Report Title: 2020 - 2022 IT Strategic Plan  
Agency: 501 Department of Transportation (VDOT)  
Date: 8/25/2020

**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: Support the Commonwealth's goals through program execution, maximizing use of resources, innovation, business focus and system efficiency. Treat each dollar as if were your own. Citizens have entrusted us with their hard earned money and they deserve to know it is being put to the best use. VISION STATEMENT: ITD Strives to Deliver an IT-Enabled Environment where VDOT staff are mobile-enabled to work when and where they are needed for optimal results utilizing IT assets (computers, phones, and software) to operate anywhere during a project, situation, or emergency. Documents and processes are digital when possible. Data and information are delivered reliably, accurately, and usably. VDOT applications and storage are in the cloud (SaaS, PaaS, or IaaS) to deliver on-demand and seamlessly adapt to VDOT's real time needs. Work is automated and complimented with artificial intelligence. ITD is a source of innovation and inspiration to VDOT & the COV

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. 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 both new applications as well as enhancements to existing applications; and assists with the planning and controlling of the IT budget and expenditures while providing a more robust reporting capability 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 effective and efficient technical solutions for employees and citizens through multiple channels  
* Providing seamless, resources and solutions for general agency users that aggregate access to multiple systems and data sources  
* Leveraging 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?

- 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 Chief of Technology and Business Strategy works with agency leaders to balance priorities with available funding, resources and the organization's capacity for change. - Business process change: As business organizations and processes change, IT must respond accordingly. Both anticipated and unanticipated changes affect an already constrained Information Technology Program. - Ability to attract highly skilled applicants: In order to deliver as promised according to the Division's mission, it is crucial that a highly skilled workforce be procured and maintained. Faced with a classified employee staffing shortage, ITD supplements full-time staff with consultants. The agency's strategy has been to maintain a smaller staff, with technical contractors augmenting the staff as well as working on specific projects. The ability to locate contractors with the skill set needed is challenging. - Anticipated IT Changes: More external customers accessing VDOT applications: VDOT will continue to become more transparent in business decisions, activities, and reporting. ITD will be heavily involved in this process. - Continued collaborative projects with other agencies: VITA oversight of projects includes a review for possible enterprise impact. This process will continue into the new biennium and results in project delays that cannot be generally anticipated. - Continued exploration and use of the latest technologies to improve process efficiencies: to include mobile technologies, cloud services and improved business data analytic tools.

Proposed IT Solutions

In this section, describe the high-level strategy the agency will use to initiate new IT investments over the next year to 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.

NEW AGENCY IT INVESTMENTS: (FY20 - 22)
· Automatic Vehicle Locators - This project will allow VDOT to track equipment deployed to resolve issues during bad weather events. Only equipment that has a license plate will be tracked, whether the vehicle is VDOT-owned or contracted by VDOT. The goal is to display the location of the deployed equipment, and display whether that equipment is on standby or is actively working to resolve issues. It will provide information and communication to those deployed vehicles such that they can be re-routed to address emergency situations, such as clearing the way for other emergency vehicles to assist the citizens of the commonwealth.

· 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.

· Digitize Bridge Inspection Reports - New mobile solution for field bridge inspectors allowing them to enter real-time inspection observations while out in the field via a tablet or other handheld device with workflow and digital approvals/electronic signature capabilities.

· Employee Onboarding - HR is looking to implement a SAAS solution to automate and coordinate the processes involved in recruiting, hiring, onboarding, orientation and probationary period of new employees and employees transferring to new positions at VDOT. Each year, VDOT on-boards approximately 1000 classified employees (in addition to classified employees we on-board an additional 150-200 wage employees). The labor and paperwork associated with this staffing volume is significant and prone to error. Currently, onboarding is managed locally, resulting in inconsistent processes and communications regarding VDOT's mission, values and expectations.

· Smart Scale Smart Portal - This project will deliver new and enhanced functionality within the SMART Portal web application, allowing for program pre-application submission, new application submission to multiple programs, enhancements to the validation/screening/scoring processes and will improve the user interface to update decisions online. This will make the tool easier to use without having to hire additional staff to complete the process.

· State Transportation Improvement Program (STIP) Project - VDOT's Federal Programs Management Division (FPMD) is responsible for approximately $1 billion in annual federal funding for VDOT projects and programs. In order to obligate federal funds on a project, the project must first receive federal authorization. Prior to authorization, the project must be included in the Commonwealth's Statewide Transportation Improvement Program (STIP), as required by federal regulations. FPMD has 15 employees responsible for management of the department's federal program. Currently, staff manually enter all calculations of planned use of federal funding. Reporting tools are outdated and inadequate for today's business needs. The Statewide Transportation Improvement Program (STIP) enhancements will allow Division staff to route original and amended STIP projects to VDOT and non-VDOT stakeholders for review and approval.
### 501 VDOT BReT Cloud Readiness Assessment 2018 AASHTOWare Project Estimator

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Agencies' IT staff members have been asked to complete cloud assessments and should be using the results to identify resource requirements. VITA encourages agencies to evaluate their resources and discuss resource planning with the appropriate financial staff to ensure work can begin as required. Resource needs should be included requests in the upcoming budget cycle.

To identify which existing solutions can be migrated to the cloud and ensure all new IT solutions proposed be cloud-enabled, VITA will issue a hosting standard in the coming weeks. This standard will define terminology and identify requirements agencies must consider when implementing cloud-based IT solutions.

### 501 VDOT BReT Cloud Readiness Assessment 2018 Adopt A Highway

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**501 VDOT BReT Cloud Readiness Assessment 2018 ASD Contract Management and Reporting Repository**

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

**Date Submitted:** 1/8/2019

**Mandate:** Yes

**Mission Critical:** Yes

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**501 VDOT BReT Cloud Readiness Assessment 2018 ASD Project Portfolio Management**

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

**Date Submitted:** 1/7/2019

**Mandate:** Yes

**Mission Critical:** Yes

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501 VDOT BReT Cloud Readiness Assessment 2018 Asset Management System Work Accomplishment

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### 501 VDOT BRet Cloud Readiness Assessment 2018 Automated Fuel Management Program

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### 501 VDOT BRet Cloud Readiness Assessment 2018 Bridge Rating Software System - VDOT

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501 VDOT BReT Cloud Readiness Assessment 2018 C28 A26 Contractor Wage Rate Reporting

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501 VDOT BReT Cloud Readiness Assessment 2018 Comprehensive Environmental Data and Reporting System

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### 501 VDOT BReT Cloud Readiness Assessment 2018 Contractor Performance Evaluation

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### 501 VDOT BReT Cloud Readiness Assessment 2018 Customer Service Center myVDOT - VDOT

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### 501 VDOT BReT Cloud Readiness Assessment 2018 Customer Service Center System - VDOT

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501 VDOT BReT Cloud Readiness Assessment 2018 Fleet Focus M5 - VDOT

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501 VDOT BReT Cloud Readiness Assessment 2018 Geographic Information System Integrator II

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501 VDOT BrET Cloud Readiness Assessment 2018 Geotechnical Database Management System

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501 VDOT BReT Cloud Readiness Assessment 2018 HR Works

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501 VDOT BReT Cloud Readiness Assessment 2018 Project Expedite – VDOT

BRT Type: Business Requirement for Existing Technology

Date Submitted: 1/7/2019

Mandate: Yes

Mission Critical: Yes

Description:

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501 VDOT BReT Cloud Readiness Assessment 2018 Project Site Manager - VDOT

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501 VDOT BReT Cloud Readiness Assessment 2018 Project Site Manager Access Reporting Application - VDOT

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501 VDOT BReT Cloud Readiness Assessment 2018 Right of Way and Utilities Management System

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501 VDOT BReT Cloud Readiness Assessment 2018 Roadway Inventory Management System

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501 VDOT BReT Cloud Readiness Assessment 2018 SharePoint InsideVDOT - VDOT

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501 VDOT BReIT Cloud Readiness Assessment 2018 SharePoint OutsideVDOT - VDOT

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**501 VDOT BReT Cloud Readiness Assessment 2018 SQL Server Integration Services**

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### 501 VDOT BREt Cloud Readiness Assessment 2018 Statewide Planning System

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### 501 VDOT BREt Cloud Readiness Assessment 2018 System Access Request Application

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501 VDOT BReT Cloud Readiness Assessment 2018 Tableau

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501 VDOT BReT Cloud Readiness Assessment 2018 Team Foundation Server - VDOT

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501 VDOT BReT Cloud Readiness Assessment 2018 TeamMate Audit Management System - VDOT
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Additionally, VITA and all systems must move from the Commonwealth Enterprise Solutions Center (CESC) in Chester by December of 2021. One related strategy is to reduce the number of physical servicers at CESC to prepare for the move. This means migration to the cloud must be completed by that time. It is imperative to start planning now.

Agencies' IT staff members have been asked to complete cloud assessments and should be using the results to identify resource requirements. VITA encourages agencies to evaluate their resources and discuss resource planning with the appropriate financial staff to ensure work can begin as required. Resource needs should be included requests in the upcoming budget cycle.

To identify which existing solutions can be migrated to the cloud and ensure all new IT solutions proposed be cloud-enabled, VITA will issue a hosting standard in the coming weeks. This standard will define terminology and identify requirements agencies must consider when implementing cloud-based IT solutions.

501 VDOT BReT Cloud Readiness Assessment 2018 Traffic Monitoring System
BRT Type: Business Requirement for Existing Technology
Date Submitted: 1/8/2019
Mandate: Yes
Mission Critical: Yes
Governor Ralph Northam's "Executive Order 19: Cloud Service Utilization and Readiness" requires agencies to take specific actions starting this month and continuing through fall 2019.

