

INFORMATION TECHNOLOGY

DESCRIPTION

The Department of Information Technology’s mission is to deliver technology solutions that serve the Henrico community through modern, secure, and reliable systems and applications. The department strives to deliver all solutions it provides with the core values of customer service, communication, collaboration, being a trusted partner, integrity, accountability, reliability, and fiscal responsibility at the forefront. Services provided include but are not limited to: information and office automation equipment selection, application development and/or software selection assistance, ongoing hardware and software maintenance, and data and telecommunications network development and support. Major areas of service include Finance, Community Development/Operations Agencies, Human Resources, and all Public Safety agencies. IT’s Help Desk aids agency personnel on any computer related problems.

The Department also administers and maintains the County’s security cameras, audio-visual systems, and telecommunications infrastructure including telephone systems, mobile devices, and the voice and data plant. In addition, the Department is responsible for the maintenance and support of the Emergency E-911 system for Public Safety and the management of the County’s Geographic Information System (GIS).

OBJECTIVES

- To provide enterprise server based computer capabilities to County agencies.
- To assist County agencies in increasing efficiency and effectiveness through the use of advanced technological tools for administrative and field operations.
- To provide application development and/or software selection services.
- To maintain operational efficiency through the use of state-of-the-art equipment and software.
- To administer the Department's information technology resources in a manner that best serves the County's operational and customer service needs.
- To maintain the highest level of proficiency of staff in all areas of technical support.

FISCAL YEAR 2020 SUMMARY

Annual Fiscal Plan

Description	FY18 Actual	FY19 Original	FY20 Approved	Change 19 to 20
Personnel	\$ 9,729,785	\$ 10,323,201	\$ 10,576,034	2.4%
Operation	3,772,304	4,312,806	4,752,881	10.2%
Capital	704,964	522,215	522,215	0.0%
Total	<u>\$ 14,207,053</u>	<u>\$ 15,158,222</u>	<u>\$ 15,851,130</u>	<u>4.6%</u>
Personnel Complement*	97	98	98	0

PERFORMANCE MEASURES

	<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>Change 19 to 20</u>
Workload Measures				
Support Desk - Tickets	8,859	9,744	10,719	975
Support Desk - Call Queue	6,322	6,954	7,649	695
Systems - Servers Added	13	9	6	(3)
Systems - Servers Decommissioned	56	61	26	(35)
Systems - On Prem Storage (TB)	318	322	351	29
Systems - Cloud Storage (TB)	6.5	8.2	10.8	2.6
Systems - Accounts Created	1,270	1,305	1,395	90
Systems - Accounts Deleted	1,278	1,325	1,375	50
DBA - Active Databases	420	450	475	25
Oracle - Change Requests/Projects Completed	173	185	205	20
Oracle - Database Supports	18	22	27	5
APEX - Support Tickets	120	135	155	20
Enterprise Applications - Support Tickets	675	770	895	125
Finance Applications - Oracle Support Tickets	2,135	2,280	2,405	125
Finance Applications - RCS Support	293	315	335	20
Finance Applications - RBS Support	895	910	960	50

OBJECTIVES (CONTINUED)

- To host and support various enterprise applications, including email and Internet connections, to all County agencies.
- To monitor, maintain, and upgrade the County’s local and wide area network (LAN/WAN) as efficiently and effectively as possible.
- To manage GIS technology to enhance coordination of Community Development services among County departments.
- To provide the County with an efficient and dependable telecommunications network.
- To administer, maintain, and enhance the County’s security camera and audio-visual systems.

BUDGET HIGHLIGHTS

The Department of Information Technology’s (IT) FY2019-20 approved budget totals \$15,851,130, which represents an overall increase of \$692,908 or 4.6 percent from the previous approved budget. This increase was partially driven by the personnel component, which increased by \$252,833 or 2.4 percent. This increase reflects revised salaries and rising health care costs.

The operating component totals \$4,752,881 for the FY2019-20 budget and reflects an increase of \$440,075 or 10.2 percent from the previous fiscal year. This component includes a number of adjustments. The first adjustment of \$250,000 was made to the computer software account in order to accommodate the annual maintenance of the new Enterprise Land Management System (ELMS – Computronix POSSE). Other operational budget increases included growing software maintenance costs for Oracle eBusiness Suite - \$25,570, QTS Disaster Recovery Expansion -\$19,200,

Information Technology

Microsoft Enterprise Agreements - \$63,000, ESRI/GIS Enterprise Agreement - \$34,000, and other miscellaneous software - \$48,305. The capital component remains constant, totaling \$522,215, which will allow for the purchase of new and replacement computer equipment as well as furniture replacement needed for the department.

