

# Report Title: IT Strategic Plan Summary

Agency: 501 Department of Transportation

Date: 6/13/2017

## Current Operational IT Investments

***In this section, describe the high-level strategy the agency will use to manage existing operational IT investments over the next year to 5 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:***

***Are there existing IT investments that will require additional funding over the next year to 5 years, such as license renewals, re-competition of current IT contracts, or system enhancements required by the Agency Strategic Plan?***

***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?***

***If the agency does not have the staff or funding to meet increasing demand for IT services, how will IT leadership fulfill the requests?***

### MISSION STATEMENT

We help the people that keep VA moving by enabling them with information technology solutions that serve as a force multiplier for their work. Because of our contributions, VDOT people are able to work better.

### VISION STATEMENT

To become the premier IT organization within the Commonwealth of VA that is recognized on a national level for our ability to deliver exemplary results. Our people will become among the most highly sought after staff to lead IT in other agencies and organizations; however they won't want to leave.

### CURRENT OPERATIONAL IT INVESTMENTS

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 requirements, Information Technology Division (ITD) is charged with defining and implementing innovative technology solutions. VDOT's immediate goal is to deliver more IT value. We have completed the organizational transformation and are moving forward with increasing organizational and drive value.

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. 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 organizations 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 Divisions 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.

IT INFRASTRUCTURE TRANSITION

SHARED SECURITY SERVICES

CLOUD APPLICATION HOSTING

INTERNET UTILIZATION

### **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 5 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:

- 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.

**•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 road 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.

Bentley ProjectWise - VDOT requires a solution to extend design integration and project collaboration capabilities to a geographically dispersed collective of VDOT employees and consultants participating in all phases of capital projects. The current legacy system; Falcon, does not provide the capability to provide the automation needed to improve the plan production process. The use of Bentley's ProjectWise system on premises will allow VDOT to replace the legacy Falcon system and automate the plan production process.

CEDAR Upgrade - The CEDAR (Comprehensive Environmental Data and Reporting) Upgrade is needed due to technology obsolescence, technology consolidation and functionality enhancements. Initially; a

complete rewrite was considered necessary; but further analysis determined a technology upgrade would be feasible.

VITA NG Disentanglement - As a result of the VITA/Northrup Grumman disentanglement, VDOT's IT environment will need to be up to date in order to smoothly transition to the new service providers. Applications and other agency dependencies need to be addressed. VDOT will need to address the following areas in preparation for the separation schedule:

#### Voice Networks

Managed Security - including intrusion detection, server security, patch management, anti-virus, user authentication and active directory services. These managed security services would need to be provided by the Northrup Grumman replacement or provided in some other fashion agreeable to all parties. Testing will need to be performed as part of the transition to the new service provider once a service provider has been selected and a transition plan developed.

Cloud Computing - VDOT is investigating moving up to 50 applications to various Cloud services vendors. The business reason for the move is to reduce cost, increase operational efficiency and reliability, increase application sustainability, and deliver greater citizen value. Applications are not cloud ready and will require some development effort to prepare them for operation in the Cloud. Outside consulting will not be needed to assess what needs to be done to the applications and supporting infrastructure in order to become cloud ready.

VDOT's IT environment will need to be up to date in order to smoothly transition to the new service providers. Applications and other agency dependencies need to be addressed.

Internet Usage - VDOT projects that internet usage will increase by 10% each year due to a greater amount of field data usage and a higher level of digital collaboration including the use of video streaming, an increase in user and transportation device access to the internet (transportation sensors), an increase of field mobile devices including digital media, an increase of collaborative technologies such as WebEx, and a continuing transition to VOIP.

IBM Mainframe - VDOT has 4 applications that utilize the IBM Mainframe; each will need to be tested and transitioned.

Managed Print Services - VDOT is entering into a Managed Print Services (MPS) relationship with Xerox. MPS procurement encompasses the following areas; all networked printers, all high-speed multi-function devices, all color printing devices and supplies for the printers.

End User Computing - VDOT has several thousand desktop and laptop computers that will need to be migrated.

# Report Title: Strategic Plan

Agency: Department of Transportation

Date: 6/13/2017

## Current IT Services

Category	Costs Year 1		Costs Year 2	
	GF	NGF	GF	NGF
Projected Service Fees	\$0	\$67,728,277	\$0	\$67,595,898
VITA Infrastructure Changes	\$0	\$0	\$0	\$0
Estimated VITA Infrastructure	\$0	\$67,728,277	\$0	\$67,595,898
Specialized Infrastructure	\$0	\$0	\$0	\$0
Agency IT Staff	\$0	\$11,130,000	\$0	\$11,463,900
Non-agency IT Staff	\$0	\$19,500,000	\$0	\$19,500,000
Cloud Computing Service	\$0	\$13,000	\$0	\$13,000
Other Application Costs	\$0	\$365,000	\$0	\$365,000
<b>Total</b>	<b>\$0</b>	<b>\$98,736,277</b>	<b>\$0</b>	<b>\$98,937,798</b>

## Proposed IT Investments

Category	Costs Year 1		Costs Year 2	
	GF	NGF	GF	NGF
Major IT Projects	\$0	\$13,830,976	\$0	\$11,533,584
Non-Major IT Projects	\$0	\$1,868,001	\$0	\$445,745
Agency-Level IT Projects	\$0	\$1,000,000	\$0	\$1,000,000
Major Stand Alone IT Procurements	\$0	\$30,460,331	\$0	\$8,056,776
Non-Major Stand Alone IT Procurements	\$0	\$98,000	\$0	\$98,000
Agency-Level Stand Alone IT Procurements	\$0	\$1,476,815	\$0	\$681,761
Procurement Adjustment for Staffing	\$0	\$0	\$0	\$0
<b>Total</b>	<b>\$0</b>	<b>\$48,734,123</b>	<b>\$0</b>	<b>\$21,815,866</b>

## Projected Total IT Budget

Category	Costs Year 1		Costs Year 2		Total Costs
	GF	NGF	GF	NGF	
Current IT Services	\$0	\$98,736,277	\$0	\$98,937,798	\$197,674,076
Proposed IT Investments	\$0	\$48,734,123	\$0	\$21,815,866	\$70,549,990
<b>Total</b>	<b>\$0</b>	<b>\$147,470,401</b>	<b>\$0</b>	<b>\$120,753,665</b>	<b>\$268,224,066</b>

**Report Title: Business Requirements For Technology**

Agency: Department of Transportation (VDOT)

Date: 6/13/2017

**BReT AASHTOWare Construction Module****BRT Type:** Business Requirement for Existing Technology**Date Submitted:** 9/16/2016**Mandate:** No**Mission Critical:****Description:**

The AASHTOWare Construction Module replaces our existing Site Manager module. This request requires significant business change, and technological change. While the effort has not been fully scoped (as the software is not expected to be commercially viable for VDOT until mid- to late-2017, the effort is expected to require significant resources

**BReT AASHTOWare Bridge Management Upgrade****BRT Type:** Business Requirement for Existing Technology**Date Submitted:** 8/19/2016**Mandate:** No**Mission Critical:****Description:**

The current version of this application is no longer supported; the version upgrade will support FHWA reporting requirements.

**BReT AASHTOWare License Renewal****BRT Type:** Business Requirement for Existing Technology**Date Submitted:** 5/11/2017**Mandate:** No**Mission Critical:****Description:**

FY18 renewal including additional service units for AASHTOWare Bridge & AASHTOWare Project.

**BReT Agile Assets for Pavement Management****BRT Type:** Business Requirement for Existing Technology**Date Submitted:** 3/9/2017**Mandate:** No**Mission Critical:****Description:**

This request is for the development of a contract that provides for 3 successive one-year maintenance periods, 2 additional optional one-year maintenance periods, and an IDIQ (indefinite delivery/indefinite

quantity) for additional software and professional services as are required by VDOT and ordered via Task Order.