The order requires VITA to adopt a model for evaluating and incorporating cloud services into the commonwealth's information technology (IT) strategy and services. VITA has:

- Started the process of creating a cloud services model
- Begun obtaining information about agency systems that can be migrated to a cloud environment
- Provided an overview of the process at the recent agency information technology resources (AITR) meeting
- Planned additional announcements to AITRs regarding remaining steps
- Included cloud-related services and migration to the new data center in the recently awarded infrastructure contracts

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501 VDOT BRxT Cloud Readiness Assessment 2018 Web Inventory Management System

BRT Type: Business Requirement for Existing Technology
Date Submitted: 1/7/2019
Mandate: Yes
Mission Critical: Yes

Description:
Governor Ralph Northam's "Executive Order 19: Cloud Service Utilization and Readiness" requires agencies to take specific actions starting this month and continuing through fall 2019.

The order requires VITA to adopt a model for evaluating and incorporating cloud services into the commonwealth's information technology (IT) strategy and services. VITA has:
Started the process of creating a cloud services model
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Planned additional announcements to AITRs regarding remaining steps
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To identify which existing solutions can be migrated to the cloud and ensure all new IT solutions proposed be cloud-enabled, VITA will issue a hosting standard in the coming weeks. This standard will define terminology and identify requirements agencies must consider when implementing cloud-based IT solutions.

BRxT AASHTOWare Service Credits

BRT Type: Business Requirement for Existing Technology
Date Submitted: 2/21/2020
Mandate: No
Mission Critical: No

Description:
We are purchasing 21 service credits to be used for AASHTOWare Project Civil Rights & Labor? (CRL) support activities. AASHTOWare Project is used to support the agency's preconstruction and construction management processes. This system is also used document contract work performed and to create vouchers for payment based on bid proposal estimates. These service credits will be used for modifying functionality within the application by making modifications to the Civil Rights module, adding additional reports, subcontract payment upload capabilities, training and support.

BRxT ArcGIS Software Upgrade

BRT Type: Business Requirement for Existing Technology
Date Submitted: 5/15/2020
Mandate: No
Mission Critical: No
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 Automated Fuel Management Program Software Upgrade**

**BRT Type:** Business Requirement for Existing Technology  
**Date Submitted:** 2/3/2020  
**Mandate:** No  
**Mission Critical:** No  
**Description:**  
Monthly software support and upgrade services are required to maintain the Automated Fuel Management Program (AFMP). Procurement of new and upgraded hardware and on-site services is required to maintain VDOT’s existing EJ Ward Fueling equipment.

**BReT CEDAR Upgrade**

**BRT Type:** Business Requirement for Existing Technology  
**Date Submitted:** 5/15/2020  
**Mandate:** Yes  
**Mission Critical:** Yes  
**Description:**  
The Comprehensive Environmental Data and Reporting (CEDAR) System is in need of a major investment to modernize the application for responsiveness to agency needs and to provide continual support for changing regulatory requirements.

**BReT Closed Circuit TV Traffic Camera Replacement**

**BRT Type:** Business Requirement for Existing Technology  
**Date Submitted:** 6/17/2020  
**Mandate:** No  
**Mission Critical:** Yes  
**Description:**  
VDOT would like a contractor to furnish all labor, supervision, equipment, vehicles, traffic control, tools, cameras, cable, materials, fasteners, attachments and any ancillary items to remove and install CCTV camera, equipment and cabling at 150 VDOT Traffic Camera Locations. The new IP CCTV cameras shall be installed in accordance with the most current edition of the VDOT Road and Bridge Specifications, Section 803.03 and 803.04. The Contractor shall install the new IP CCTV cameras utilizing existing infrastructure, i.e., CCTV camera poles, mounts, lowering devices, conduits, and cabinets. Services to be performed on Interstates, Primary and Secondary roads in VDOT’s Northern Virginia Region to include Residencies within the counties of Arlington, Fairfax, Loudoun, Prince William, Spotsylvania and Stafford.

**BReT Crown Peak Subscription Renewal Procurement**

**BRT Type:** Business Requirement for Existing Technology  
**Date Submitted:** 5/15/2020  
**Mandate:** No  
**Mission Critical:** No  
**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 EBB Content Player Subscription Renewal**

**BRT Type:** Business Requirement for Existing Technology  
**Date Submitted:** 5/15/2020  
**Mandate:** No  
**Mission Critical:**  
**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 EBB Licensing Subscription Renewal Procurement**

**BRT Type:** Business Requirement for Existing Technology  
**Date Submitted:** 5/15/2020  
**Mandate:** No  
**Mission Critical:**  
**Description:**
VDOT has increased the number of EBB units in the field from 250 to 315. Moving to Enterprise Licenses will save the agency money and will continue to improve agency communications to field level staff that do not have regular access to VDOT computers.

**BReT ESRI Enterprise License Renewal**

**BRT Type:** Business Requirement for New Technology  
**Date Submitted:** 7/9/2019  
**Mandate:** No  
**Mission Critical:** Yes  
**Description:**
VDOT utilizes ESRI ArcGIS products as its GIS platform supporting the business and citizen needs. This procurement will extend the current contract and product support.

**BReT ESRI Enterprise License Renewal FY19-21**

**BRT Type:** Business Requirement for Existing Technology  
**Date Submitted:** 5/15/2020  
**Mandate:** No  
**Mission Critical:** Yes  
**Description:**
VDOT utilizes ESRI ArcGIS products as its GIS platform supporting the business and citizen needs. This procurement will extend the current contract and product support for an additional three years.

**BReT Inrix Data MOU**

**BRT Type:** Business Requirement for Existing Technology  
**Date Submitted:** 5/29/2020
Mandate: No
Mission Critical: Yes
Description:
VDOT will issue a MOU to the University of Maryland (UMD) to obtain a data subscription from INRIX (a transportation data analytics company) to support performance measures, congestion management and traveler information efforts throughout the state. Specifically, as VDOT plans to disseminate travel time information statewide, this service will provide raw data and input to the travel time engine on key roadways for this program, and serve as a validation source to assess the quality of travel times obtained from VDOT sensors. This will be a one-year MOU.

BReT iSYP Suite Technology Upgrade
BRT Type: Business Requirement for Existing Technology
Date Submitted: 6/28/2019
Mandate: Yes
Mission Critical: Yes
Description:
VDOT annually publishes its Six Year Program (SYP) which details construction projects on-going or planned to start within a six-year horizon. As part of managing these programs, VDOT tracks the status of projects from initial request through to construction completion. The Integrated Six Year Program (iSYP) suite of systems was built to support these processes, mostly between 2000 and 2011. The infrastructure of the systems is aged, fragile and difficult to maintain. The project objectives are to:
- Upgrade operating systems to current standards;
- Update application code and integrations as necessitated by the operating system upgrades;
- Add REST endpoints for backward and forward compatibility for cloud enabled applications;
- Make it mobile friendly by upgrading clients to use Angular;
- Address security concerns by moving the dbo objects into separate schemas and remove embedded SQL Commands;
- Increase resiliency and maintainability of the suite.

BReT Maintenance and Support of Advanced Revenue Collection System at Coleman Toll Facility
BRT Type: Business Requirement for Existing Technology
Date Submitted: 5/15/2020
Mandate: No
Mission Critical: No
Description:
This is a new contract covering equipment and program maintenance & support of the Advanced Revenue Collection System (ARCS) at the Coleman Toll Facility.

BReT Microsoft Enterprise Agreement
BRT Type: Business Requirement for Existing Technology
Date Submitted: 5/15/2020
Mandate: No
Mission Critical: No
Description:
VDOT has reached the end of its three year Enterprise Agreement with Microsoft. In order to stay compliant with licensing and avoid interruption of critical infrastructure and application software, we are required to renew our Microsoft Enterprise Agreement.

BReT Oracle Licenses and Support
BRT Type: Business Requirement for Existing Technology
Date Submitted: 7/9/2019
Mandate: No
Mission Critical: No
Description:
This BRT is being submitted to purchase Oracle licenses, upgraded licenses, new support, and migrated support/backsupport under the terms and conditions of the VITA Contract.

BReT RITIS, VPP Suite and XD Archive Data Service UMD MOU
BRT Type: Business Requirement for Existing Technology
Date Submitted: 6/2/2020
Mandate: No
Mission Critical: Yes
Description:
VDOT will issue an MOU to the University of Maryland (UMD) using the I-95 Corridor Coalition contract to obtain access to the Regional Integrated Transportation Information System (RITIS) and its Vehicle Probe Project (VPP) Suite data application. UMD will also archive XD data for VDOT through the contract.

RITIS and VPP suite provide performance measures tools used to analyze and present Archived Operations Data. VDOT will have access to the UMD Center for Advanced Transportation Technology (CAIT) Lab data to perform/develop analytics to support several VDOT operational programs. Inrix, through its network of GPS-enabled vehicle probes, is able to provide real-time XD-Data, decision-quality speed and congestion information in the area. Data is being provided for 1566 centerline miles of freeways and 5,827 centerline miles statewide. This will be a one-year MOU.

BReT SingleStone for MS Dynamics CRM Platform
BRT Type: Business Requirement for Existing Technology
Date Submitted: 5/15/2020
Mandate: No
Mission Critical: Yes
Description:
This procurement is for a statement of work (SOW) for support of a suite of applications developed in the Microsoft Dynamics CRM (Customer Relationship Management) platform. The suite was developed by the vendor who will be the named source on the SOW.

BReT Skillsoft Online Courseware and Library License Renewal
BRT Type: Business Requirement for Existing Technology
Date Submitted: 5/15/2020
Mandate: No
Mission Critical: No
Description:
This BRT is for the purchase of Skillsoft licenses which will provide access to their learning management system software and content services. The products and/or services include but are not limited to the following:
BUSINESS COURSEWARE COLLECTION
COMPLIANCE LIBRARY LICENSE:
DESKTOP & IT VIDEOS
DESKTOP & IT COURSEWARE COLLECTION
LEADERSHIP COLLECTION
LEGAL COMPLIANCE
SKILLSOFT BOOKS SUMMARIES

BReT SMART Portal 2020
BRT Type: Business Requirement for Existing Technology
Date Submitted: 5/15/2020
Mandate: No
Mission Critical: Yes
Description:
The scope of this project is to deliver new and enhanced functionality within the SMART Portal web application allowing for program pre-application submission, new application submission to multiple programs, enhancements to the validation/screening/ scoring processes and to improve the user interface to update decisions online.