IT SYSTEM ENGINEERING TEAM

In FY2018-19, the **IT System Engineering Team** continued to expand and upgrade its server environment. During this time period, IT's server infrastructure consisted of 52 physical servers and approximately 330 virtual servers running on 26 physical host servers. County enterprise onsite storage was reduced by 16% (60TB) for a total of 318TB of data on-premise. This reduction was due in large part to changes in enterprise backups and other related storage infrastructure data handling efficiencies. Cloud storage grew by 3% totaling 6.5TB of data in Office 365. Additionally, IT generated 1,272 new employee accounts and deleted 1,281 accounts, 39 accounts were transferred to other departments and 43 accounts with name changes during this same timeframe.

IT continues to expand its formal Disaster Recovery (DR) capabilities at the 3rd party co-location company, located within Henrico County. Henrico General Government and Henrico Public Schools IT agreed to share collocated space, as they do at the main Henrico data center, and increased the County's overall footprint at the facility. This provides greater DR capabilities for the entire County to bring up not only critical Public Safety and business operations, but also K-12 educational resources, applications and services at reduced capacity should there be a long-term event impacting the main data center facilities.

IT DATABASE TEAM

The **IT Database Team** continued to support over 420 databases on more than 50 servers on both the Microsoft and Oracle database platforms. The DBA team also focused on upgrading or migrating approximately 12 legacy databases from unsupported database platforms to newer, supported versions.

IT ORACLE EBUSINESS TEAM

The **IT Oracle eBusiness team** continues to upgrade and enhance the Oracle Database Appliance (ODA) infrastructure. Three new ODA's were purchased and installed in FY19. They have proven to provide a measurable 30% boost in performance across all Oracle systems and transactions. Also, Henrico's Oracle Application Express (APEX) and legacy application infrastructure was migrated to Tomcat and REST data services. This year the PCard module was developed for Finance to automate processing and reconciliation of purchasing credit card type transactions. Several new interfaces were developed for Oracle payables, including the Benefits' 457 Deferred Compensation plan and Schools' timecard systems, among others. In calendar year 2019, PMT2 plans to develop several mobile friendly applications using APEX and Oracle EBS. The department is also planning on rolling out web modules, developed using APEX, which would augment current iRecruitment functions with the intent to ultimately replace iRecruitment with a custom, user-friendly APEX application. In addition, the team is working on a project to migrate 7,000+ HCPS monthly payroll employees into shorter payroll cycle. Also, the configuration and implementation of the iExpense module for automated expense reporting and reimbursement both begin in earnest.

IT FINANCE SUPPORT TEAM

The **IT Finance Support Team** worked with the Treasury Division to implement a new Cashier System in February 2018 and completed a number of development tasks which automated a number of manual processes or otherwise improved user access to data in 2018. In 2019, the team will be working with the Department of Finance to upgrade the existing Real Estate CAMA system (Vision); which has not been upgraded since originally implemented in 2011,

Information Technology

and also will be completing the implementation of a new Delinquent Tax Collections module. There is also an Oracle Financial enhancement, which is currently pending final approval that will be implemented. In addition to providing development and troubleshooting support for a majority of the applications utilized by the Department of Finance; PMT9 is responsible for the following critical processes: all Tax Billings, annual Business License Renewal form generation, annual Real Estate Assessment Notice generation, annual roll forward of the tax billing system for the next tax year, the annual roll forward of the CAMA system to the new tax year, and the annual fiscal year-end / year-begin processes for Oracle Financials.

IT NETWORK/TELECOM TEAM

In FY2018-19, the **IT Network/Telecom Team** completed the migration of all network and VoIP infrastructure to the county's new, modern data center. Also, 2018 saw an upgrade to the County's wireless LAN controllers, Internet-edge routers, and Internet-edge firewalls. In addition, all remote-site WAN routers were replaced and upgraded to Cisco Meraki equipment, which will ease configuration management, improve network visibility, and increase security. At HCPL, many of the same Internet-edge equipment upgrades also occurred. However, the library Internet service was upgraded to a larger, faster connection with a change in Internet Service Provider. A considerable part of this project was a re-IP addressing of the HCPL address space. This re-IP addressing project will considerably ease Internet Service Provider upgrades for HCPL in the future, allowing more flexibility and fluidity in choosing providers.

IT WEB TEAM

The **IT Web Team's** major focus for the year was on mobile connectivity, but their projects also included the launch of several updates and new sites. The primary focus was on a native mobile application developed for iOS and Android as another tool for users to access various County services, events, news, and locations. This app is expected to launch in early 2019. The team also worked with multiple IT teams assisting with their mobile web development, including real estate information and other products. The team updated the Comments system and the Building Inspection Scheduler with the web branding introduced in 2016 and incorporated mobile responsiveness. A re-platforming project also began, starting with IT's largest site, **henrico.us**. These server updates increase security, reliability, and performance. Design resources on the web team also helped with forming a brand for IT. In direct work with County HR, the Web Team also helped to launch **power.henrico.us**, a new resource site for the county's wellness initiative. Updates were also made to the Employee portal for HR's newsletter, the "County Connection," to assist with the ease of publishing and consuming of news and events around Henrico.

