:--

- Â· The replacement SLD system will be developed by an external vendor selected through a competitive Statement of Requirements (SOR) process This will entail:
  - Â· Documenting the technical statement of work. This statement of work will define the phasing for the project and include the requirements identified in the previous project phase.
  - Â· Developing evaluation criteria. These criteria are the elements by which VDOT will evaluate vendor responses to the SOR.
  - Â· Developing procurement packages. These packages will document information about project objectives, requirements, risks, etc. to inform potential vendors.
  - Â· Defining the vendor obligations. These obligations will include terms, conditions, requirements, technical standards, performance standards, development milestones, acceptance criteria, and delivery dates.
  - Â· Documenting Performance Metrics. These metrics will be the criteria by which VDOT wishes to track project performance and progress.
  - Â· Consolidating Material into Standard Format. All material will be consolidated into VDOT's standard format for SOR before being released to the public.
  - Â· Facilitating review, validation and approval of SOR document by SLD stakeholders and management.
  - Â· Supporting SOR release and pre-proposal conference facilitation.
- Managing vendor evaluations.
- Providing facilitation support for vendor presentations, scoring, negotiations and award.
- Selecting the vendor,
- Negotiating and awarding the vendor contractor
- Refining the project schedule and budget based on the vendor selection.

System Design and Implementation

System Design and Implementation is to be in Phase 3. This phase will entail managing the vendor through installation of the COTS software, configuration to VDOT requirements, minimal customization development, testing and production rollout of the system.

Project Closeout

Closeout tasks will include formal Acceptance of final deliverables by VDOT and turn-over of all vendor system documentation to VDOT.

In addition, Project Closeout tasks include any final transfer of knowledge from vendor to VDOT.

Planned project start date:	8/25/2014	Planned project end date:	9/30/2015	
PPEA Involvement:	No			
<b>Estimated Costs:</b>	<b>Total</b>	<b>General Fund</b>	<b>Nongeneral Fund</b>	<b>Nongeneral Funding Source</b>
Project Cost (estimate at completion):	\$682,083			
Estimated project expenditures first year of biennium:	\$550,064	\$0	\$550,064	
Estimated project expenditures second	\$82,443	\$0	\$82,443	

year of biennium:				
<b>Service Area</b>		<b>Weight</b>		
501 VDOT 60405 Highway Maintenance Program Management and Direction		Primary		
BRnT Straight Line Diagram		Primary		
501 VDOT 60508 Highway Safety Services		Secondary		
501 VDOT 69902 Information Technology Services		Secondary		
<b>Project Related Procurements</b>				
Straight Line Diagram 2014 (APR)				
Procurement Description:	<p>-- Background --</p> <p>VDOT is responsible for maintaining and managing data for over 57,000 miles of Interstate, Primary and Secondary roads and for over 10,000 miles of urban streets. These questions are asked every day. How long and wide, how many lanes, how many vehicles use the road, how well they connect to each other, how well they are constructed, how well they hold up to use and how they can be made safer?</p> <p>Traffic Engineering conducts quality assurance on approximately 120, 000 locations of data received from the DMV motor vehicle crashes a year on both VDOT-maintained roads, and locally-maintained streets. This data may then be searched by all VDOT users, and the results displayed in table, map, and straight line diagram formats.</p> <p>The RNS provides access to Roadway Inventory, Crash and Traffic data, which when combined with Crash data, supports mandated reporting and analysis. It also supplies the ability to visualize and query crash data geospatially in order to support crucial highway and traffic engineering safety efforts.</p> <p>VDOT is charged with determining speed limits on all roads under its authority. Maximum speed limits are defined by statute in the Code of Virginia which can be changed after an engineering study, through a resolution signed by the Commissioner of Transportation. Different speed limits exist for cars and trucks, and may be either conventional (applying at all times) or variable (applying only at selected times).</p> <p>VDOT is required to keep records of all speed zone resolutions and documentation related to the determination of speed limits which supports inquiries from the public and the resolution of court cases involving questions of driver speeds, and as an aid to various engineering analysis.</p> <p>-- Existing System and Business Process --</p> <p>The RNS Viewer serves as a portal for accessing key Road Network System (RNS) mapping and non-mapping related data for VDOT. The application offers users a central point of access t</p>			
Planned Delivery Date:	3/6/2015			
<b>SYIP Technology Upgrade</b>				
<b>Oversight and Governance Category: Category 2: High/Medium or High/Low or Medium/High</b>				
<b>Appropriation Act/Funding Status</b>			<b>Identified for Preliminary Planning -</b>	
The technical platform for the SYIP Technology Suite is grossly outdated. This project will modernize physical architecture, which will require recoding to make the application work with current versions of				

Windows and SQL Server. This project will also migrate the point-to-point interfaces to real-time integration for more efficient data sharing.