### BReT ArcGIS Platform Upgrade Phase 2 and RNS Upgrade

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

**Date Submitted:** 8/26/2016

**Mandate:** No

**Mission Critical:**

**Description:**

VDOT currently supports multiple production ArcGIS server instances, at multiple versions, across the agency. VDOT's GeoSpatial platforms are either out of vendor support or in extended support. These platforms cannot be upgraded in their current state. This is blocking the upgrade of all other spatial software platforms.

### BReT ArcGIS Software Upgrade

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

**Date Submitted:** 7/27/2016

**Mandate:** No

**Mission Critical:**

**Description:**

The version of ArcGIS Server on the Roadway Network System (RNS) is retired and no longer supported by the vendor. The information managed within RNS is critical to the operations of VDOT. Operating on retired software is a risk and upgrading ensures that the software can be supported. VDOT already owns the latest version of the software as part of an existing licensing agreement and needs to apply the new software to the RNS environment.

### BReT Authentication/Directory Services

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

**Date Submitted:** 8/31/2016

**Mandate:**

**Mission Critical:**

**Description:**

VDOT has 220 applications which will need to be migrated and tested during the authentication/directory services transition. There are 7559 internal and 780 external users.

### BReT Bentley ProjectWise

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

**Date Submitted:** 8/19/2016

**Mandate:** No

**Mission Critical:** No

**Description:**

VDOT requires a solution to extend design integration and project collaboration capabilities to a geographically dispersed collective of VDOT employees and consultants participating in all phases of capital projects. The current legacy system; Falcon, does not provide the capability to provide the automation needed to improve the plan production process. The use of Bentley's ProjectWise system on premises will allow VDOT to replace the legacy Falcon system and automate the plan production process.

**BReT CEDAR 2016 Upgrade**

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

**Date Submitted:** 3/13/2017

**Mandate:** Yes

**Mission Critical:** No

**Description:**

Provide major enhancements to CEDAR.  
 Fulfill Commissioner's response to EPA audit findings (MS4 – TMDL and Facilities Compliance).  
 Improve compliance with state and federal regulatory requirements.  
 Create improved confidence with regulatory agencies for reporting and program execution.  
 Implement integrated, enterprise solution to eliminate reliance on inefficient and obsolete stand-alone tools.  
 Modernize data collection processes using mobile devices to improve overall efficiency and accuracy of the program.  
 Consolidate and create collaborative storage locations to eliminate email distribution dependency and create consistent document management and reporting capability.  
 Estimated implementation is 24 months, with incremental delivery. Cost payment can be spread across two or three Fiscal Years.  
 Supplemental FY17 business funding of \$400,000+ currently available, potential carryover to FY18.

**BReT Cisco Network Equipment**

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

**Date Submitted:** 4/19/2017

**Mandate:** No

**Mission Critical:**

**Description:**

Life cycle replacement of routers, switches and firewalls that are reaching end of manufacturer support (originally purchased in 2007), including enhancement of hardware redundancy and network security.

**BReT Cloud Computing**

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

**Date Submitted:** 9/9/2016

**Mandate:** No

**Mission Critical:**

**Description:**

VDOT is investigating moving up to 50 applications to various Cloud services vendors. The business reason for the move is to reduce cost, increase operational efficiency and reliability, increase application sustainability, and deliver greater citizen value. Applications are not cloud ready and will require some



development effort to prepare them for operation in the Cloud. VDOT will not need to bring in outside consulting to assess what needs to be done to the applications and supporting infrastructure in order to become cloud ready.

### BReT Crown Peak Subscription Renewal Procurement

<b>BRT Type:</b>	Business Requirement for Existing Technology
<b>Date Submitted:</b>	8/18/2016
<b>Mandate:</b>	No
<b>Mission Critical:</b>	

#### Description:

Crown Peak Content Management Services provides the tools and support for VDOT Public Affairs staff to manage the agency's external web site. The Crown Peak solution provides the necessary tools to improve productivity and content timeliness.

### BReT Data Networks

<b>BRT Type:</b>	Business Requirement for Existing Technology
<b>Date Submitted:</b>	8/31/2016
<b>Mandate:</b>	
<b>Mission Critical:</b>	

#### Description:

VDOT has no networks that are not MPLS which will need to be migrated.

### BReT EBB Content Player Subscription Renewal

<b>BRT Type:</b>	Business Requirement for Existing Technology
<b>Date Submitted:</b>	2/10/2017
<b>Mandate:</b>	No
<b>Mission Critical:</b>	

#### Description:

To improve agency communications to field level staff that do not have regular access to VDOT computers in the course of their daily work assignments. The field staff is isolated and does not feel like they are part of the team/family. There is a need to provide HR, Safety, and Training content directly to these field staff in an expedient manner and provide continuous operations capabilities in adverse weather situations directly to these staff in an expedient manner. Hardware to support the FourWinds application is installed in 290 buildings across the state.

### BReT End User Computing

<b>BRT Type:</b>	Business Requirement for Existing Technology
<b>Date Submitted:</b>	8/31/2016
<b>Mandate:</b>	
<b>Mission Critical:</b>	

<b>Description:</b>	
VDOT has 2556 desktops and 4655 laptops and 0 network printers which will need to be migrated following VITA's disentanglement from NG.	
<b>BReT HTRS Shutdown</b>	
<b>BRT Type:</b>	Business Requirement for Existing Technology
<b>Date Submitted:</b>	7/30/2014
<b>Mandate:</b>	No
<b>Mission Critical:</b>	No
<b>Description:</b>	
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.	
<b>BReT IBM Mainframe</b>	
<b>BRT Type:</b>	Business Requirement for Existing Technology
<b>Date Submitted:</b>	8/31/2016
<b>Mandate:</b>	No
<b>Mission Critical:</b>	
<b>Description:</b>	
VITA is initiating disentanglement from NG IBM Mainframe services in 2016. VDOT has 4 applications on the IBM which will need to be migrated and tested during this transition.	
<b>BReT Internet Usage</b>	
<b>BRT Type:</b>	Business Requirement for Existing Technology
<b>Date Submitted:</b>	9/2/2016
<b>Mandate:</b>	
<b>Mission Critical:</b>	
<b>Description:</b>	
VDOT projects that internet usage will increase by 10% each year due to a greater amount of field data usage and a higher level of digital collaboration. Some examples of why internet usage might increase are as follows: an increase use of video streaming, an increase in user and transportation device access to the internet (transportation sensors), an increase of field mobile devices that include digital media (pictures and video), an increase of collaborative technologies such as WebEx, and a continuing transition to VOIP.	
<b>BReT ITD Project Server Upgrade</b>	
<b>BRT Type:</b>	Business Requirement for Existing Technology
<b>Date Submitted:</b>	6/20/2016
<b>Mandate:</b>	No
<b>Mission Critical:</b>	Yes

<b>Description:</b>	
<p>The business requirement is to upgrade MS Project Server 2010 to 2016 to take advantage of features needed to support the Agile Methodology @VDOT initiative, address current performance issues, and bring the technology current (support for current version to run out, soon).</p> <p>To ensure successful performance of MS Project Server, to include availability, additional physical and virtual servers are being requested, as well</p>	
<b>BReT Managed Security</b>	
<b>BRT Type:</b>	Business Requirement for Existing Technology
<b>Date Submitted:</b>	8/31/2016
<b>Mandate:</b>	
<b>Mission Critical:</b>	Yes
<b>Description:</b>	
<p>VDOT's IT environment will need to be up to date in order to smoothly transition to the new service providers. Applications and other agency dependencies need to be addressed.</p> <p>Key managed security activities currently provided by VITA to VDOT include the following:</p> <ul style="list-style-type: none"> <li>• Patch Management</li> <li>• Anti-Virus</li> <li>• Web Gateway</li> <li>• Manage Active Directory Configuration</li> <li>• Manage Active Directory Users (Add/Delete/Modify at our direction)</li> <li>• Support Active Directory Interface with our System Access Request System (SARA)</li> <li>• Network Security (firewall management, etc.)</li> <li>• Server Security</li> <li>• User Authentication - Local Network and Remote Access (CISCO AnyConnect VPN)</li> <li>• Intrusion Detection</li> <li>• Incident Management</li> </ul> <p>These managed security services would need to be provided by the Northrup Grumman replacement or provided in some other fashion agreeable to all parties. Testing will need to be performed as part of the transition to the new service provider once a service provider has been selected and a transition plan developed. This will need to include detailed service level agreements and written procedures.</p>	
<b>BReT Messaging</b>	
<b>BRT Type:</b>	Business Requirement for Existing Technology
<b>Date Submitted:</b>	8/31/2016
<b>Mandate:</b>	No
<b>Mission Critical:</b>	
<b>Description:</b>	
<p>VITA is initiating disentanglement from NG messaging services in 2016. Messaging Services for email (7,535 users), enterprise collaboration services (0 users), and mobile device management are required for 2,750 users in our agency. We also have approximately 100 applications with hooks into messaging services which will need to be tested. VDOT does not use WCS SharePoint. We have 6 applications serviced via AirWatch which will need remediation. They are Sara, Cardinal, SWAS, CQIP, InsideVDOT and AMS.</p>	