BReT SmartScale
BRT Type: Business Requirement for Existing Technology
Date Submitted: 5/15/2020
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 Software Support for TransCore Toll System
BRT Type: Business Requirement for Existing Technology
Date Submitted: 4/12/2019
Mandate: No
Mission Critical: Yes
Description:
The toll collection system currently in use at the Powhite Parkway Extension facility is a proprietary toll system software product that is highly integrated with coin machines, violation enforcement, reporting / audit systems and many other lane sensors and devices necessary to efficiently collect toll payments. This tolling solution is functioning at a very high level and is fully meeting the needs of VDOT and is far from end-of-life.

BReT Statewide Traffic Signal System
BRT Type: Business Requirement for Existing Technology
Date Submitted: 5/15/2020
Mandate: No
Mission Critical: Yes
Description:
VDOT operates 3,000+ signals and localities operate 4,300+ signals on the arterial roadway network. This results in substantial congestion, vehicle emissions, and crashes. This project will deliver a modernized statewide signal system to be used across VDOT and optionally by localities through a cooperative procurement managed by VITA.

BReT Traveler Information Data Sharing Services
BRT Type: Business Requirement for Existing Technology
Date Submitted: 11/21/2019
Mandate: No
Mission Critical: Yes

Description:
VDOT's existing 511 traveler information systems have run their course and have reached end of life. Today, these tools provide essential traffic video and data distribution to travelers, internal operators, media members and other service partners. Since its inception in 2011, business requirements, operational needs, traveler expectations and technology have significantly changed making the current offering obsolete. To address the growing demand for VDOT's data, VDOT has developed several ad hoc tools to provide access to its data for industry and research partners. VDOT is embarking on this enterprise, strategic initiative to retire legacy systems and services, and develop a holistic solution to address the growing need.

VDOT is seeking a supplier to provide and securely manage a cloud-based suite of traffic, travel and road information services and specialized tools through a single platform to serve a variety of stakeholders including:

- Internal VDOT operations centers
- VDOT operators
- VDOT executives
- Public safety partners
- Media members
- Travelers
- Connected and automated vehicle (CAV) community

The supplier will provide distribution services for designated VDOT operations-related transportation video and data generated in transportation operations and traffic engineering functions across VDOT. Distribution methods may include:

- Web
- Mobile application (iPhone and Android)
- Digital voice assistant
- Automated data services or application program interfaces (APIs) of various file types

The current service provides a critical connection of field video back to the Statewide ATMS enabling operators to view the video within ATMS application for incident detection and management, as well as situational awareness. The contract resulting from this RFP will replace the existing Statewide Transportation, Video, Data Distribution/Statewide 511 Information Service contract and other data sharing portals managed by VDOT or provided by third parties.

BReT VDOT Data Provisioning for DMV Automated Routing System
BRT Type: Business Requirement for New Technology
Date Submitted: 12/4/2019
Mandate: No
Mission Critical: Yes

Description:
Currently data is delivered in a fragmented fashion to DMV via many different mechanisms. This effort will consolidate and enhance the delivery through a single channel using industry standard methods versus proprietary protocols, which require a lot of manual intervention to support hauling permit issuance.

The data feeds are intended to interface with the new Automated Routing System that DMV is currently looking to procure. The DMV system will need to be identified before this effort can begin.

BReT VDOT IT Contingent Labor_FY18-20
BRT Type: Business Requirement for Existing Technology
Date Submitted: 5/15/2020
Mandate: No
Mission Critical: Yes

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

BReT VDOT IT Software Renewals FY18-20

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

**Date Submitted:** 5/15/2020

**Mandate:** No

**Mission Critical:**

**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:

- AASHTO Annual Software Services Renewal
- Agile Assets PMS Annual Software Maintenance & Support Renewal
- Avaya Customer Management System
- Avaya Session Border Controllers
- Customer Service System 2.0 Maintenance & Support
- FleetFocus M5 Maintenance & Support
- Fugro Roadware
- IBM Infosphere DataStage Annual Support
- K2 BlackPearl & SmartForms Support & Maintenance
- MS Eazure - EA Renewal
- MS AZ Plan - OMS E2
- Microsoft Premier Support Services
- Oracle Server Support Renewal
- Oracle Database Enterprise
- Oracle Database Enterprise
- SAP Business Objects X1 Maintenance & Support Renewal
- Tableau Maintenance Renewal
- Tableau Maintenance Renewal
- Adobe Team Licensing
- ESRI License Agreement
- Quest Toad Software License Renewal

BReT VDOT Production Center Upgrade

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

**Date Submitted:** 5/15/2020

**Mandate:** No

**Mission Critical:** No

**Description:**

The VDOT Production Center provides high-quality printing, scanning, photographic development and large-format reproduction services for the agency. This includes printing books, manuals, presentations, advertising copy, annual reports, contracts and bid documents.

This purchase order is issued under and will be governed by the pricing and terms and conditions of VITA Contract # VA-130405-XERX; for which Xerox will install and support the leased equipment and any software needed to manage the
equipment. ITD will not be involved in the implementation, are not providing resources for this, and it will not require VDOT project manager oversight.

This technology will allow the agency to produce better quality documents and support services more efficiently while saving the agency an estimated $13,000 per year.

**BReT Wide Format Plotter Lease**

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<tr>
<td><strong>Description:</strong></td>
<td>VDOT has a need to renew its lease of wide format plotters in support on-going highway maintenance and construction programs.</td>
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**BRnT Accounts Payable Automation**

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<td><strong>Description:</strong></td>
<td>For FY18, the Accounts Payable Automation project was ranked the highest technology project priority by the VDOT Strategic Technology Board. VDOT seeks to transform how the Agency processes invoices with a digital, comprehensive COTS cloud solution to automate the intake, processing and approvals of invoicing. The solution will be used across the agency by all staff responsible for this business function. In addition, VDOT anticipates other agencies may be able to leverage this solution. VDOT processes for managing invoices are manual, inefficient, time consuming and make it difficult for all vendors to do business with VDOT. VDOT processes over 129,000 invoices each year using numerous channels (mail, email) and destinations (multiple locations vs. a central intake) and passes hardcopy documents to multiple personnel for handling and &quot;wet&quot; signatures, which is inefficient and time-consuming. Each invoice received requires multiple VDOT personnel to: · Manually enter invoice data twice which provides opportunities for simple, but expensive, errors. Create and store paper copies of invoices, supporting paperwork and AP Vouchers which requires extensive personnel time to properly manage document storage, archive and retrieval. · Research and respond to vendor inquiries regarding invoice processing status (manual process). In addition to VDOT's pain points regarding invoices, the vendor community has difficulties submitting invoices to multiple channels and locations, retrieving up-to-date status of submitted invoices and forecasting cash flow. VDOT seeks to transform how the Agency processes invoices with a digital, comprehensive COTS cloud solution to automate the intake, processing and approvals of invoicing. The solution will be used across the agency by all staff responsible for this business function. In addition, VDOT anticipates other agencies may be able to leverage this solution. Substantial productivity savings are expected across the agency with an anticipated ROI of 228% after five years. Characteristics of the solution include: standard implementation/configuration and scalability. This effort will support the COVA Strategic Plan goal to manage and direct the evaluation and adoption of cloud computing to address agency business requirements for a secure, flexible, economical, and rapidly scalable computing environment. In addition, this effort supports the Governor's priorities to encourage innovation and research, and to make our government accessible and efficiently managed. Multiple options are being exploring, seeking to leverage COTS products and Cloud solutions.</td>
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**BRnT Advanced Transportation Controllers and Firmware**

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<td><strong>Description:</strong></td>
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VDOT seeks to procure traffic signal system controller hardware and firmware that are compatible and consistent throughout VDOT’s Operations Regions for the purpose of enhancing cross-district interoperability, establishing efficiencies in maintenance, and expanding operations of the statewide signalized arterial roadway network; and prepare for future advances in technology.

The plan includes:
Phase I - Concept of Operations - Complete
Phase II - Procurement of ATC Hardware & Firmware - $4.5M

BRnT CEDAR Upgrade

BRT Type: Business Requirement for New Technology
Date Submitted: 5/15/2020
Mandate: Yes
Mission Critical:
Description:
This business requirement is to upgrade the CEDAR (Comprehensive Environmental Data and Reporting) application for the following reasons:
Technology Obsolescence: It was initially thought a complete rewrite would be needed but further analysis determined a technology upgrade would be feasible.
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.
Technology Consolidation:
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.
Functionality enhancements:
It is anticipated that additional functional enhancements will emerge during the effort to review and validate the existing Functional Requirements.

BRnT Customer Relationship Management Upgrade and Cloud Migration

BRT Type: Business Requirement for New Technology
Date Submitted: 4/17/2020
Mandate: Yes
Mission Critical: Yes
Description:
This procurement is for services to migrate the existing on-premise Customer Relationship Management (CRM) Microsoft Dynamics 2013 platform to a tenant in the VITA CRM 365 cloud. This is done in compliance with Executive Order 19 which mandates all COV systems to move out of the current commonwealth data center to a cloud environment by the end of 2021. This will also upgrade the platform to the newest version of Microsoft Dynamics CRM for extended life of the systems it houses. Three separate Virginia Department of Transportation (VDOT) systems are built on the platform: Customer Service Center System, Tort Claims System and the Constituent Tracking System.