OFFICE 365 TEAM

The **Office 365 Team** launched a Governance document focusing on the future of Office 365 use in the County. The team also increased reach into several new departments and helped spur adoption to other Office 365 tools like OneDrive and SharePoint. Another major focus has been on the redevelopment of Henrico Government's intranet, and the migration to SharePoint from traditional, static web pages. This project will allow employees to reach Intranet resources from anywhere on any device, provide a fresh new look to content, as well as a new organizational structure modeled after the public website (**henrico.us**) focusing on services offered. Finally, a new training and adoption initiative was launched called "Office Hours" that is an open meeting session every Wednesday and Thursday for employees to drop by and have questions answered in a very informal setting.

FILENET TEAM

The **FileNet team** launched several major updates to their FileNet, Navigator, and Kofax applications, including a system re-platform, database upgrade, and core software upgrades. These upgrades will include new features and

Information Technology

enhanced security to County staff and systems using FileNet. The team also worked on several new projects for various agencies around the County. Two of these projects that stand out include a Fire personnel project, as well as a process for data migration from Henrico Department of Social Services (HDSS) to Virginia Department of Social Services (VDSS) systems.

IT HELP DESK

The **IT Help Desk** provides tiered technical support for County-owned hardware and software. The support is provided via telephone and deskside visits from technicians. During FY2017-18, the Help Desk received 8,859 tickets via the Kace ticketing system, while also handling 6,322 phone calls for support. This ticket volume represents a 10.8% uptick in the number of tickets received and supported. In addition, the average of 738.25 tickets per month does not include other departmental queues such as General Services or Recreation & Parks. In 2018, the IT Help Desk continued as primary IT support for the four locations of CRWP in Henrico, Richmond, and Chesterfield.

IT SECURITY TEAM

The **IT Security Team** substantially enhanced the county's security posture, both physically and virtually, in 2018. The team started participating in MS-ISAC, the Multi-State Information Sharing and Analysis Center. MS-ISAC's primary mission is to share and provide guidance to improve IT's cybersecurity posture with focused cyber threat prevention, protection, response, and recovery. In addition, the internet-edge firewalls and email security were upgraded to take advantage of Cisco Talos, industry-leading threat intelligence. In addition, the Network/Telecomm Team substantially improved the physical security throughout the county by replacing 65 problematic cameras with new IP/digital cameras. 162 new IP/digital cameras as well as adding to the visual security system for a total of 227 cameras added/replaced to the system in 2018. Lastly, and most importantly, the Security Team was augmented by the hiring an additional **IT Security Analyst**, the County's first in this newly created position.

IT ORACLE APPLICATION EXPRESS (APEX) TEAM

The **IT Oracle Application Express (APEX) Team** developed and implemented new in-house solutions for Finance and General Services. These include web access to the Property Cards through the Real Estate Property Information system and a new Real Estate Hotel Assessments system for Finance. IT collaborated with General Services and Schools to implement a Utility bill tracking system and data interfaces for the new energy management system, EnergyCAP. The APEX Team continued supporting forty-five production applications used by every agency in the County at a rate of over 18 million page-views a year. New systems planned for 2019 include the Real Estate Shopping Center Assessments System for Finance, VoIP phone inventory system for Information Technology, and IDDE (Illicit Discharge Detection and Elimination) tracking system for Public Works.

IT ENTERPRISE APPLICATION TEAM

The **IT Enterprise Application Team** received County Board of Supervisors approval on October 23, 2018 to purchase a new land management system from Computronix (USA), Inc. This enterprise project will primarily involve the Community Development and Community Operations agencies and the Division of Fire. Project kick-off is scheduled for January 2019. The Enterprise Application team completed all pre-preparation actions requested by the vendor. During the year, the team replaced the County's interactive reporting software and Building Inspection's IVR with a new cloud-based system that will also be utilized by the new land management system. The Enterprise Application Team, in collaboration with the APEX Team, replaced the manual process of updating parcel information from both Real Estate and GIS with a new automated process that now runs daily for continuous, up-to-date information in the current land management system.

IT PROJECT MANAGEMENT OFFICE (PMO)

The **IT Project Management Office (PMO)** selected a Project Management Information system for tracking the work and progress of projects. The new system is currently being used by Information Technology and several other departments throughout the County. The IT PMO has been formally managing the Group Homes project, and they will be the principal on the Enterprise Land Management Systems (ELMS) project, which implementation begins in earnest in January 2019.