**BReT Roadway Inventory System Urban Extension Project**

<b>BRT Type:</b>	Business Requirement for Existing Technology
<b>Date Submitted:</b>	3/30/2017
<b>Mandate:</b>	Yes
<b>Mission Critical:</b>	No

**Description:**

Recreate existing UMIS functionality in RIMS  
Refresh and merge the LAD data from all sources in RNS  
Geo-reference the data  
Add additional fields required by LAD  
Create the UMIS reports in RIMS.  
Retire UMIS

**BReT Server and Storage Planning**

<b>BRT Type:</b>	Business Requirement for Existing Technology
<b>Date Submitted:</b>	8/31/2016
<b>Mandate:</b>	
<b>Mission Critical:</b>	

**Description:**

VITA is initiating disentanglement from NG servers and storage. VDOT has 500 servers which will need to be migrated and tested during this transition. 220 will be affected by this move and will need to be tested.

**BReT SharePoint 2016 Platform**

<b>BRT Type:</b>	Business Requirement for Existing Technology
<b>Date Submitted:</b>	8/26/2016
<b>Mandate:</b>	No
<b>Mission Critical:</b>	

**Description:**

SharePoint 2010 is the current technology used for team sites and document repositories. The project will upgrade to SharePoint 2016 to support business initiatives.

**BReT Sharepoint Technology Upgrade IVD OVD**

<b>BRT Type:</b>	Business Requirement for Existing Technology
<b>Date Submitted:</b>	8/26/2016
<b>Mandate:</b>	No
<b>Mission Critical:</b>	

**Description:**

Upgrading to the most current version of SharePoint will enable users to leverage its new functionality and will improve the InsideVDOT user experience. This upgrade will provide opportunities to simplify and automate business processes using technology solutions; and will standardize access to information enabling a continued focus on business process simplification with automation.

This will allow for a more robust reporting business intelligence data warehouse, enabling dashboarding and data drill down.

#### BReT SmartScale

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

**Date Submitted:** 1/27/2017

**Mandate:** No

**Mission Critical:** Yes

**Description:**

Under the direction of the Commonwealth Transportation Board (CTB), VDOT is required to enhance the existing SmartScale portal. The purpose of the portal is to develop a simple way for eligible entities to request funding using a web-based application process and automate preparation of a data file for further analysis to support project screening, scoring, and selection decisions as part of the SYIP update process. Development of an electronic data intake process to resubmit applications or submit new applications is necessary in order to meet the CTB's criteria, accommodate the several hundred project requests that may be submitted or re-submitted from the previous years, for funding through multiple grant funding programs.

#### BReT Title VI Compliance

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

**Date Submitted:** 2/13/2017

**Mandate:**

**Mission Critical:**

**Description:**

Discontinue the use of paper forms, wet signatures and email to manage and track Title VI compliance. Replace with a web based solution that allows Title VI forms and attachments to be submitted electronically and routed for approvals via workflow.

#### BReT Tort Claims

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

**Date Submitted:** 2/13/2017

**Mandate:** Yes

**Mission Critical:** No

**Description:**

Leverage existing CSC software to manage tort claims; enable electronic submission through MyVDOT website; provide self-service dashboard for tracking status; create workflow and business rule automation to support existing Tort Claim business processes; allow for Tort Claim data capture from CSC to populate Case Management module.

#### BReT Upgrade IBM InfoSphere Data Stage

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

**Date Submitted:** 5/4/2016

<b>Mandate:</b>	No
<b>Mission Critical:</b>	Yes
<b>Description:</b>	
<ul style="list-style-type: none"> <li>· The Data Stage / InfoSphere tool processes data from critical internal and public facing systems, to include Cardinal, ISYP, Virginia Roads, the VDOT Customer Service Center, and our Dashboard systems. Without this tool, many of our core systems will no longer be accurate.</li> <li>· The current version is three major releases behind and no longer supported by the vendor.</li> <li>- Construction, Maintenance, Asset Management, and the Business Transformation Office all depend on this system at VDOT.</li> </ul>	
<b>BReT VDOT IT Contingent Labor</b>	
<b>BRT Type:</b>	Business Requirement for Existing Technology
<b>Date Submitted:</b>	7/28/2014
<b>Mandate:</b>	No
<b>Mission Critical:</b>	Yes
<b>Description:</b>	
<p>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.</p>	
<b>BReT VDOT IT Contingent Labor_FY16-18</b>	
<b>BRT Type:</b>	Business Requirement for Existing Technology
<b>Date Submitted:</b>	8/30/2016
<b>Mandate:</b>	No
<b>Mission Critical:</b>	Yes
<b>Description:</b>	
<p>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 and throughout Virginia.</p>	

**BReT VDOT IT Existing Technology Support**

<b>BRT Type:</b>	Business Requirement for Existing Technology
<b>Date Submitted:</b>	7/30/2014
<b>Mandate:</b>	No
<b>Mission Critical:</b>	Yes

**Description:**

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.

**BReT VDOT IT Software Renewals**

<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

**Description:**

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.

**BReT VDOT IT Software Renewals FY16-18**

<b>BRT Type:</b>	Business Requirement for Existing Technology
<b>Date Submitted:</b>	9/14/2016
<b>Mandate:</b>	No
<b>Mission Critical:</b>	Yes

**Description:**

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.

- The known renewals are listed below:
- Business Objects Enterprise X1 for M5
  - Citrix Remote Desktop Subscription Renewal
  - DevOps Software
  - ESRI License Agreement
  - ESRI License Agreement - additional
  - Four Winds EBB Digital Signage
  - GIS Related Software
  - iDashboard Software
  - IronKey Maintenance Renewal
  - LeanKit
  - Logmein Pro License Renewal
  - Logmein Remotely Anywhere License Renewal

Metalogix Control Point Admin License Renewal  
 Microsoft Visual Enterprise with MSDN  
 MOAT Renewal (Security Awareness Training Software)  
 MS Dynamics Licenses  
 NESSUS Manager - Scanner License  
 Oracle Support Renewal  
 Pluralsight Subscription Renewal  
 Pluralsight Subscription Renewal  
 Quest Toad Software License Renewal  
 ReSharper License Renewal  
 SAS Server Software Renewal  
 Survey Monkey License Renewal  
 Symantec Endpoint Protection  
 Triad - Mobile Framework License Renewal  
 Veriato Investigative - Perpetual License  
 Vshell Workgroup & FTPS License Renewal  
 WebTrends Analytic 10 On Demand Software License Renewal  
 WS FTP Professional

**BReT VDOT IT Software/Technology Upgrades 14-16**

<b>BRT Type:</b>	Business Requirement for Existing Technology
<b>Date Submitted:</b>	8/15/2014
<b>Mandate:</b>	No
<b>Mission Critical:</b>	

**Description:**

This business requirement is to address VDOT technology obsolescence risks, to include 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:

- MS Server 2000 ended on 7/13/2010
- MS Server 2003 operating system will end 7/14/2015
- MS SQL Server 2000 database ended 4/9/2013
- MS SQL Server 2005 database will end 4/12/2016
- Oracle Database 10.2 ended on 7/1/2013
- Oracle Database 9.2 ended on 7/1/2010
- Red Hat Linux 3 operating system ended 10/31/2010
- Red Hat Linux 4 operating system ended 2/29/2012
- Windows XP operating system ended 04/08/2014

**BReT VDOT IT Software/Technology Upgrades 16-18**

<b>BRT Type:</b>	Business Requirement for Existing Technology
<b>Date Submitted:</b>	9/19/2016
<b>Mandate:</b>	No
<b>Mission Critical:</b>	

**Description:**

This business requirement is to address VDOT technology obsolescence risks, to include 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:

- MS Server 2000 ended on 7/13/2010 (have approved exception)
- MS Server 2003 operating system will end 7/14/2015 (have approved exception)
- MS SQL Server 2000 database ended 4/9/2013



- MS SQL Server 2005 database will end 4/12/2016
- Oracle Database 10.2 ended on 7/1/2013
- Oracle Database 9.2 ended on 7/1/2010
- Red Hat Linux 3 operating system ended 10/31/2010
- Red Hat Linux 4 operating system ended 2/29/2012
- Windows XP operating system ended 04/08/2014
- VDOT overall risk program 2015

#### BReT Voice Networks

<b>BRT Type:</b>	Business Requirement for Existing Technology
<b>Date Submitted:</b>	8/31/2016
<b>Mandate:</b>	
<b>Mission Critical:</b>	
<b>Description:</b>	
VDOT has 2312 UCaaS phone lines and 335 other phone lines which will need to be migrated.	

#### BReT Wide Format Plotter Lease

<b>BRT Type:</b>	Business Requirement for Existing Technology
<b>Date Submitted:</b>	11/10/2016
<b>Mandate:</b>	No
<b>Mission Critical:</b>	No
<b>Description:</b>	
VDOT has a need to renew its lease of wide format plotters in support on-going highway maintenance and construction programs.	

#### BRnT MPFPT Budget Program Enhancement

<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>	
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 & 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.	

#### BRnT Advanced Transportation Controllers, Firmware and Central Signal System

<b>BRT Type:</b>	Business Requirement for New Technology
<b>Date Submitted:</b>	3/17/2017

<b>Mandate:</b>	No
<b>Mission Critical:</b>	Yes
<b>Description:</b>	
<p>VDOT seeks to procure traffic signal system controller hardware, firmware, and central signal system that are compatible and consistent throughout VDOT's Operations Regions for the purpose of enhancing cross-district interoperability, establishing efficiencies in maintenance, and expanding real-time monitoring and operations of the statewide signalized arterial roadway network by allowing VDOT to: Monitor the health and status of traffic signal systems, including equipment and communications failures.</p> <p>Monitor performance of the traffic signal system, during both peak &amp; off-peak times.</p> <p>Adjust signal timings in real-time in response to incidents, work zones, and special events.</p> <p>Prepare for future advances in technology without the need to replace signal controller hardware.</p> <p>The plan includes:</p> <p>Phase I – Concept of Operations - Complete</p> <p>Phase II – Procurement of ATC Hardware &amp; Firmware - \$4.5M</p> <p>Phase III – Procurement of Central Signal System - \$1.5 M</p>	
<b>BRnT CEDAR Enhancements</b>	
<b>BRT Type:</b>	Business Requirement for Existing Technology
<b>Date Submitted:</b>	2/13/2017
<b>Mandate:</b>	
<b>Mission Critical:</b>	
<b>Description:</b>	
description to follow	
<b>BRnT CEDAR Upgrade</b>	
<b>BRT Type:</b>	Business Requirement for New Technology
<b>Date Submitted:</b>	3/9/2016
<b>Mandate:</b>	Yes
<b>Mission Critical:</b>	
<b>Description:</b>	
<p>This business requirement is to upgrade the CEDAR (Comprehensive Environmental Data and Reporting) application for the following reasons:</p> <p>Technology Obsolescence: It was initially thought a complete rewrite would be needed but further analysis determined a technology upgrade would be feasible.</p> <p>CEDAR was deployed to production in 2003 and is considered aging technology and infrastructure that makes maintenance and future sustainability of the application challenging thereby putting the business operation of the Division at significant risk. For these reasons a technical upgrade is necessary.</p> <p>Technology Consolidation:</p> <p>CEDAR currently is utilizing several different JavaScript libraries as well as different methods for rendering data for the screens. This is understandable due to the age of the project as well as the number of developers involved over the years. This makes maintaining the system as large and complex as CEDAR challenging.</p> <p>Functionality enhancements:</p> <p>It is anticipated that additional functional enhancements will emerge during the effort to review and validate the existing Functional Requirements.</p>	

**BRnT Contractor Application Access Portal****BRT Type:** Business Requirement for New Technology**Date Submitted:** 8/24/2015**Mandate:****Mission Critical:****Description:**

The Agency is introducing several new systems that require Construction Contractor access such as the PDMS, CRLMS, MITS/PLAID – these new systems are in addition to existing applications that the Contractors now use (BidExpress, CABB, Falcon, eVA.....). Contractors need an application portal where they can log in once through a web interface and then access the systems they need once they have passed through the gateway (versus multiple/repetitive logins). Individual Agency business units are creating more and more applications for Contractors. The agency needs to consider the impacts to the Contracting community.

**BRnT Electronic Customer Payment and Application Intake****BRT Type:** Business Requirement for New Technology**Date Submitted:** 8/21/2014**Mandate:** No**Mission Critical:** No**Description:**

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 and Objective 5.4.2 in the FY16 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.

**BRnT Electronic Invoicing****BRT Type:** Business Requirement for Existing Technology**Date Submitted:** 9/19/2016**Mandate:** No**Mission Critical:****Description:**

Effort to digitize VDOT and reduce paper, e-invoicing is an agency priority. Multiple options are being explored; leveraging COTS products and cloud solutions.

**BRnT Enterprise Identity and Access Management Solution****BRT Type:** Business Requirement for New Technology**Date Submitted:** 9/2/2014**Mandate:****Mission Critical:****Description:**

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.

**BRnT Enterprise Mobile Management Solution**

<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 Fiscal Document Management System**

<b>BRT Type:</b>	Business Requirement for New Technology
<b>Date Submitted:</b>	9/6/2016
<b>Mandate:</b>	No
<b>Mission Critical:</b>	No

**Description:**

Fiscal's business requires document storage and retrieval capabilities, which are hindered by current processes and technologies. The project seeks to increase space and reduce labor by reducing paper created and stored, digitizing repositories and automating approval workflows.

**BRnT Improve End User Technologies**

<b>BRT Type:</b>	Business Requirement for New Technology
<b>Date Submitted:</b>	7/28/2015
<b>Mandate:</b>	No
<b>Mission Critical:</b>	

**Description:**

VDOT Business Plan 2016  
 Goal 5: Support  
 5.4.3 Improve end user technologies to include incorporating mobile technologies, electronic signatures, electronic payments and electronic submissions.  
 Related: BRnT Electronic Customer Payment and Application Intake  
 BRnT Enterprise Mobile Management Solution  
 BRnT VDOT Document and Process Management

**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:** No

**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**

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

**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. This system has been designated as sensitive due to Critical Infrastructure Information (CII).

**BRnT Managed Print Services**

<b>BRT Type:</b>	Business Requirement for New Technology
<b>Date Submitted:</b>	9/19/2016
<b>Mandate:</b>	No
<b>Mission Critical:</b>	

**Description:**  
VDOT is entering into a Managed Print Services relationship with Xerox. MPS procurement encompasses the following areas; all networked printers, all high-speed multi-function devices, all color printing devices and supplies for the printers.

**BRnT ModTag Rewrite**

<b>BRT Type:</b>	Business Requirement for New Technology
<b>Date Submitted:</b>	12/3/2014
<b>Mandate:</b>	
<b>Mission Critical:</b>	

**Description:**  
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. 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.