BRnT Data Science Center of Excellence

BRT Type: Business Requirement for New Technology
Date Submitted: 12/13/2019
Mandate: No
Mission Critical: No
Description:
(VDOT) seeks to form a team of deeply experienced data scientists and data engineers to design, develop, and sustain a Data Science center of excellence (COE).
BRnT Digitize Bridge Inspection Reports

BRT Type: Business Requirement for New Technology
Date Submitted: 6/26/2019
Mandate: No
Mission Critical: Yes

Description:
New mobile solution for field bridge inspectors allowing them to enter real-time inspection observations while out in the field via a tablet or other handheld device with workflow and digital approvals/electronic signature capabilities.

BRnT Employee Onboarding

BRT Type: Business Requirement for New Technology
Date Submitted: 4/1/2019
Mandate: No
Mission Critical: No

Description:
Each year, VDOT on-boards approximately 1000 classified employees (in addition to classified employees we onboard an additional 150-200 wage employees). Of that number approximately 50% are from outside of the agency with 50% transferring to new assignments within the agency.
The labor and paperwork associated with this staffing volume is significant and prone to error. New and transferring employees currently fill out manual paper forms as part of this process, which can be a tedious employee experience. Currently, onboarding is managed locally, resulting in inconsistent processes and communications regarding VDOT's mission, values and expectations.
The Human Resources (HR) team conducted a Request for Information (RFI) review of the current industry standard employee onboarding tools. HR is interested in purchasing Onboarding SaaS (Software as a Service), which are readily available through commercial vendors to standardize important agency specific communications that new and transferring employees receive, reduce labor associated with onboarding, engage new employees in the onboarding process prior to their first day on the job, reduce the opportunity for error, and to provide a consistent positive employee experience.

BRnT Facilities Maintenance Management

BRT Type: Business Requirement for New Technology
Date Submitted: 2/4/2020
Mandate: No
Mission Critical: No

Description:
VDOT must ensure orderly and safe operational function (heating, cooling, electrical, and fire suppression systems, etc.) of the 1373 buildings that the agency manages across the state. Currently, VDOT does not have a statewide system for tracking facility requests, costs of maintenance and data needed for capital planning, parts inventory, condition assessments and fulfillment of requests.

BRnT GIS Cloud Migration Roadmap

BRT Type: Business Requirement for New Technology
Date Submitted: 4/9/2020
Mandate: Yes
Mission Critical: Yes

Description:
In order to comply with Executive Order 19 requiring COV systems to move to the cloud, VDOT plans to engage a consultant that will analyze and provide a roadmap for migrating four key groups of geospatial information systems at VDOT into the cloud: Geographical Information Systems (GIS), Roadway Network System (RNS), Comprehensive
Environmental Data and Reporting System (CEDAR) and GIS Integrator. The output of the analysis will be a roadmap showing the approach to migration and comprehensive documentation of the requirements to execute the roadmap.

**BRnT I-64 Express Lanes Expansion**

**BRT Type:** Business Requirement for New Technology  
**Date Submitted:** 3/17/2020  
**Mandate:** No  
**Mission Critical:** No  
**Description:**  
This request is to procure a tolling solution via an RFP "as a service" that will operate the next immediate segment as well as include options for the whole 45 mile network.

**BRnT ICM Data Store and Decision Support**

**BRT Type:** Business Requirement for New Technology  
**Date Submitted:** 5/15/2020  
**Mandate:** No  
**Mission Critical:** Yes  
**Description:**  
A Northern Virginia Multi-modal Mobility Data Store & Decision Support System is needed to: 1) Optimize performance of the existing infrastructure, 2) Enhance travel time reliability, 3) Support on-demand, multi-modal trip options for travelers.  
VDOT will implement one of the nation's first unified, regional, real-time, predictive, transportation services for all agencies to make transportation management decisions collectively and to make transportation more reliable and seamless for users. The solution will provide end-to-end connected intermodal transportation service data in a 'live' cloud-based mobility data store for private sector/media to distribute to consumers.  
This project will be implemented in three phases: Mobility Data Store, Data Store Expansion and Decision Support

**BRnT IdeaScale Innovation Platform**

**BRT Type:** Business Requirement for New Technology  
**Date Submitted:** 12/12/2019  
**Mandate:** No  
**Mission Critical:** No  
**Description:**  
Lack of platform to solicit problem solving innovative ideas across VDOT organization and leverage collective knowledge and creativity of workforce. Need to foster and cultivate creative innovative workforce and environment of innovation. IdeaScale will help find implementable, effective ideas, without overreaching budget. It will help maintain high levels of employee satisfaction by engaging employees through IdeaScale. Give VDOT employees a straight-forward, easily accessed platform to share their knowledge. Make the most of the insight, experience, and knowledge within VDOT. IdeaScale will bring transparency, collaboration and management to the process of innovation at VDOT. The system allows to do challenges and allows the executives to solicit input from targeted groups on specific topics.

**BRnT Joint Safety Operations Center Conference Room Audio Visual Equipment**

**BRT Type:** Business Requirement for New Technology  
**Date Submitted:** 8/26/2019  
**Mandate:** No  
**Mission Critical:** Yes  
**Description:**
Newly constructed 3 story building that is a joint venture between the Virginia State Police, VDOT Traffic Operation Center and VDOT Richmond District Office. This is a contract for all the Audio Visual equipment and installation throughout the building for VDOT to include VTC for Conference Rooms and full AV setup in our Situation Room and Multipurpose Room

**BRuT Locality Assistance**

**BRT Type:** Business Requirement for New Technology  
**Date Submitted:** 1/31/2020  
**Mandate:** No  
**Mission Critical:** No  
**Description:**  
Localities no longer have access to VDOT systems directly. The purpose of this project is to understand the processes, touch points, pain points, and requirements for localities as they administer their projects. The vision is to create and implement a solution that will improve the communication between the localities and VDOT and to provide a way for the localities to provide and receive up to date, accurate, and complete information via a self-help system.

**BRuT Managed Print Services**

**BRT Type:** Business Requirement for New Technology  
**Date Submitted:** 5/15/2020  
**Mandate:** No  
**Mission Critical:**  
**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.

**BRuT Mountain Tunnels SCADA Replacement**

**BRT Type:** Business Requirement for New Technology  
**Date Submitted:** 5/10/2019  
**Mandate:** No  
**Mission Critical:** Yes  
**Description:**  
VDOT requires an industrial sized SCADA system solution to be installed at BWMT and ERMT providing a long term solution that will improve reliability, reduce risk or operator error, and can accommodate future fire life and safety projects. Features of the solution must include, but not limited to the following:

- Hot Standby PLC
- Remote Input Output Rack (RIO Rack)
- Uninterruptible Power Supply
- Human Machine Interface (HMI) Hardware and Software Workstations

**BRuT PlanGrid Software**

**BRT Type:** Business Requirement for New Technology  
**Date Submitted:** 3/11/2020  
**Mandate:** No  
**Mission Critical:**  
**Description:**  
Tablet based inspection is the deployment of mobile devices such as iPads to provide construction inspectors with
technology that will allow them to inspect highway construction projects more effectively and efficiently. This procurement is for PlanGrid software, which will be used on previously purchased, cellular enabled ipads.

**BRnT Project Closeout**

**BRT Type:** Business Requirement for New Technology  
**Date Submitted:** 4/10/2019  
**Mandate:** No  
**Mission Critical:** Yes  
**Description:**  
Develop an application for the Infrastructure Investment Division (IID) to replace the financial project lifecycle tool. IID has the responsibility to oversee the financial lifecycle of projects, including managing the development of the Six Year Improvement Program (SYIP) and coordinating the life of the project from initial phase opening through financial closeout. The existing technology is prone to outages and has slow performance that impacts the ability of IID employees to efficiently manage the closeout process.

**BRnT Regional Multimodal Mobility Program (RM3P)**

**BRT Type:** Business Requirement for New Technology  
**Date Submitted:** 7/15/2020  
**Mandate:** No  
**Mission Critical:**  
**Description:**  
VDOT is seeking to procure IT services and solutions to implement technologies to optimize the performance of the existing transportation infrastructure, enhance travel-time reliability for regional commuters, and support on-demand, multi-modal trip options/choices for travelers. The IT services and solutions will leverage artificial intelligence (AI) and machine learning to extract information from large data sets, develop intelligence, and present/distribute information/data in real-time to the operators and public to make decisions.

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

**BRT Type:** Business Requirement for New Technology  
**Date Submitted:** 5/15/2020  
**Mandate:** No  
**Mission Critical:** 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 Statewide Advanced Traffic Management Systems (ATMS)**

**BRT Type:** Business Requirement for New Technology  
**Date Submitted:** 5/15/2020  
**Mandate:**  
**Mission Critical:** Yes  
**Description:**  
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

**BRnT Statewide Transportation Improvement Program Upgrade**

**BRT Type:** Business Requirement for New Technology  
**Date Submitted:** 4/22/2019  
**Mandate:** No  
**Mission Critical:** Yes  
**Description:**  
The Statewide Transportation Improvement Program (STIP) enhancements will allow Division staff to route original and amended STIP projects to VDOT and non-VDOT stakeholders for review and approval. The enhancement included a workflow for approval routing and hierarchy.

**BRnT Tolling Operations Software**

**BRT Type:** Business Requirement for New Technology  
**Date Submitted:** 2/20/2020  
**Mandate:** No  
**Mission Critical:** No  
**Description:**  
This procurement is to purchase 3 year term limited licenses to support the tolling operating systems until they are migrated to the cloud.