Planned project start date:	9/2/2013	Planned project end date:	6/1/2015
PPEA Involvement:	No		

Estimated Costs:	Total	General Fund	Nongeneral Fund	Nongeneral Funding Source
Project Cost (estimate at completion):	\$2,500,000	\$0	\$2,500,000	
Estimated project expenditures first year of biennium:	\$1,500,000	\$0	\$1,500,000	Non-general - State
Estimated project expenditures second year of biennium:	\$0	\$0	\$0	

Funding Required:	Total	General	Nongeneral	Nongeneral Funding Source
Funding required for first year of biennium:	\$1,500,000	\$0	\$1,500,000	Non-general - State
Funding required for second year of biennium	\$0	\$0	\$0	

Service Area	Weight
501 VDOT 69902 Information Technology Services	Primary

There are no procurements for this project.

**Traffic Data Performance Management System**

**Oversight and Governance Category: Category 3: Medium/medium, Medium/Low, Low/High**

<b>Appropriation Act/Funding Status</b>	<b>Project Initiation Approval -</b>
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Implement iPeMS (Iteris Performance Management System), the selected COTs product to archive and support analysis of VDOT's traffic performance related data. The iPeMS extracts information from real-time intelligent transportation systems (ITS) data and other sources, processes it and stores in a data warehouse, and is made available to users of the system in various forms.

- District Planning Divisions
- Virginia Center for Transportation Research Innovation and Research
- Business Transformation Office

Benefits – Completion of the project will provide the following benefits:

- data sharing across divisions and regions within VDOT
- access to data not previously available
- efficiencies in work processes
- visualization of data
- new functionalities to analyze data:

- Map-Based Displays
- Time Series Analysis
- Plotting Data Items Against Each Other
- Heat Maps (showing speed on a route over time)
- Querying/Filter tools
- Raw data export

Identification of bottleneck locations  
 Diagnostics for addressing data quality issues  
 Ability to enter short-term traffic counts  
 Reporting tools  
 - support to implementation of MAP-21 mandate  
 - reliable archive of ADMS  
 - readily available system with a 99% guaranteed uptime  
 - cloud-based solution with no space allocation restrictions  
 - no restrictions on quantity of users  
 - customized user training by vendor on system use and functionality  
 - potential for numerous additional functionalities throughout the service timeframe

Planned project start date:	7/10/2014	Planned project end date:	7/10/2015
PPEA Involvement:	No		

Estimated Costs:	Total	General Fund	Nongeneral Fund	Nongeneral Funding Source
Project Cost (estimate at completion):	\$698,754			
Estimated project expenditures first year of biennium:	\$644,023	\$0	\$644,023	
Estimated project expenditures second year of biennium:	\$2,250	\$0	\$2,250	

Service Area	Weight
501 VDOT 60404 Transportation Operations Services	Primary
BRnT Traffic Data Performance Management System	Primary
501 VDOT 60508 Highway Safety Services	Secondary
501 VDOT 60902 Congestion Management Programs	Secondary
501 VDOT 69902 Information Technology Services	Secondary

**Project Related Procurements**

Traffic Data and Performance Management System (APR)

Procurement Description:	<p>This procurement will bring the iPeMS (Iteris Performance Measurement System) automated performance measurement system to VDOT under a "Software as a Service" arrangement. iPeMS extracts information from real-time intelligent transportation systems (ITS) and from other sources, saves it permanently in a data warehouse, and presents this information in various forms to managers, traffic engineers, planners, freeway users, researchers, and traveler information service providers. The total effort involves separate procurements in support of three complementary subtasks. These are (1) configuration and load of the Iteris commercial iPeMS solution; (2) preparation and delivery of historical traffic data to the iPeMS Data Collectors; and (3) extraction and delivery of data from the Automated Traffic Management Systems (ATMS) in use at VDOT regional Traffic Operations Centers (TOCs).</p>
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Planned Delivery Date:	5/31/2015		
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## Budget Category: Non-Major Projects

### Team Foundation Server Project

Oversight and Governance Category: Category 4: Low/Medium, Low/Low

Appropriation Act/Funding Status

Project Initiation Approval -

Team Foundation Service is in production with limited functions. This project will evaluate all available functionality and implement those found to be of high value. Probable functions to be implemented:

- Source code repository (in limited production)
- Code change management
- Requirements management
- Test management

Planned project start date: 5/13/2014 Planned project end date: 6/30/2015

PPEA Involvement: No

Estimated Costs:	Total	General Fund	Nongeneral Fund	Nongeneral Funding Source
Project Cost (estimate at completion):	\$779,806	\$0	\$780,000	
Estimated project expenditures first year of biennium:	\$605,000	\$0	\$605,000	Non-general - Other
Estimated project expenditures second year of biennium:	\$0	\$0	\$0	

Funding Required:	Total	General	Nongeneral	Nongeneral Funding Source
Funding required for first year of biennium:	\$605,000	\$0	\$605,000	Non-general - Other
Funding required for second year of biennium:	\$0	\$0	\$0	

Service Area	Weight
501 VDOT 69902 Information Technology Services	Primary

### Project Related Procurements

Team Foundation Server Procurement

Procurement Description: Procure consulting services for the Team Foundation Server project. Team Foundation Service is in production with limited functions. This project will evaluate all available functionality and implement those found to be of high value. Probable functions to be implemented:

- Source code repository (in limited production)
- Code change management
- Requirements management
- Test management

Planned Delivery Date: 12/15/2014

### VDOT Succession Management Project

Oversight and Governance Category: Category 4: Low/Medium, Low/Low

Appropriation Act/Funding Status

Investment Business Case

**Approval -**

This project is to perform in depth analysis of the solution requirements; recommend either an internally developed or external vendor implementation; and to manage the solution implementation performed by the selected provider.