**BRnT MS4 Data Management Solution**

<b>BRT Type:</b>	Business Requirement for New Technology
<b>Date Submitted:</b>	8/29/2016
<b>Mandate:</b>	Yes
<b>Mission Critical:</b>	

**Description:**  
Create a system of record for Municipal Separate Storm Sewer Systems reporting requirements. This project

consolidates data sources, and eliminates standalone, and manual (paper) records for meeting EPA reporting requirements.

### BRnT Operations Dashboard

<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

**Description:**

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.

### BRnT Outdoor Advertising Data Management

<b>BRT Type:</b>	Business Requirement for Existing Technology
<b>Date Submitted:</b>	2/13/2017
<b>Mandate:</b>	
<b>Mission Critical:</b>	

**Description:**

description to follow

### BRnT Physical Access Control System Upgrade and Replacement

<b>BRT Type:</b>	Business Requirement for New Technology
<b>Date Submitted:</b>	3/11/2015
<b>Mandate:</b>	
<b>Mission Critical:</b>	

**Description:**

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.

### BRnT Project Portfolio Management (PpM) at VDOT

<b>BRT Type:</b>	Business Requirement for New Technology
<b>Date Submitted:</b>	7/30/2014
<b>Mandate:</b>	Yes
<b>Mission Critical:</b>	Yes

**Description:**



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.

**BRnT Road Network System (RNS) Needs Assessment and Requirements**

<b>BRT Type:</b>	Business Requirement for New Technology
<b>Date Submitted:</b>	8/15/2016
<b>Mandate:</b>	No
<b>Mission Critical:</b>	No

**Description:**

Business Requirement to conduct a needs assessment, develop requirements and evaluate alternatives for replacing VDOT's linear referencing system (LRS) known as the Roadway Network System (RNS). At VDOT, we have implemented a linear referencing system (LRS) known as the Roadway Network System (RNS) to manage roadway assets. Over time the amount of information managed within RNS has grown. A major component of the system, known as the roadway inventory management system (RIMS), was added a few years ago and allows end users to manage roadway characteristic data. Additional competing requirements and the resultant enhancements to the system over the last 10 years have led to a high level of complexity.

Today the data in RNS is used to produce the annual highway performance management system (HPMS) report to the Federal Highway Administration (FHWA). It is also used to assist in meeting requirements related to MAP21, the all roads network of linearly referenced data (ARNOLD), the transportation asset management plan (TAMP), the National Highway Transportation Safety Administration's (NHTSA) traffic safety records assessment, crash analysis, and more. We maintain data on roughly 127,000 lane miles of roadway with over 150 event types. The VDOT IT Division executes between 5 and 6 million dollars annually to support these activities.

We have reached a point where we deal with:

- Near constant data integrity problems
- Slow or no response to enhancement requests
- Little or no capability to handle additional data/event types within the system
- Data synchronization between supported systems (i.e. Pavement Management System) takes weeks
- In order to support the continued and growing need for the management of current and future roadway data we need to take a fresh look at the RNS and determine a future implementation plan.

**BRnT Safety Loss Control Data Management System**

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

**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.

<b>BRnT Statewide Advanced Traffic Management Systems (ATMS)</b>	
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<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>
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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 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.virginiadot.org/business/traffic\\_operations\\_centers.asp](http://www.virginiadot.org/business/traffic_operations_centers.asp)

<b>BRnT Statewide Technology Asset Repository</b>	
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<b>BRT Type:</b>	Business Requirement for New Technology
<b>Date Submitted:</b>	8/26/2014
<b>Mandate:</b>	No
<b>Mission Critical:</b>	No

<b>Description:</b>
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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.

<b>BRnT Straight Line Diagram</b>	
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<b>BRT Type:</b>	Business Requirement for New Technology
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<b>Date Submitted:</b>	7/28/2014
<b>Mandate:</b>	Yes
<b>Mission Critical:</b>	No
<b>Description:</b>	
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	
<b>BRnT Tableau Server</b>	
<b>BRT Type:</b>	Business Requirement for New Technology
<b>Date Submitted:</b>	4/8/2015
<b>Mandate:</b>	No
<b>Mission Critical:</b>	No
<b>Description:</b>	
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.	
<b>BRnT Title VI Compliance</b>	
<b>BRT Type:</b>	Business Requirement for New Technology
<b>Date Submitted:</b>	12/16/2016
<b>Mandate:</b>	No
<b>Mission Critical:</b>	
<b>Description:</b>	
VDOT needs to gain efficiencies through automation with its already compliant Title VI Program as mandated by FHWA. There is a lack of efficiency with the Civil Rights Title VI compliance program as it consists of completely manually processes – electronic documents and communications all sent via email, wet signatures on paper forms, monitoring and tracking status for entire Program in Excel. There is no central repository for the forms and supporting documentation for Consultants/Sub-consultants, Metropolitan Planning Organizations (MPOs), Planning District Commissions (PDCs) and Local Public Agencies (LPAs.) There is only once monthly snapshots of Consultant/Sub-consultant status on application process for other business units to view and none at all for MPOs/PDCs/LPAs for District Civil Rights Managers and Corporate Office Title VI Specialist that manages the program. There is currently no training program in place for the LPAs. Retire the current Access database and eliminate the need to display status information on Inside VDOT (manually updated monthly.)	
<b>BRnT Traffic Data Performance 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>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.</p> <p>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.</p> <p>Customers - Key customers within VDOT served by this project are:</p> <ul style="list-style-type: none"> <li>- Traffic Engineering Division</li> <li>- Operations Division</li> <li>- Information Technology Division</li> <li>- Transportation and Mobility Planning Division</li> <li>- Regional Operations</li> <li>- District Planning Divisions</li> <li>- Virginia Center for Transportation Research Innovation and Research</li> <li>- Business Transformation Office</li> </ul> <p>Benefits – Completion of the project will provide the following benefits:</p> <ul style="list-style-type: none"> <li>- data sharing across divisions and regions within VDOT</li> <li>- access to data not previously available</li> <li>- efficiencies in work processes</li> <li>- visualization of data</li> <li>- new functionalities to analyze data to include map-based displays</li> </ul>	
<b>BRnT VDOT Cardinal</b>	
<b>BRT Type:</b>	Business Requirement for New Technology
<b>Date Submitted:</b>	9/19/2014
<b>Mandate:</b>	No
<b>Mission Critical:</b>	
<b>Description:</b>	
<p>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.</p>	
<b>BRnT VDOT Document and Process Management</b>	
<b>BRT Type:</b>	Business Requirement for New Technology
<b>Date Submitted:</b>	10/7/2014
<b>Mandate:</b>	
<b>Mission Critical:</b>	

**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.

Report Title: Appendix A 16 - 18 Report

Agency: Department of Transportation (VDOT)

Date: 6/13/2017

Agency Head Approval:

No

<b>Budget Category: Major Projects</b>				
<b>Construction Documentation Management</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:	5/26/2017	
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):	\$2,961,480			
Estimated project expenditures first year of biennium:	\$106,270	\$0	\$106,270	
Estimated project expenditures second year of biennium:	\$0	\$0	\$0	
<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 Procurement				
Procurement Description:	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 Delivery Date:	8/20/2015		
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**Highway Maintenance Management System**

<b>Appropriation Act/Funding Status</b>	<b>Project Initiation Approval - Fully Funded NGF 100%</b>
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Project Approach: The Virginia Department of Transportation (VDOT) undertook the task of an assessment of commercially-available asset management system (AMS) software. This process resulted in effective and efficient definition of functional and technical requirements which confirmed the business processes. Buy vs. build analysis was subsequently conducted resulting in the decision that a COTS product will be a viable and cost effective solution.

An RFP for a Highway Maintenance Management System will therefore be processed to select the desired solution.

Integration, customization, testing and deployment for HMMS will be done after the contract is awarded. Custom interface development within various systems will be developed by VDOT internal IT Staff.