**BRnT VDOT Sharepoint Upgrade**

**BRT Type:** Business Requirement for New Technology  
**Date Submitted:** 6/26/2019  
**Mandate:** No  
**Mission Critical:** No  
**Description:**
VDOT has previously developed plans to migrate from its SharePoint 2010 Infrastructure to SharePoint 2016/2019 and will now use the findings in those migration plans to develop a Migration to SharePoint Online to coincide with the Governor's Executive Order 19: "Cloud Service Utilization and Readiness."
## IT Strategic Plan Budget Tables

**Agency:** 501 Department of Transportation (VDOT)
**Date:** 8/25/2020

### Current IT Services

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<thead>
<tr>
<th>Category</th>
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### Projected Total IT Budget

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Reports Title: IT Strategic Plan Projects
Agency: 501 Department of Transportation (VDOT)
Date: 8/25/2020

Projects

Accounts Payable Automation Project

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

Investment Business Case Approval

VDOT seeks to transform how the Agency processes invoices with a digital, comprehensive COTS cloud solution to automate the intake, processing and approvals of invoicing. The solution will be used across the agency by all staff responsible for this business function. In addition, VDOT anticipates other agencies may be able to leverage this solution. VDOT’s current processes for managing invoices are manual, inefficient, time consuming and make it difficult for all vendors to do business with VDOT. VDOT processes over 129,000 invoices each year using numerous channels (mail, email) and destinations (multiple locations vs. a central intake) and passes hard copy documents to multiple personnel for handling and ?wet? signatures, which is inefficient and time-consuming. Each invoice received requires multiple VDOT personnel to
- Manually enter invoice data, which provides opportunities for simple, but expensive, errors. Create and store paper copies of invoices, supporting paperwork and AP Vouchers, which requires extensive personnel time to properly manage document storage, archive and retrieval.
- Research and respond to vendor inquiries regarding invoice processing status (manual process). In addition to VDOT’s pain points regarding invoices, the vendor community has difficulties submitting invoices to multiple channels and locations, retrieving up-to-date status of submitted invoices and forecasting cash flow. VDOT seeks to transform how the Agency processes invoices with a digital, comprehensive COTS cloud solution to automate the intake, processing and approvals of invoicing. The solution will be used across the agency by all staff responsible for this business function. Characteristics of the solution include: standard implementation/configuration and scalability. This effort will support the COVA Strategic Plan goal to manage and direct the evaluation and adoption of cloud computing to address agency business requirements for a secure, flexible, economical, and rapidly scalable computing environment.

Planned Project Start Date: 10/1/2020
Planned Project End Date: 4/1/2023

Estimated Costs:

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Project Related Procurements

Accounts Payable Automation Procurement

For FY18, the Accounts Payable Automation project was ranked the highest technology project priority by the VDOT Strategic Technology Board. VDOT seeks to transform how the Agency processes invoices with a digital, comprehensive COTS cloud solution to automate the intake, processing and approvals of invoicing. The solution will be used across the agency by all staff responsible for this business function. In addition, VDOT anticipates other agencies may be able to leverage this solution. Substantial productivity savings are expected across the agency with an anticipated ROI of 228% after five
years. Characteristics of the solution include: standard implementation/configuration and scalability. This effort will support the COVA Strategic Plan goal to manage and direct the evaluation and adoption of cloud computing to address agency business requirements for a secure, flexible, economical, and rapidly scalable computing environment. In addition, this effort supports the Governor's priorities to encourage innovation and research, and to make our government accessible and efficiently managed. Multiple options are being exploring, seeking to leverage COTS products and Cloud solutions.

CEDAR Upgrade Project

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

The CEDAR Upgrade Project is focused on delivery of two new modules with enhancement to an existing CEDAR system module and enhancement to GIS related functionality in other program areas of CEDAR. These Modules and enhancements will enable more efficient workflow, automate manual processes, improve data accuracy, is a component of the Commissioner's response to EPA audit findings, while also helping to reduce the risk of penalties associated with regulatory mandates. Modules and enhancements will focus on delivery of new capabilities for TMDL/MS4, Facilities Compliance, GIS, and FPWR.

Two modules will be added to CEDAR handling TMDL/MS4, Facilities Compliance, along with GIS and FPWR enhancements.

The Environmental Division uses the CEDAR system as a cornerstone for numerous business processes. Other agencies within COV also access CEDAR.

The solution approach leverages Geospatial systems deployed within VDOT.

Major benefits encompass:
- 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.
- Reduce application footprint by eliminating four (4) consultant managed databases paid by the business.

Planned Project Start Date: 2/20/2018
Planned Project End Date: 10/30/2021

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Project Related Procurements
CEDAR Upgrade Procurement

Updated Description:
This procurement supports outsourced software delivery services.
This is a continuation of outsourced delivery services that have been executed by the same vendor for this project previously.
Previous PGR forecast did not include delivery of scope that was missed, and increased level of effort to complete. Additional PGR funds are required to complete remaining scope for the project.

Original Description:
VDOT has developed a proprietary system named Comprehensive Environmental Data and Reporting (CEDAR) that is used for managing workflow and information related to environmental impacts and regulatory requirements of VDOT programs.
This project is the outgrowth of efforts within the Environmental Division to review its business needs for the CEDAR system with the aim of gaining efficiencies within some existing programs as well as to continue to respond to existing and new regulations. Significant savings are expected by automating manual efforts while also improving the accuracy and timeliness of new data put into the system. Workflow efficiencies will also result in reducing the amount of time taken to setup, approve and manage projects resulting in improved service.
The Environmental team identified 4 high priority program areas that are new or require significant enhancements for these programs:
* Municipal Separate Storm Sewer System (MS4) / Total Maximum Daily Load (TMDL)
* Facilities Compliance
* GIS Solution for the Environmental Division
* Fish, Plant and Wildlife Resources (FPWR)
This project will address each of the four areas in a multi-phased approach.

Statewide Traffic Signal System Project

<table>
<thead>
<tr>
<th>Oversight and Governance Category: Category 4: Low/Medium, Low/Low</th>
<th>Project Initiation Approval</th>
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<tbody>
<tr>
<td>VDOT operates 3,000+ signals and localities operate 4,300+ signals on the arterial roadway network. This project will deliver a modernized statewide signal system to be used across VDOT and optionally by localities through a cooperative procurement managed by VITA.</td>
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Planned Project Start Date: 10/3/2019
Planned Project End Date: 3/31/2021

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Project Related Procurements
Statewide Traffic Signal System Procurement
VDOT operates 3,000+ signals and localities operate 4,300+ signals on the arterial roadway network. This results in substantial congestion, vehicle emissions, and crashes. This project will deliver a modernized statewide signal system to be used across VDOT and optionally by localities through a cooperative procurement managed by VITA.

**Digitize Bridge Inspection Reports Project**

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

*Investment Business Case Approval*

VDOT structure and Bridge will implement a modern, automated inspection software tool that efficiently captures key data, streamlines workflow, integrates data across key systems, and accelerates development of reports and analysis.

**Planned Project Start Date:** 10/15/2020

**Planned Project End Date:** 10/30/2021

**Estimated Costs:**

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<th></th>
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**Project Related Procurements**

*Digitize Bridge Inspection Reports Procurement*

VDOT Structure and Bridge will implement a modern, automated inspection software tool that efficiently captures key data and photos, enables a streamlined workflow, integrates data across key systems, and accelerates development of reports and analysis. Further, the to-be-developed acquisition will include a scheduling aspect that helps ensure that no bridges or structures are omitted by error.

**SMART SCALE - SMART Portal 2020 Project**

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

*Project Initiation Approval*

The scope of this project is to deliver new and enhanced functionality within the SMART Portal web application allowing for program pre-application submission, new application submission to multiple programs, enhancements to the validation/screening/scoring processes and to improve the user interface to update decisions online.

**Planned Project Start Date:** 7/31/2019

**Planned Project End Date:** 7/30/2021

**Estimated Costs:**

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**Project Related Procurements**

**SMART SCALE - SMART Portal 2020 Procurement**

To deliver new and enhanced functionality within the SMART Portal web application allowing for program pre-application submission, new application submission to multiple programs, enhancements to the validation/screening/scoring processes and to improve the user interface to update decisions online.

**EO19_VDOT_Aggregate_Re-Host Project**

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

**Investment Business Case Approval**

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<th>1/31/2021</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Estimated Costs:</th>
<th>Total</th>
<th>General Fund</th>
<th>Nongeneral Fund</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Cost</td>
<td>$487,952.00</td>
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</tr>
<tr>
<td>Estimated project expenditures second year of biennium:</td>
<td>$0.00</td>
<td>$0.00</td>
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</tr>
</tbody>
</table>

**Project Related Procurements**

There are no procurements for this project.

**EO19_VDOT_Aggregate_Refactor_Re-Architect Project**

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

**Investment Business Case Approval**

<table>
<thead>
<tr>
<th>Planned Project Start Date:</th>
<th>7/1/2019</th>
<th>Planned Project End Date:</th>
<th>1/31/2021</th>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Estimated Costs:</th>
<th>Total</th>
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<tr>
<td>Project Cost</td>
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<tr>
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<tr>
<td>Estimated project expenditures second year of biennium:</td>
<td>$0.00</td>
<td>$0.00</td>
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</table>
## EO19_VDOT_VirginiaRoads_Re-Platform Project

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

<table>
<thead>
<tr>
<th>Investment Business Case Approval</th>
</tr>
</thead>
</table>

**Planned Project Start Date:** 7/1/2019  
**Planned Project End Date:** 1/31/2021

**Estimated Costs:**

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
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<tr>
<td>Project Cost</td>
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<td>Estimated project expenditures first year of biennium:</td>
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<tr>
<td>Estimated project expenditures second year of biennium:</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
</tbody>
</table>

## EO19_VDOT_Geographic Information System Integrator II_Repurchase Project

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

<table>
<thead>
<tr>
<th>Investment Business Case Approval</th>
</tr>
</thead>
</table>

**Planned Project Start Date:** 7/1/2021  
**Planned Project End Date:** 12/31/2021

**Estimated Costs:**

<table>
<thead>
<tr>
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<th>Total</th>
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</thead>
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<tr>
<td>Project Cost</td>
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</tr>
<tr>
<td>Estimated project expenditures first year of biennium:</td>
<td>$0.00</td>
<td>$0.00</td>
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</tr>
<tr>
<td>Estimated project expenditures second year of biennium:</td>
<td>$2,000,000.00</td>
<td>$2,000,000.00</td>
<td>$0.00</td>
</tr>
</tbody>
</table>

## Project Related Procurements

**Project Related Procurements**

There are no procurements for this project.