Planned project start date:	2/17/2014	Planned project end date:	10/6/2014
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PPEA Involvement:	No
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Estimated Costs:	Total	General Fund	Nongeneral Fund	Nongeneral Funding Source
Project Cost (estimate at completion):	\$425,000	\$0	\$425,000	
Estimated project expenditures first year of biennium:	\$145,000	\$0	\$145,000	Non-general - State
Estimated project expenditures second year of biennium:	\$0	\$0	\$0	

Funding Required:	Total	General	Nongeneral	Nongeneral Funding Source
Funding required for first year of biennium:	\$145,000	\$0	\$145,000	Non-general - State
Funding required for second year of biennium:	\$0	\$0	\$0	

Service Area	Weight
501 VDOT 69902 Information Technology Services	Primary
BRnT VDOT Succession Management Project	Primary

There are no procurements for this project.

# Report Title: Appendix A 14 - 16 Report

**Agency:** Department of Transportation (VDOT)

**Date:** 6/2/2015

**Agency Head Approval:**

No

## Stand Alone Major Procurements

<b>Procurement Name:</b>	<b>Open Roads Expanded Scope 2011 - 2014</b>		
<b>Procurement Description:</b>	This Procurement is for an increase to the APR for the Open Roads Consulting, Inc., master contract. The increase provides ongoing support for the 511 Virginia Website which is being added to scope of the Open Roads Consulting, Inc., master contract. In addition, this Procurement provides additional funding for various projects contemplated under this contract in the coming four years.		
<b>Procurement Planned Start Date</b>	7/1/2010	<b>Procurement Planned Completion Date</b>	9/30/2014
		<b>Appropriation Act Status</b>	
<b>Service Area</b>		<b>Weight</b>	
501 VDOT 60404 Transportation Operations Services		Primary	
<b>Procurement Name:</b>	<b>Staff Augmentation Request FY15</b>		
<b>Procurement Description:</b>	This procurement is to obtain the services of highly knowledgeable and skilled technology consultants to supplement current technology staff efforts. Contractors work on projects, operations and maintenance activities where additional personnel services are required, provide technical expertise that can not be hired through the state personnel system due to lack of new FTE positions, and provide supplemental staff coverage for FTEs that may be distributed to other critical areas within the agency. In many cases they also provide transportation expertise that is not available otherwise.		
<b>Procurement Planned Start Date</b>	7/1/2014	<b>Procurement Planned Completion Date</b>	6/30/2015
		<b>Appropriation Act Status</b>	
<b>Service Area</b>		<b>Weight</b>	
501 VDOT 69902 Information Technology Services		Primary	

## Stand Alone Non-Major Procurements

<b>Procurement Name:</b>	<b>Automated Equipment Repair/Parts Manual System (APR)</b>		
<b>Procurement Description:</b>	This is a 3 year initial period for VDOT Repair Technicians to continue using the service and parts manuals to perform repairs to new technologically advanced on road and off road vehicles.		
<b>Procurement Planned Start Date</b>	11/11/2011	<b>Procurement Planned Completion Date</b>	11/14/2014
		<b>Appropriation Act Status</b>	
<b>Service Area</b>		<b>Weight</b>	

501 VDOT 60202 Ground Transportation System Research		Primary
501 VDOT 60204 Ground Transportation Program Management and Direction		Secondary
<b>Procurement Name:</b>	<b>Lease of Small Format Production Printers</b>	
Procurement Description:	Request for a cooperative procurement from the with Xerox to lease small format production printers.	
Procurement Planned Start Date	7/1/2010	Procurement Planned Completion Date 7/1/2015
	Appropriation Act Status	
<b>Service Area</b>		<b>Weight</b>
501 VDOT 69901 General Management and Direction		Primary
<b>Procurement Name:</b>	<b>Tableau Desktop Software (APR)</b>	
Procurement Description:	This is a procurement of 150 Tableau Desktop Professional licenses and maintenance for 1 year, 1 Tableau Server 8 core license and maintenance for 1 year, Tableau Desktop training at 3 customer sites, and Tableau Server installation that includes 4 weeks on-site to provide installation, configuration, knowledge transfer, and server training classes.	
Procurement Planned Start Date	4/15/2014	Procurement Planned Completion Date 4/14/2015
	Appropriation Act Status	
<b>Service Area</b>		<b>Weight</b>
501 VDOT 69902 Information Technology Services		Primary
Data Quality Management Services		Secondary
Infrastructure Maintenance Management System		Secondary
VirginiaRoads Project		Secondary