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

- Maintenance Division
- Structure and Bridge Division
- Fiscal Division
- Traffic Engineering Division
- Operations Division
- Information Technology Division
- Business Transformation Office

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

- Implementation of effective Asset/Inventory Management
- Providing comprehensive Work Order Management
- Ability for Resource Planning, Scheduling, & Utilization
- Ability for Work Planning and Budgeting
- Cost effectiveness and operation efficiency using Mobile Technology
- Detailed Analysis and Reporting for forecasting and data management

Planned project start date:	5/23/2016	Planned project end date:	6/27/2018
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PPEA Involvement:	No
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<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):	\$11,672,143			
Estimated project expenditures first year of biennium:	\$7,398,559	\$0	\$7,398,559	
Estimated project expenditures second year of biennium:	\$3,533,584	\$0	\$3,533,584	

<b>Service Area</b>	<b>Weight</b>
501 VDOT 60401 Interstate Maintenance	Primary

501 VDOT 60402 Primary Maintenance	Secondary			
501 VDOT 60403 Secondary Maintenance	Secondary			
501 VDOT 69915 Facilities and Grounds Management Services	Secondary			
<b>Project Related Procurements</b>				
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>· Include an Integrated, geospatially-enabled, holistic state-of-the-art solution software that meets VDOT's business and system requirements.</li> <li>· 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>· Integrate the HMMS solution with additional asset management inventory, and the Roadway Network System (RNS), and 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 Delivery Date:	6/30/2018			
<b>PPM@VDOT</b>				
<b>Appropriation Act/Funding Status</b>			<b>Investment Business Case Approval - Fully Funded NGF 100%</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 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.</p>				
Planned project start date:	3/1/2016	Planned project end date:	6/30/2017	
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	\$500,000	\$0	\$500,000	Non-general - State



of biennium:				
Estimated project expenditures second year of biennium:	\$1,000,000	\$0	\$1,000,000	
<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:	\$1,700,000	\$0	\$1,700,000	Non-general - State
Funding required for second year of biennium	\$0	\$0	\$0	
<b>Service Area</b>			<b>Weight</b>	
There are no service areas for this project.				
<b>Project Related Procurements</b>				
PPM at VDOT Requirements Analysis				
Procurement Description:	VDOT needs to review and update its technology solution for managing the agency's project and portfolio management. The process has been increasing in complexity over the past decade. Currently, an integrated suite of technology tools is used to store and manage project, program and funding information. These tools were custom-developed and have been undergoing a series of modifications over time to accommodate emerging requirements and respond to business needs. Many of these tools are aging and in need of replacement. Meanwhile, commercial off the shelf (COTS) offerings for the DOT market have been maturing over the past decade. A review of business needs and available technology solutions is needed to assist VDOT in modernizing, streamlining and improving its approach to project and portfolio management.			
Planned Delivery Date:	4/15/2016			
<b>SMART SCALE - SMART Portal Enhancements Project</b>				
<b>Appropriation Act/Funding Status</b>			<b>Project Initiation Approval -</b>	
The scope of this project is to deliver new functionality to allow for application re-submission, new applications submission to multiple grant programs, enhancements to the validation/screening/scoring processes and to improve the user interface to update decisions online.				
Planned project start date:	4/3/2017	Planned project end date:	7/31/2019	
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):	\$1,801,743			
Estimated project expenditures first year of biennium:	\$341,736	\$0	\$341,736	
Estimated project expenditures second year of biennium:	\$1,398,257	\$0	\$1,398,257	

<b>Service Area</b>		<b>Weight</b>		
501 VDOT 60404 Transportation Operations Services		Primary		
505 DRPT 60901 Public Transportation Programs		Primary		
501 VDOT 60508 Highway Safety Services		Secondary		
501 VDOT 69902 Information Technology Services		Secondary		
<b>Project Related Procurements</b>				
SMART SCALE - SMART Portal Enhancements Procurement				
Procurement Description:	The scope of this project is to deliver new functionality to allow for application re-submission, new applications submission to multiple grant programs, enhancements to the validation/screening/scoring processes and to improve the user interface to update decisions online.			
Planned Delivery Date:	3/20/2017			
<b>Budget Category: Non-Major Projects</b>				
<b>ArcGIS Software Upgrade</b>				
<b>Appropriation Act/Funding Status</b>		<b>Investment Business Case Approval -</b>		
The version of ArcGIS Server on the Roadway Network System (RNS) is retired and no longer supported by the vendor. This project will upgrade VDOT ArcGIS Software to a release version supported by the software vendor and to provide a framework that enables future enhancement projects.				
Planned project start date:	1/2/2017	Planned project end date:	6/30/2017	
PPEA Involvement:				
<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):	\$461,340	\$0	\$461,340	
Estimated project expenditures first year of biennium:	\$346,005	\$0	\$346,005	Non-general - State
Estimated project expenditures second year of biennium:	\$115,335	\$0	\$115,335	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:	\$346,005	\$0	\$346,005	Non-general - State
Funding required for second year of biennium	\$115,335	\$115,335	\$0	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.				

<b>Bentley ProjectWise Project</b>				
<b>Appropriation Act/Funding Status</b>		<b>Project Initiation Approval -</b>		
Utilization of ProjectWise will extend Design Integration and Project Collaboration capabilities to a geographically dispersed collective of VDOT employees and consultants participating in all phases of capital projects. The use of Bentley's ProjectWise system on premises will allow VDOT to replace the legacy Falcon system and automate the plan production process. The use of Bentley's ProjectWise Deliverables Management service will allow contractors and fabricators to submit shop drawings to VDOT through a secure web portal. VDOT will then be able to manage the review and comment process and reduce the turnaround time, to support collaboration on capital projects.				
Procurement includes:				
Phase I - Implementation Planning \$32,918				
Phase II - ProjectWise Implementation \$95,760				
Phase III - Falcon Data Migration (Utility) \$130,038				
Phase IV – ProjectWise Search Web Service\$32,645				
Phase V - User Training\$84,656				
Planned project start date:	4/5/2017	Planned project end date:	6/30/2018	
PPEA Involvement:				
<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):	\$418,250	\$0	\$403,250	
Estimated project expenditures first year of biennium:	\$72,840	\$0	\$72,840	Non-general - State
Estimated project expenditures second year of biennium:	\$330,410	\$0	\$330,410	Non-general - State
<b>Service Area</b>		<b>Weight</b>		
501 VDOT 60303 Interstate Construction		Primary		
501 VDOT 60304 Primary Construction		Secondary		
501 VDOT 60306 Secondary Construction		Secondary		
501 VDOT 60307 Urban Construction		Secondary		
501 VDOT 69902 Information Technology Services		Secondary		
<b>Project Related Procurements</b>				
Bentley ProjectWise Procurement				
Procurement Description:	Sole Source procurement for Bentley ProjectWise Connect implementation			
Planned Delivery Date:	12/30/2017			
<b>Linear Referencing System Stabilization Project</b>				
<b>Appropriation Act/Funding Status</b>		<b>Investment Business Case Approval -</b>		
VDOT's official road inventory and linear referencing systems (LRS) continues to experience major issues				

with regard to data integrity and accuracy. The current instability within the LRS creates issues related to synchronization of data from various business unit platforms:

the Highway Performance Monitoring System (HPMS), Pavement Management System (PMS), Bridge Management System (BrM), Traffic Monitoring System (TMS), Roadway Inventory Management System (RIMS) and Statewide Planning System (SPS).

This project is to tune the existing LRS Build process in order to process jobs as fast as possible as well as mitigate/fix any bugs preventing the processing of the network.

A stable LRS is key, since this system is the common link between PMS, BrM, HPMS, SPS, TMS. The agency cannot 'hang' data on an unstable roadway inventory.

Without a stable LRS, VDOT will be unable to accurately report on the new mandatory FHWA Performance Measures for Safety, Bridges, Pavement and System Performance for Virginia.

Without a stable LRS, VDOT will not be able to submit the annual HPMS report to FHWA - this impact reporting of needs to Congress (ultimately impacting funding at the state level).