---

**State Transportation Improvement Program (STIP) Project**
Oversight and Governance Category: Category 4:
Low/Medium, Low/Low

VDOT’s FPMD is responsible for approximately $1 billion in annual federal funding for VDOT projects and programs. In order to obligate federal funds on a project, the project must first receive federal authorization. Prior to authorization, the project must be included in the Commonwealth's STIP, as required by federal regulations at 23 CFR Part 450. FPMD has 15 employees responsible for management of the department’s federal program. Of this team, three employees manage the federally required STIP and associated processes with aged technology; the work is labor-intensive and in most cases analyzed and processed manually using print outs and Excel spreadsheets. More than 4,000 Federal Highway Administration (FHWA) Fiscal Management Information System (FMIS) transactions are processed annually and each federal project and FMIS transaction affecting a federal project must be properly demonstrated in the STIP. FPMD’s Planning and Reporting (PAR) Team is responsible for developing and maintaining the STIP, a plan that demonstrates the Commonwealth's fiscal constraint for current and planned projects, so that the agency does not plan to spend more on projects than it has funding to support. Staff manually enters all calculations of planned use of federal funding. Reporting tools are outdated and inadequate (and in some cases do not work) for today’s business needs. The PAR Team manages 24 scheduled update cycles (plus ad hoc submissions as needed to support project delivery and federal program management) annually, which could include up to 30 projects per update. Each update requires manual entry and recalculation, evaluation and reprogramming, and correspondence amongst FPMD, District Planners, Metropolitan Planning Organizations (MPOs), the State Secretary of Transportation, the FHWA and/or the Federal Transit Administration (FTA). FPMD’s top priority is to improve efficiency and transparency in the transmittal and communication of TIP/STIP actions amongst stakeholders. The STIP enhancements will allow Division staff to route federally required TIP/STIP actions to internal and external stakeholders for review and approval/acknowledgement. This new automated workflow system for approval/acknowledgement routing and hierarchy will be delivered as a mix of Web, SharePoint, Custom, and COTS software and will yield the greatest impact for FPMD, Districts, Central Office Divisions, MPO partners, Department of Rail and Public Transportation (DRPT), FHWA and FTA. Major benefits encompass: - Reduction in manual labor intensive coordination through the application process. - Improved efficiency and transparency in the transmittal and communication of TIP/STIP actions amongst stakeholders. - Automated notification(s) at various points during the process. - Real time status will be available on OutsideVDOT for Projects/Documents/Data related to STIP development. - Electronic signature(s) will be generated for approval of supporting STIP documentation. - The solution will differentiate between the approval of a STIP action and the noting/acknowledgement of a STIP action. - Streamlined processes will position Working STIP to go through the process of becoming a LIVE STIP.

| Planned Project Start Date: 9/11/2019 | Planned Project End Date: 12/31/2020 |

<table>
<thead>
<tr>
<th>Estimated Costs:</th>
<th>Total</th>
<th>General Fund</th>
<th>Nongeneral Fund</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Cost</td>
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<tr>
<td>Estimated project expenditures second year of biennium:</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
</tbody>
</table>

Project Related Procurements
Statewide Transportation Improvement Program Upgrade Procurement

The division seeks a system that is accessible by both internal and external stakeholders that will enhance the transmittal and communication of information and documentation via a workflow solution that will:
- Reduction in manual labor intensive coordination through the application process.
- Improve efficiency and transparency in preparation and tracking communication amongst Statewide Transportation Improvement Program (STIP) stakeholders.
- Email notification to District Planners that project listings have been posted to OutsideVDOT and are ready for retrieval.
- All documents and data related to STIP development and update process will be available on OutsideVDOT for MPO and non-MPO projects.
- Electronic signature will be generated for approval of supporting STIP documentation. The solution will differentiate between the approval of a STIP action and the notation of a STIP action.
- Stream lining process will position Working STIP to go through the process of becoming a LIVE STIP.

Traffic, Traveler and Road Information (TTRIP) Services Project

<table>
<thead>
<tr>
<th>Oversight and Governance Category: Category 2: High/Medium or High/Low or Medium/High</th>
<th>Investment Business Case Approval</th>
</tr>
</thead>
</table>
VDOT is seeking a supplier to provide and securely manage a cloud-based suite of traffic, travel and road information services and specialized tools through a single platform to serve a variety of stakeholders including: Internal VDOT operations centers, VDOT operators, VDOT executives, Public safety partners, Media members, Travelers, and the Connected and automated vehicle (CAV) community. The supplier will provide distribution services for designated VDOT operations-related transportation video and data generated in transportation operations and traffic engineering functions across VDOT. Distribution methods may include: Web, Mobile application (iPhone and Android), Digital voice assistant, and Automated data services or application program interfaces (APIs) of various file types.

<table>
<thead>
<tr>
<th>Planned Project Start Date: 9/1/2020</th>
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</tr>
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<td>Estimated Costs:</td>
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<tr>
<td>Estimated project expenditures second year of biennium:</td>
<td>$3,000,000.00</td>
</tr>
</tbody>
</table>

Project Related Procurements

There are no procurements for this project

Inrix Data MOU Procurement

VDOT will issue a MOU to the University of Maryland (UMD) to obtain a data subscription from INRIX (a transportation data analytics company) to support performance measures, congestion management and traveler information efforts throughout the state. Specifically, as VDOT plans to disseminate travel time information statewide, this service will provide raw data and input to the travel time engine on key roadways for this program, and serve as a validation source to assess the quality of travel times obtained from VDOT sensors. This will be a one-year MOU.
Traffic, Traveler and Road Information Program (TTRIP) Services Procurement

VDOT is seeking a supplier to provide and securely manage a cloud-based suite of traffic, travel and road information services and specialized tools through a single platform to serve a variety of stakeholders including: Internal VDOT operations centers, VDOT operators, VDOT executives, public safety partners, media members, travelers, and the Connected and Automated Vehicle (CAV) community. The supplier will provide distribution services for designated VDOT operations-related transportation video and data generated in transportation operations and traffic engineering functions across VDOT. Distribution methods may include: web, mobile application (iPhone and Android), digital voice assistant, IVR and automated data services or application program interfaces (APIs) of various file types.

Traveler Information RITIS Data Service Procurement

VDOT will issue a MOU to the University of Maryland (UMD) to obtain a data subscription from INRIX (a transportation data analytics company) to support performance measures, congestion management and traveler information efforts throughout the state. Specifically, as VDOT plans to disseminate travel time information statewide, this service will provide raw data and input to the travel time engine on key roadways for this program, and serve as a validation source to assess the quality of travel times obtained from VDOT sensors. This will be a one-year MOU.

ISYP Suite Technology Upgrade Project

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

Investment Business Case Approval

VDOT annually publishes its Six Year Program (SYP) which details construction projects on-going or planned to start within a six-year horizon. There are also other, smaller programs published by VDOT on a regular cycle. As part of managing these programs, VDOT tracks the status of projects from initial request through to construction completion. The Integrated Six Year Program (iSYP) suite of systems was built to support these processes, mostly between 2000 and 2011. The infrastructure of the systems is aged, fragile and difficult to maintain. The project objectives are to

- Upgrade operating systems to current standards.
- Update application code and integrations as necessitated by the operating system upgrades.
- Add REST endpoints for backward and forward compatibility for cloud enabled applications
- Make it mobile friendly by upgrading clients to use Angular
- Address security concerns by moving the dbo objects into separate schemas and remove embedded SQL Commands
- Increase resiliency and maintainability of the suite.

Planned Project Start Date: 10/1/2019

Planned Project End Date:
### Estimated Costs:

<table>
<thead>
<tr>
<th></th>
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<td>$500,000.00</td>
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</table>

### Project Related Procurements

There are no procurements for this project.

### EO19_VDOT SharePoint Upgrade_Replatform Project

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

**Investment Business Case Approval**

VDOT SharePoint Upgrade from SharePoint 2010. IVD/OVD/VDOTSecure items included in this Umbrella.

**Planned Project Start Date:** 8/30/2019  
**Planned Project End Date:** 12/31/2021

### Estimated Costs:

<table>
<thead>
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<td>$0.00</td>
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</tr>
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</table>

### Project Related Procurements

There are no procurements for this project.

### Facilities Maintenance Management System Project

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

**Investment Business Case Approval**

The project will automate the VDOT Facilities Maintenance Management processes for Work Orders, Annual Condition Assessment Contracting, Annual Condition Assessments, Routine Preventive and Responsive Maintenance Assessments, Annual Permit Authority, Space Planning, Maintenance Reserve, and Capital Projects using the AiM suite of applications from Asset Works. Objective is to consolidate the data in one system, help manage work orders consistently statewide, and make costs and reports accessible to Facility Managers or Central Office without extensive effort.