IT PUBLIC SAFETY TEAM

The **IT Public Safety Team** implemented the TRAX application which allows the Police Division to receive, assign, monitor, and review complaints. Traffic, the first phase, is currently being used in the Traffic Enforcement section with limited use by the entire division. The eTicket application used to create Virginia Uniform Summons (VUS) continues to be rolled-out to patrol officers as printers are installed in the vehicles. Also, the team implemented an automated Audio Request system for the Police Division. The system allows the copy retention request to be made by the police officer during the ICR creation phase and Emergency Communications notified of the need to provide the 911 call recording. To enhance the collaboration between Public Safety agencies, the team took over the IT project management support of Juvenile Detention. The team continues to assist the Sheriff's Office with the purchase and replacement of the aging Jail Management System (JMS).

IT COMPUTER AIDED DISPATCH TEAM

The **IT Computer Aided Dispatch Team** made numerous enhancements to the Cad24x7 system during the past year. These include an interface to the Priority Dispatch Emergency Medical Dispatch program, **ProQa**. ProQA provides the dispatcher with a proven set of interview questions for emergency medical calls. This allows detailed classification of each call into one over 1,800 categories. The Cad24x7 system was enhanced to both interface with the ProQA program and to take advantage of the additional information ProQA provides in order to provide customized unit recommendations and response patterns according to the needs expressed by the Division of Fire. This includes several time-triggered response patterns which may cause units to be added to a recommendation or low priority calls to be held for limited time-periods depending upon unit availability and/or projected ETA's. Also, in 2018, a new unit category was added to CAD24x7 to handle the new Fire Ambulance program which involves a group of basic life support (BLS) ambulances manned by Fire personnel. The Cad24x7 system is now capable of recognizing these units and targeting specific low-priority EMS calls for their response. Thereby reserving advanced life support ambulances for higher acuity 911 calls. Also, in the 4th quarter of 2018 a much-awaited call location technology became available as both Apple and Google began to share cell phone locations on 911 calls thru a cloud-based repository called the NG911 Clearinghouse -- which is provided by a company called **RapidSoS**. The CAD team recognized the transformative import of this development and was quick to create an interface for the Cad24x7 system. Now more precise cell phone locations are provided for many 911 calls and are plotted on the public safety maps – both in the 911 center and via MDT's. In addition, in 2018 the CAD team made great strides towards the modernization of the CAD system in terms of replacement of several programs with new technology and over hauling development methodologies all aimed at achieving a continuous-development and continuous-deployment capability.

IT GIS OFFICE

The **IT GIS Office** has had several major accomplishments during the past year. They provided customized in-house developed and taught GIS training classes for both ArcMap (the ESRI desktop mapping program for GIS superusers) and AGOL (ArcGis OnLine or “GIS for the rest of us”). The classes were a great success with over 70 attendees representing 17 different County departments. Also, in 2018 the GIS Office worked to renew our enterprise license (ELA) agreement with ESRI. This provides access to a full complement of GIS software from ESRI, the world leader in GIS software solutions. The GIS Office has hired a GIS Analyst dedicated to Public Safety and during 2018 has undertaken numerous Public Safety oriented projects including revised SRA’s, fire accreditation support, enhanced GIS support for EOC operations, NG911 preparation, and enhanced support for RIR races and severe weather events. Many new web apps were deployed including a redesigned GIS Public web page, the LEED Story Map, building permits, Henrico buildings story map, Highland Springs story map, planned road closures, online floodplain lookup, and walking routes story map. Finally, the GIS Office continued to provide a dedication to data quality, completeness and integrity via such projects as an intersection data improvement, completed street centerline QA/QC, a Rec & Parks Data model and the adoption of a KACE based project initiation process.

IT FIRE APPLICATIONS GROUP

The **IT Fire Applications group** has had several accomplishments during 2018, including three version updates to the FireRoster system, a commercial hazard assessment application, a Cancer Risk Exposure tracking application, and enhancement to the Fire Forms online project to include permits (to be delivered in early 2019).

SUPPORT FOR COMMUNICATIONS CENTER

IT provides in-center support for Henrico’s Emergency Communications (E-911) center. This involves a dedicated on-site IT employee, who is an integral part of the day-to-day success of many aspects of the E-911 center and provides support for the E-911 telephone system and the voice recording system, both of which are vendor provided systems. In 2018 a Text-to-911 capability was added to the E-911 telephone system, which went live regionally in June. This additional capability also required an upgrade to the NICE voice recording system. Additionally, on-site IT staff was deeply involved in a user interface upgrade for the E-911 phone system in March. The E-911 phone system provides a shared failover capability with the City of Richmond, and IT staff have worked diligently to ensure optimal performance and reliability.