Without a stable LRS, it will be difficult to secure authorization on federally funded projects (all federal projects require a LRS reference components-route ID and begin and end mile points to be entered into FMIS in order to receive federal authorization).

Accurate reporting and analysis of crashes, traffic data, functional classification, bridge and pavement conditions will be jeopardized. This ultimately impacts problem identification, evaluation and project development.

Business units within the Engineering Directorate must spend inordinate amount of time trying to resolve LRS issues. Often, staff work to resolve LRS issues through 'patches' that create downstream impacts.

also, work that goes into resolving LRS issues often is lost over the course of time-problems that were addressed six months ago re-emerge and must be addressed again. This is a waste of resources.

Ensure the Linear Reference System (LRS) is at 99% accuracy to ensure the most correct data for synchronization from various business unit platforms.

Planned project start date:	11/18/2016	Planned project end date:	2/28/2017
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PPEA Involvement:	
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<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):	\$420,694	\$0	\$420,694	
Estimated project expenditures first year of biennium:	\$420,694	\$0	\$420,694	Non-general - State
Estimated project expenditures second year of biennium:	\$0	\$0	\$0	

<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:	\$420,694	\$0	\$420,694	Non-general - State
Funding required for second year of biennium:	\$0	\$0	\$0	

<b>Service Area</b>	<b>Weight</b>
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There are no service areas for this project.	
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There are no procurements for this project.	
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<b>Tort Claims Application</b>
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Appropriation Act/Funding Status		Project Initiation Approval -		
<p>The project will:</p> <ul style="list-style-type: none"> <li>- Retire the current Access database and incorporate functionality into a stable, comprehensive tort claims management system using the COTS MS Dynamics CRM Case Management module that integrates with the Customer Service Center (CSC) 2.0 system and Microsoft SharePoint.</li> <li>- Develop improved VDOT business processes to enable citizens to submit claims and obtain status updates via enhanced functionality on myVDOT customer self-service website. The improved process will still allow for paper submissions, but claim files will be processed and maintained electronically.</li> <li>- Provide enhanced ability to track and report on all claims received by VDOT and assess agency / contractor performance for claims processing.</li> <li>- Create visibility for all VDOT and contractor tort claims throughout entire process.</li> <li>- Citizens will have ability to obtain status updates via CSC 2.0 or myVDOT website for claims filed against contractors.</li> <li>- The new system will be built as an extension of the existing CSC 2.0 system built on the Microsoft Dynamics CRM platform. It will also include a custom enhancement to the existing citizen myVDOT self-service portal.</li> <li>- The new tort claims features will be integrated with Microsoft SharePoint for document storage, including a secure SharePoint site for storage of documents containing citizen personally identifiable information (PII).</li> <li>- the current legacy system will be kept as read-only for two years</li> <li>- the description of 501AP0224, Safety and Health Tort Claims in CETR will be adjusted to reflect that it is a read only system that will be discontinued on or before FY 20.</li> </ul>				
Planned project start date:	4/3/2017	Planned project end date:	11/10/2017	
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):	\$481,000	\$0	\$481,000	
Estimated project expenditures first year of biennium:	\$184,233	\$184,233	\$0	
Estimated project expenditures second year of biennium:	\$296,767	\$296,767	\$0	
<b>Service Area</b>		<b>Weight</b>		
501 VDOT 60101 Customer Service Centers Operations		Primary		
501 VDOT 60401 Interstate Maintenance		Primary		
501 VDOT 60402 Primary Maintenance		Primary		
501 VDOT 60403 Secondary Maintenance		Primary		
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		
<b>Project Related Procurements</b>				
Tort Claims Procurement				
Procurement Description:	This procurement is for a statement of work (SOW) for development of a new			

tort claims application by an outside software developer.

Planned Delivery Date:	4/1/2017		
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**Upgrade IBM InfoSphere Data Stage**

<b>Appropriation Act/Funding Status</b>	<b>Project Initiation Approval -</b>
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The focus of this project is a development platform upgrade; from IBM InfoSphere DataStage 8.1 to IBM InfoSphere DataStage 11.5.

The project will follow established project processes governed by VDOT's IT Governance Group and with VITA oversight. The project will depend heavily on staff augmentation with specific knowledge of current InfoSphere tools, tool implementation, and configuration requirements. The scope also includes an infrastructure upgrade for both the application and database servers, and is being undertaken to ensure VDOT's agency tools continue to provide the level of availability and quality as expected from users. In order to maintain the SLAs with existing users, maintenance and support from the product manufacturer needs to be accessible to ITD.

The following bullets detail the specific project solution and the steps to achieve project completion:

- Conduct pre-project analysis and scoping
- Prepare project approval, IT10, and schedule/budget estimation
- Follow Project Management best practices, meeting requirements established by VITA and VDOT
- Monitor status of VMware (Linux servers) installation and configuration
- Bring in highly qualified InfoSphere consultants as staff augmentation
- Validate server configurations prior to InfoSphere installation, install planning
- Install InfoSphere 11.5 on Dev environment
- Replicate Watauga Prod DSX Jobs on new Dev Server, test jobs in Dev
- Error resolution, integration testing
- VDOT UAT test planning
- Install InfoSphere 11.5 on Test, UAT, and Prod
- Migrate jobs from Dev to Test, unit/integration testing and moving jobs up stack to UAT
- VDOT UAT testing, error resolution, acceptance
- Migrate jobs to Prod
- Go-live and run simultaneously with Watauga for agreed upon timeframe

Planned project start date:	6/14/2016	Planned project end date:	12/14/2017
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PPEA Involvement:	
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<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):	\$530,000	\$0	\$530,000	
Estimated project expenditures first year of biennium:	\$509,375	\$0	\$509,375	Non-general - State
Estimated project expenditures second year of biennium:	\$0	\$0	\$0	

<b>Service Area</b>	<b>Weight</b>
501 VDOT 69902 Information Technology Services	Primary

There are no procurements for this project.

Report Title: Appendix A 16 - 18 Report

Agency: Department of Transportation (VDOT)

Date: 6/13/2017

Agency Head Approval:

No

**Stand Alone Major Procurements**

<b>Procurement Name:</b>		<b>AASHTOWare License Renewal</b>	
Procurement Description:		FY18 renewal including additional service units for AASHTOWare Bridge & AASHTOWare Project.	
Procurement Planned Start Date		Procurement Planned Completion Date	5/26/2017
		Appropriation Act Status	
<b>Service Area</b>			<b>Weight</b>
There are no service areas for this project.			
<b>Procurement Name:</b>		<b>Agile Assets Software License and Maintenance Procurement</b>	
Procurement Description:		Operational, maintenance and customer support for the AgileAssets Pavement Management System.	
Procurement Planned Start Date		Procurement Planned Completion Date	4/1/2017
		Appropriation Act Status	
<b>Service Area</b>			<b>Weight</b>
There are no service areas for this project.			
<b>Procurement Name:</b>		<b>Oracle Enterprise Support Renewal</b>	
Procurement Description:		Oracle software support renewal for 5/14/2017 - 5/13/2018.	
Procurement Planned Start Date		Procurement Planned Completion Date	5/10/2017
		Appropriation Act Status	
<b>Service Area</b>			<b>Weight</b>
There are no service areas for this project.			
<b>Procurement Name:</b>		<b>ORCI Interim TOTSS Contract (APR)</b>	
Procurement Description:		This Procurement is to issue a sole source interim contract to provide technical support services for the OpenTMS, VaTraffic, and VDSIS software application suites and related hardware and software at VDOT Traffic Operations Centers (TOC's). Placement of the interim contract will ensure continuity of support between the expiration of the existing Transportation Operations Technology Support Services (TOTSS) contract and the development and deployment of a next generation Automated Traffic Management System (ATMS) under a competitively awarded contract. The Advanced ATMS which will replace the present systems is being competitively procured under RFP 15040, currently in the source selection and negotiation phase.	
Procurement Planned Start	10/1/2013	Procurement	9/30/2016