**Planned Project Start Date:** 7/20/2020  
**Planned Project End Date:**
### Estimated Costs:

<table>
<thead>
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<tr>
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<td>$157,076.64</td>
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</table>

### Project Related Procurements

**Facilities Maintenance Management System Procurement**

The Facilities Maintenance Management System Procurement will be a part of the Facilities Maintenance Management System Project to implement the AssetWorks AiM product in support of VDOT Facilities Management objectives to house data in one system, help manage work orders consistently statewide, and make costs and reports accessible to Facility Managers or Central Office without extensive effort.
## Stand Alone Procurements:

<table>
<thead>
<tr>
<th>Procurement Name</th>
<th>Procurement Description</th>
<th>Procurement Date</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advanced Transportation Controllers (ATC) Hardware and Firmware Procurement</strong></td>
<td>VDOT seeks to procure traffic signal system controller hardware and firmware that are compatible and consistent throughout VDOT's Operations Regions for the purpose of enhancing cross-district interoperability, establishing efficiencies in maintenance, and expanding operations of the statewide signalized arterial roadway network; and prepare for future advances in technology. The plan includes: Phase I ? Concept of Operations - COMPLETE Phase II ? Procurement of ATC Hardware &amp; Firmware - $4.5M</td>
<td>9/6/2017 Multiyear Contract</td>
</tr>
<tr>
<td><strong>Automated Fuel Management Program Software Upgrade Procurement</strong></td>
<td>AFMP Hardware and Maintenance, Software Maintenance, Training and Professional Services</td>
<td>4/1/2020</td>
</tr>
<tr>
<td><strong>Bentley Enterprise License Subscription (ELS) &amp; ProjectWise Connect Editions Subscription Procurement</strong></td>
<td>Bentley is the sole source to renew the Enterprise License Subscription (ELS) ProjectWise Connect Edition Subscription for VDOT. No other vendors can perform the specific functions required by VDOT. Bentley is the prime contractor and is responsible for maintenance of all Bentley supplied software. Bentley provides a comprehensive software support program through its Bentley SELECT Program, as well as enhanced licensing through its Enterprise License Subscription (ELS). The new contract for Bentley Enterprise License Subscription (ELS) and ProjectWise Connect Edition Subscription (PWCE) would be a 5 Year Contract (2 year term with 3 one-year optional extensions). This contract covers license, maintenance, support, upgrades, professional services, and training for all ELS eligible software owned by Bentley Systems, Inc.</td>
<td>4/1/2019 Multiyear Contract</td>
</tr>
<tr>
<td><strong>Customer Relationship Management Upgrade and Cloud Migration Procurement</strong></td>
<td>This procurement is for services to migrate the existing on-premise Customer Relationship Management (CRM) Microsoft Dynamics 2013 platform to a tenant in the VITA CRM 365 cloud. This is done in compliance with Executive Order 19 which mandates all COV systems to move out of the current commonwealth data center to a cloud environment by the end of 2021. This will also upgrade the platform to the newest version of Microsoft Dynamics CRM for extended life of the systems it houses. Three separate Virginia Department of Transportation (VDOT) systems are built on the platform: Customer Service Center System, Tort Claims System and the Constituent Tracking System.</td>
<td>6/1/2020</td>
</tr>
<tr>
<td><strong>ESRI Enterprise License Renewal FY19-21 Procurement</strong></td>
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<tr>
<td>Procurement Name</td>
<td>Procurement Description</td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>------------------------</td>
<td></td>
</tr>
<tr>
<td>VDOT utilizes ESRI ArcGIS products as its GIS platform supporting the business and citizen needs. This procurement will extend the current contract and product support for an additional three years.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Procurement Date:</strong></td>
<td>1/18/2019 Multiyear Contract</td>
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<table>
<thead>
<tr>
<th>Procurement Name</th>
<th>Procurement Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsoft Enterprise Agreement for Tolling Support Procurement</td>
<td></td>
</tr>
<tr>
<td>VDOT is renewing its infrastructure software agreement with Microsoft, which supports our underlying critical infrastructure and application software.</td>
<td></td>
</tr>
<tr>
<td><strong>Procurement Date:</strong></td>
<td>3/31/2020</td>
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<table>
<thead>
<tr>
<th>Procurement Name</th>
<th>Procurement Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsoft Enterprise Agreement Renewal FY20-22 Procurement</td>
<td></td>
</tr>
<tr>
<td>VDOT requires an industrial sized SCADA system solution to be installed at BWMT and ERMT providing a long term solution that will improve reliability, reduce risk or operator error, and can accommodate future fire life and safety projects. Features of the solution must include, but not limited to the following:</td>
<td></td>
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<tr>
<td>* Hot Standby PLC</td>
<td></td>
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<tr>
<td>* Remote Input Output Rack (RIO Rack)</td>
<td></td>
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<tr>
<td>* Uninterruptible Power Supply</td>
<td></td>
</tr>
<tr>
<td>* Human Machine Interface (HMI) Hardware and Software Workstations</td>
<td></td>
</tr>
<tr>
<td><strong>Procurement Date:</strong></td>
<td>2/1/2021</td>
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<table>
<thead>
<tr>
<th>Procurement Name</th>
<th>Procurement Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operations Technology Cybersecurity Procurement</td>
<td></td>
</tr>
<tr>
<td>The recently completed Operations Technology Cybersecurity Compliance Assessment identified opportunities to improve VDOT’s cyber security practices. This ensuing work effort is to design, implement, and sustain a security profile that facilitates compliance with Commonwealth security requirements, promotes consistency in approach, and securely enables new products and services to improve operational efficiencies. We are seeking consultant support for this effort, including the following tasks:</td>
<td></td>
</tr>
<tr>
<td>Develop an independent assessment of the recommendations and remediation plans VDOT is pursuing to improve Operations Technology (OT) Cybersecurity;</td>
<td></td>
</tr>
<tr>
<td>Design a modern network and communications security architecture capable of supporting an organization of the size and scope of VDOT;</td>
<td></td>
</tr>
<tr>
<td>Design a Security Operations Center (SOC) concept of operations including a roadmap for its implementation;</td>
<td></td>
</tr>
<tr>
<td>Design and develop an Identity and Access Management (IAM) framework of policies and technologies;</td>
<td></td>
</tr>
<tr>
<td>Develop a comprehensive organizational accountability matrix for the support of VDOT's OT environment;</td>
<td></td>
</tr>
<tr>
<td>Develop a comprehensive cybersecurity education and training program for VDOT staff responsible for the Operations Technology complex systems and technologies;</td>
<td></td>
</tr>
<tr>
<td>Develop a comprehensive Approved Product List (APL) for Operations Technology.</td>
<td></td>
</tr>
<tr>
<td><strong>Procurement Date:</strong></td>
<td>7/31/2019 Multiyear Contract</td>
</tr>
<tr>
<td>Procurement Name</td>
<td>Oracle Licenses and Support FY21-22 Procurement</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>Procurement Description</td>
<td>Oracle software Licenses and Support renewal for FY 2020 - 2022. All applications are delivering important VDOT business functionality so discontinuing use is not a viable option.</td>
</tr>
<tr>
<td>Procurement Date</td>
<td>7/1/2021</td>
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</table>

<table>
<thead>
<tr>
<th>Procurement Name</th>
<th>Plan Grid Software Procurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procurement Description</td>
<td>PlanGrid is a cloud-based construction productivity software that allows CEI staff to view digital versions of plans and contract documents, take pictures, and mark-up plans using a mobile device while on the project site.</td>
</tr>
<tr>
<td>Procurement Date</td>
<td>4/10/2020</td>
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<table>
<thead>
<tr>
<th>Procurement Name</th>
<th>Software Support for TransCore Toll System Procurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procurement Description</td>
<td>The toll collection system currently in use at the Powhite Parkway Extension facility is a proprietary toll system software product that is highly integrated with coin machines, violation enforcement, reporting / audit systems and many other lane sensors and devices necessary to efficiently collect toll payments. This tolling solution is functioning at a very high level and is fully meeting the needs of VDOT and is far from end-of-life</td>
</tr>
<tr>
<td>Procurement Date</td>
<td>4/18/2019 Multiyear Contract</td>
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</table>

<table>
<thead>
<tr>
<th>Procurement Name</th>
<th>Staff Augmentation FY21 Procurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procurement Description</td>
<td>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. (We confirm that this procurement is in accord with the Chief of Staff April 2, 2020 memorandum, which outlined a number of measures to reduce or eliminate agency spending due to the COVID-19 crisis. We have also attained all internal and external budget approvals necessary to complete this transaction.)</td>
</tr>
<tr>
<td>Procurement Date</td>
<td>7/1/2020</td>
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<table>
<thead>
<tr>
<th>Procurement Name</th>
<th>Staff Augmentation FY22 Procurement</th>
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<tbody>
<tr>
<td>Procurement Description</td>
<td>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</td>
</tr>
<tr>
<td>Procurement Date</td>
<td>7/1/2021</td>
</tr>
<tr>
<td>Procurement Name:</td>
<td>Statewide Advanced Traffic Management System (Statewide ATMS) Procurement</td>
</tr>
<tr>
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</tr>
<tr>
<td>Procurement Description:</td>
<td>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:</td>
</tr>
<tr>
<td></td>
<td>a. Replace the Legacy ATMS systems currently operating at each of the five (5) Regional Transportation Operation Centers (TOCs).</td>
</tr>
<tr>
<td></td>
<td>b. Provide functionality which will allow VDOT to sunset their VaTraffic and Lane Closure Advisory Management System (LCAMS) applications;</td>
</tr>
<tr>
<td></td>
<td>c. Integrate or interface the Statewide ATMS with or applications and/or data sources as specified by VDOT;</td>
</tr>
<tr>
<td></td>
<td>d. Provide Operations and Maintenance (O&amp;M) goods and services for the Statewide ATMS and other applications as specified by VDOT.</td>
</tr>
<tr>
<td>Procurement Date:</td>
<td>9/21/2016 Multiyear Contract</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Procurement Name:</th>
<th>VDOT Managed Print Services (Central Office and District Add On Units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procurement Description:</td>
<td>This procurement is the fourth of multiple procurements for Managed Print Services under the VITA contract VA-13045-XERX. The fourth phase involves replacing current Multifunctional Devices (MFDs) at the Central Office and purchasing 14 MFDs &amp; card readers for Salem, Culpeper and Northern VA. This phase involves a total of 131 MFDs and is expected to save VDOT nearly 641.961.60. The anticipated impression charges are being estimated at $250,000 based on previous usage. This estimated cost will be rolled into the 60 month term of the procurement.</td>
</tr>
<tr>
<td>Procurement Date:</td>
<td>8/8/2017 Multiyear Contract</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Procurement Name:</th>
<th>VDOT Managed Print Services Procurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procurement Description:</td>
<td>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. 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.</td>
</tr>
<tr>
<td>Procurement Date:</td>
<td>10/17/2016 Multiyear Contract</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Procurement Name:</th>
<th>Wide Format Plotter Lease Renewal Procurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procurement Description:</td>
<td>VDOT has a high value request for 5 year lease renewal of HP and OCE Wide Format Plotters. Estimated annual value of $450,000. New lease will utilize VITA contract numbers VA-130405-DALY and VA-130405-COBB.</td>
</tr>
<tr>
<td>Procurement Date:</td>
<td>11/22/2016 Multiyear Contract</td>
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</tbody>
</table>

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<thead>
<tr>
<th>Procurement Name:</th>
<th>AASHTOWare License Renewal FY21 Procurement</th>
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</thead>
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4/8
<table>
<thead>
<tr>
<th>Name:</th>
<th>Procurement Description:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procurement Date:</td>
<td>This procurement is for the FY21 AASHTOWare Bridge, AASHTOWare Project and AASHTOWare Pavement license renewals.</td>
</tr>
<tr>
<td>Procurement Name:</td>
<td>Crown Peak Subscription Renewal Procurement</td>
</tr>
<tr>
<td>Procurement Description:</td>
<td>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.</td>
</tr>
<tr>
<td>Procurement Date:</td>
<td>8/26/2016 Multiyear Contract</td>
</tr>
<tr>
<td>Procurement Name:</td>
<td>Data Science Center of Excellence Procurement</td>
</tr>
<tr>
<td>Procurement Description:</td>
<td>Under the direction of the Chief of Technology and Business Strategy and the Office of Strategic Innovation, the Virginia Department of Transportation (VDOT) seeks to form a team of deeply experienced data scientists and data engineers to design, develop, and sustain a Data Science center of excellence (COE).</td>
</tr>
<tr>
<td>Procurement Date:</td>
<td>12/31/2019</td>
</tr>
<tr>
<td>Procurement Name:</td>
<td>GIS Cloud Migration Roadmap Procurement</td>
</tr>
<tr>
<td>Procurement Description:</td>
<td>In order to comply with Executive Order 19 requiring COV systems to move to the cloud, VDOT plans to engage a consultant that will analyze and provide a roadmap for migrating four key groups of geospatial information systems at VDOT into the cloud: Geographical Information Systems (GIS), Roadway Network System (RNS), Comprehensive Environmental Data and Reporting System (CEDAR) and GIS Integrator. The output of the analysis will be a roadmap showing the approach to migration and comprehensive documentation of the requirements to execute the roadmap.</td>
</tr>
<tr>
<td>Procurement Date:</td>
<td>5/1/2020</td>
</tr>
<tr>
<td>Procurement Name:</td>
<td>IdeaScale Innovation Platform Procurement</td>
</tr>
<tr>
<td>Procurement Description:</td>
<td>Crowd sourcing idea management platform for VDOT staff.</td>
</tr>
<tr>
<td>Procurement Date:</td>
<td>12/30/2019</td>
</tr>
<tr>
<td>Procurement Name:</td>
<td>Maintenance and Support of Advanced Revenue Collection System at Coleman Toll Facility</td>
</tr>
<tr>
<td>Procurement Description:</td>
<td>A contract to support the maintenance and support of the Advanced Revenue Collection System at Coleman Toll Facility.</td>
</tr>
<tr>
<td>Procurement Date:</td>
<td>2/6/2018 Multiyear Contract</td>
</tr>
<tr>
<td>Procurement Name:</td>
<td>Managed Print Services Solution Fredericksburg (District, Residencies &amp; Area Headquarters) Procurement</td>
</tr>
<tr>
<td>Procurement Description:</td>
<td>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</td>
</tr>
</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>Procurement Name:</th>
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<th>Procurement Date:</th>
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<tbody>
<tr>
<td><strong>RITIS, VPP Suite and XD Archive Data Service UMD MOU Procurement</strong></td>
<td>VDOT will issue an MOU to the University of Maryland (UMD) using the I-95 Corridor Coalition contract to obtain access to the Regional Integrated Transportation Information System (RITIS) and its Vehicle Probe Project (VPP) Suite data application. UMD will also archive XD data for VDOT through the contract. This will be a one-year MOU, billed quarterly.</td>
<td>9/1/2020</td>
</tr>
<tr>
<td><strong>SingleStone for MS Dynamics CRM Platform Procurement</strong></td>
<td>This procurement is for services to maintain the suite of applications built on the Microsoft Dynamics Customer Relationship Management (CRM) platform. The application suite was built by the vendor who is the named source for this contract.</td>
<td>12/10/2018 Multiyear Contract</td>
</tr>
<tr>
<td><strong>Skillsoft Online Courseware and Library License Renewal Procurement</strong></td>
<td>The products and/or services include but are not limited to the following: BUSINESS COURSEWARE COLLECTION, COMPLIANCE LIBRARY LICENSE, DESKTOP &amp; IT VIDEOS, DESKTOP &amp; IT COURSEWARE COLLECTION, LEADERSHIP COLLECTION, LEGAL COMPLIANCE, SKILLSOFT BOOKS SUMMARIES</td>
<td>11/17/2017 Multiyear Contract</td>
</tr>
<tr>
<td><strong>Tolling Operations Software Procurement</strong></td>
<td>Purchasing licenses for tolling operations.</td>
<td>3/5/2020</td>
</tr>
<tr>
<td><strong>VDOT Managed Print Services (Hampton Residencies &amp; AHQs) Procurement</strong></td>
<td>This procurement is the tenth of multiple procurements for Managed Print Services under the VITA contract</td>
<td>6/30/2017 Multiyear Contract</td>
</tr>
<tr>
<td>Description</td>
<td>VDOT Managed Print Services (Hampton Roads) Procurement</td>
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<tr>
<td>Procurement Name</td>
<td>This procurement is the sixth of multiple procurements for Managed Print Services under the VITA contract VA-130405-XERX. This phase involves the purchase and installation of 33 Multi Functional Devices (MFDs) in the Hampton Roads District. This is a new installation and will cost $253,517.40. *Please note that monthly impression charges fluctuate month to month based on monthly print volume and the ratio of B&amp;W to Color print volume per device.</td>
<td></td>
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<tr>
<td>Procurement Date</td>
<td>6/22/2018 Multiyear Contract</td>
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<thead>
<tr>
<th>Description</th>
<th>VDOT Managed Print Services (Lynchburg) Procurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procurement Name</td>
<td>This procurement is the seventh of multiple procurements for Managed Print Services under the VITA contract VA-130405-XERX. This phase involves the purchase and installation of 66 Multifunctional Devices (MFDs) &amp; Card Readers in the Lynchburg District. *Please note that monthly impression charges fluctuate month to month based on monthly print volume and the ratio of B&amp;W to Color print volume per device.</td>
</tr>
<tr>
<td>Procurement Date</td>
<td>8/1/2018 Multiyear Contract</td>
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<table>
<thead>
<tr>
<th>Description</th>
<th>VDOT Managed Print Services (Northern VA, Culpeper, Bristol) Procurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procurement Name</td>
<td>This procurement is the second of multiple procurements for Managed Print Services under the VITA contract VA-130405-XERX. The second phase involves replacing current Multifunctional Devices (MFDs) at the AHQs and Residences 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. 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.</td>
</tr>
<tr>
<td>Procurement Date</td>
<td>6/15/2017 Multiyear Contract</td>
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<thead>
<tr>
<th>Description</th>
<th>VDOT Managed Print Services (Richmond District) Procurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procurement Name</td>
<td>This procurement is the eleventh multiple procurements for Managed Print Services under the VITA contract VA-130405-XERX. This phase involves the purchase and installation of 77 Multi Functional Devices in the Richmond District. This is a new installation and will cost $999,495. There are 2 purchase orders attached showing the cost of the original 49 devices for $648,547.80 + the additional 28 devices for $344,947.20. *Please note that monthly impression charges fluctuate month to month based on monthly print volume and the ratio of B&amp;W to Color print volume per device.</td>
</tr>
<tr>
<td>Procurement Date</td>
<td>11/26/2018 Multiyear Contract</td>
</tr>
</tbody>
</table>

| Description | VDOT Managed Print Services (Salem) Procurement |

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<thead>
<tr>
<th>Name:</th>
<th>Procurement Description:</th>
<th>Procurement Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VDOT Managed Print Services (Staunton) Procurement</strong></td>
<td>This procurement is the fifth of multiple procurements for Managed Print Services under the VITA contract VA-13045-XERX. This phase involves replacing 69 Multifunctional Devices (MFDs) &amp; Card Readers and the purchase of 550 Cirrato licenses at the Area Headquarters and Residences of Staunton. The 69 devices from Xerox will cost VDOT $9,898.20 for a monthly savings of $8,015.09 and a total estimated five year savings of $480,905.40. <em>Please note that monthly impression charges fluctuate month to month based on monthly print volume and the ratio of B&amp;W to Color print volume per device.</em></td>
<td>6/1/2018 Multiyear Contract</td>
</tr>
<tr>
<td><strong>VDOT Production Center Upgrade</strong></td>
<td>The VDOT Production Center provides high-quality printing, scanning, photographic development and large-format reproduction services for the agency. This includes printing books, manuals, presentations, advertising copy, annual reports, contracts and bid documents. This purchase order is issued under and will be governed by the pricing and terms and conditions of VITA Contract # VA-130405-XERX; for which Xerox will install and support the leased equipment and any software needed to manage the equipment. ITD will not be involved in the implementation, are not providing resources for this, and it will not require VDOT project manager oversight. This equipment incorporates advanced technology that will allow the agency to produce better quality documents and support services more efficiently while saving the agency an estimated $13,000 per year</td>
<td>7/10/2017 Multiyear Contract</td>
</tr>
</tbody>
</table>