Date		Planned Completion Date	
		Appropriation Act Status	
<b>Service Area</b>			<b>Weight</b>
501 VDOT 60404 Transportation Operations Services			Primary
<b>Procurement Name:</b>	<b>Staff Augmentation FY18 Procurement</b>		
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. In many cases they also provide transportation expertise that is not otherwise available.		
Procurement Planned Start Date		Procurement Planned Completion Date	7/1/2017
		Appropriation Act Status	
<b>Service Area</b>			<b>Weight</b>
There are no service areas for this project.			
<b>Procurement Name:</b>	<b>Staff Augmentation Request FY17</b>		
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.		
Procurement Planned Start Date		Procurement Planned Completion Date	7/1/2016
		Appropriation Act Status	
<b>Service Area</b>			<b>Weight</b>
BRet VDOT IT Contingent Labor			Primary
<b>Procurement Name:</b>	<b>Statewide Advanced Traffic Management System (Statewide ATMS) Procurement</b>		
Procurement Description:	<p>The contractor shall provide VDOT a Statewide ATMS that is a fully web-enabled application that performs in all standard browsers on both desktop and mobile devices. The contractor shall develop the Statewide ATMS through enhancing, integrating, updating or otherwise amending the latest version of the OpenTMS commercial off the shelf software to provide the goods and services necessary to:</p> <ol style="list-style-type: none"> <li>a. Replace the Legacy ATMS systems currently operating at each of the five (5) Regional Transportation Operation Centers (TOCs).</li> <li>b. Provide functionality which will allow VDOT to sunset their VaTraffic and Lane Closure Advisory Management System (LCAMS) applications;</li> <li>c. Integrate or interface the Statewide ATMS with or applications and/or data</li> </ol>		



	sources as specified by VDOT;		
	d. Provide Operations and Maintenance (O&M) goods and services for the Statewide ATMS and other applications as specified by VDOT.		
Procurement Planned Start Date		Procurement Planned Completion Date	9/21/2016
		Appropriation Act Status	
<b>Service Area</b>			<b>Weight</b>
BRnT Statewide Advanced Traffic Management Systems (ATMS)			Primary
<b>Procurement Name:</b>	<b>StreetLight InSight Travel Metrics Application Procurement</b>		
Procurement Description:	<p>The StreetLight InSight Travel Metrics subscription service allows users to access the power of Big Data for transportation planning, operations, and management. This service has been described as "the only product in the US market with a user interface that allows planners, modelers and engineers to dynamically and flexibly run core transportation analytics based on Big Data."</p> <p>StreetLight Data, Inc is a data aggregator of non-sensitive transportation data. The company's service product combines data access and analytical capabilities within a bundled online subscription service arrangement.</p>		
Procurement Planned Start Date		Procurement Planned Completion Date	8/22/2016
		Appropriation Act Status	
<b>Service Area</b>			<b>Weight</b>
There are no service areas for this project.			
<b>Procurement Name:</b>	<b>VDOT Managed Print Services Procurement</b>		
Procurement Description:	<p>This procurement is the first of multiple procurements for Managed Print Services under the VITA contract VA-13045-XERX. The first phase involves replacing current Multifunctional Devices (MFDs) at the District Offices of Northern Virginia, Culpeper, and Bristol along with ITD in Central Office, and 1 MFD in Human Resources. This phase involves a total of 78 MFDs and is expected to save VDOT over \$700,000 over five years.</p> <p>Subsequent phases will include the entire networked printer fleet of VDOT which totals nearly 1,400 statewide with an estimated savings once full implementation complete of \$950,000 per year based on vendor assessments and current costs.</p>		
Procurement Planned Start Date		Procurement Planned Completion Date	10/17/2016
		Appropriation Act Status	
<b>Service Area</b>			<b>Weight</b>
There are no service areas for this project.			
<b>Procurement Name:</b>	<b>Wide Format Plotter Lease Renewal Procurement</b>		
Procurement Description:	<p>VDOT has a high value request for 5 year lease renewal of HP and OCE Wide Format Plotters. Estimated annual value of \$450,000.</p> <p>New lease will utilize VITA contract numbers VA-130405-DALY and VA-130405-COBB.</p>		
Procurement Planned Start		Procurement	11/22/2016

Date		Planned Completion Date	
		Appropriation Act Status	
<b>Service Area</b>			<b>Weight</b>
BRet VDOT IT Existing Technology Support			Primary
BRet VDOT IT Software Renewals			Primary

## Stand Alone Non-Major Procurements

<b>Procurement Name:</b>	<b>Cisco Network Equipment</b>		
Procurement Description:	Replacement of Routers, switches, firewalls, including deployment support.		
Procurement Planned Start Date		Procurement Planned Completion Date	5/5/2017
		Appropriation Act Status	

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

<b>Procurement Name:</b>	<b>Crown Peak Subscription Renewal Procurement</b>		
Procurement Description:	Crown Peak Content Management Services provides the tools and support for VDOT Public Affairs staff to manage the agency's external web site. The Crown Peak solution provides the necessary tools to improve productivity and content timeliness.		
Procurement Planned Start Date		Procurement Planned Completion Date	8/26/2016
		Appropriation Act Status	

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

<b>Procurement Name:</b>	<b>EBB Content Player Subscription Renewal Procurement</b>		
Procurement Description:	Procurement of 38-month Subscription License Renewal of FourWinds Interactive Hosted Infrastructure Content Player for the period of 12/01/16-01/31/20. Monthly subscription cost is \$14,500 resulting in a total procurement cost of \$551,000.		
Procurement Planned Start Date		Procurement Planned Completion Date	4/1/2017
		Appropriation Act Status	

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

<b>Procurement Name:</b>	<b>Managed Print Services Solution Fredericksburg (District, Residencies &amp; Area Headquarters) Procurement</b>		
Procurement Description:	This procurement is the third of multiple procurements for Managed Print Services under the VITA contract VA-13045-XERX. The third phase involves replacing current Multifunctional Devices (MFDs) in the Fredericksburg District, including respective AHQs and Residencies. This phase involves a		

	total of 67 MFDs and is expected to save VDOT around \$44,000 not including impression charges, per year over five years.		
	Subsequent phases will include the remaining districts and divisions networked printer fleet of VDOT which totals nearly 1,400 statewide with an estimated savings once full implementation complete of \$950,000 per year based on vendor assessments and current costs.		
Procurement Planned Start Date		Procurement Planned Completion Date	6/15/2017
		Appropriation Act Status	
<b>Service Area</b>			<b>Weight</b>
There are no service areas for this project.			
<b>Procurement Name:</b>	<b>MIST Traffic Signal System - Procurement of Services</b>		
Procurement Description:	VDOT will procure system maintenance and technical support services for the MIST component of the SMART Traffic Signal System which controls the traffic signals throughout Fairfax, Loudoun, and Prince William counties.		
Procurement Planned Start Date	8/19/2011	Procurement Planned Completion Date	8/19/2016
		Appropriation Act Status	
<b>Service Area</b>			<b>Weight</b>
501 VDOT 60404 Transportation Operations Services			Primary
<b>Procurement Name:</b>	<b>VDOT Managed Print Services (Northern VA, Culpeper, Bristol) Procurement</b>		
Procurement Description:	<p>This procurement is the second of multiple procurements for Managed Print Services under the VITA contract VA-13045-XERX. The second phase involves replacing current Multifunctional Devices (MFDs) at the AHQs and Residencies of Northern Virginia, Culpeper, and Bristol. This phase involves a total of 127 MFDs and is expected to save VDOT nearly \$185,000, not including impression charges, per year over five years.</p> <p>Subsequent phases will include the remaining districts and divisions networked printer fleet of VDOT which totals nearly 1,400 statewide with an estimated savings once full implementation complete of \$950,000 per year based on vendor assessments and current costs.</p>		
Procurement Planned Start Date		Procurement Planned Completion Date	6/15/2017
		Appropriation Act Status	
<b>Service Area</b>			<b>Weight</b>
There are no service areas for this project.			