

# INFORMATION TECHNOLOGY

## Description

The Department of Information Technology is responsible for serving all computer-oriented information processing needs of County agencies. This includes 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. The computer center now operates twelve hours a day, five days a week. 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 and audio-visual, 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 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.
- 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.

## Annual Fiscal Plan

Description	FY17 Actual	FY18 Original	FY19 Proposed	Change 18 to 19
Personnel	\$ 9,475,534	\$ 9,994,002	\$ 10,401,201	4.1%
Operation	3,708,599	4,052,806	4,234,806	4.5%
Capital	280,490	522,215	522,215	0.0%
<b>Total</b>	<b>\$ 13,464,623</b>	<b>\$ 14,569,023</b>	<b>\$ 15,158,222</b>	<b>4.0%</b>
 Personnel Complement	 91	 97	 98 *	 1

\*A Network/Telecomm Administrator I position was added to manage Public Utilities' SCADA system. IT will be reimbursed by Public Utilities for the cost of this position

<b>Performance Measures</b>				
	<b>FY17</b>	<b>FY18</b>	<b>FY19</b>	<b>Change 18 to 19</b>
<b>Workload Measures</b>				
Support Desk - Tickets	4,615	7,894	9,215	1,321
Support Desk - Call Queue	-	5,880	6,532	652
Systems - Servers Added	60	47	53	6
Systems - Servers Decommissioned	30	33	35	2

- 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.

the subtraction of \$78,000 for the reimbursement IT will receive from DPU for the database administrator. 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.

**Budget Highlights**

The Department of Information Technology's (IT) FY2018-19 proposed budget totals \$15,158,222, which represents an overall increase of \$589,199 or 4.0 percent from the previous approved budget. This increase was partially driven by the personnel component, which increased by \$407,199 or 4.1 percent. This increase reflects salary increases and rising health care costs. The proposed budget also includes an additional IT Network/Telecomm Administrator I within IT's complement that will assist the Department of Public Utilities (DPU) with their new upgrade SCADA system. However, this position will be reimbursed by DPU through an interdepartmental billings account with IT's operating budget, offsetting the increase in personnel.

During FY2017-18, the **IT System Admin Team** will continue to expand and upgrade its virtual server environment. Currently IT has approximately 375 virtual servers running on 23 physical host servers. IT successfully migrated most of the virtual server workload to a new blade-based, converged infrastructure platform reducing both the number of servers needed as well as the associated power and cooling requirements. The County also has further reduced the number of physical servers from 85 to 50 during this past year as workloads were either virtualized or retired. County enterprise storage onsite grew by 13% to a total of 451TB of data on premise, with an additional 6.3TB of data in the Cloud (Office 365).

The operating component totals \$4,234,806 for the FY2018-19 budget and reflects an increase of \$182,000 or 4.5 percent from the previous fiscal year. This component includes three adjustments. The first increase of \$200,000 was made to the computer software account in order to accommodate increasing software maintenance costs for Oracle eBusiness Suite, OTS Disaster Recovery Expansion, Microsoft Engine Agreement, Applaud Software, and other miscellaneous software. The second adjustment of \$60,000 is for training for IT personnel. The third is

IT continues to expand its formal Disaster Recovery (DR) capabilities at the 3rd party co-location company, located within Henrico County. IT now has greater capability to bring up critical Public Safety and County business applications and services at reduced capacity should there be an event impacting the main data facilities.

The IT Database Team has successfully moved 100% of the 346 supported SQL Server databases to virtualized servers running Microsoft SQL Server 2012, 2014, and 2016. These versions of SQL Server are expected to be supported by Microsoft for the next 5 years for SQL 2012, 7 years for SQL 2014, and 9 years for SQL 2016. All Police reporting systems, Computer Aided Dispatch, the Sheriff's Office Medical Service, GIS, Libraries, and Circuit

## *Information Technology (cont'd)*

Court Land Record databases (as well as major portions of Finance's RBS databases) are now running in a high availability architecture at multiple facilities including the new DR site. This architecture allows one facility to suffer a catastrophic anomaly but permits the databases to continue to operate.

The **IT eBusiness Oracle Team** continues to improve the County's Oracle Infrastructure. The purchase and deployment of Oracle Database Appliance (ODA) is continuing to show significant return on investment for Oracle database and applications environments. This year IT has developed several new web applications for a faster and paper free procurement card verification and Bid log system meant to expose the RFP/RFI information to public in real time. IT will continue to look into developing mobile friendly applications for Oracle eBusiness suite. In 2018, IT will work on upgrading the ODA infrastructure with newer, faster and better machines. IT will also be working on upgrading Oracle applications to release 12.2, this new release will bring in mobile new compatible applications and provide a new mobile look and feel.

The **IT Finance Support Team** worked with the Treasury Division to successfully launch Henrico's first eBill Presentment to citizens available for the 2<sup>nd</sup> installment billing of taxes in November 2017. They also launched the County's initial PCARD program in a joint effort with the Accounting Division and the IT eBusiness Oracle Team in November 2017. Other initiatives being worked on for 2018 include implementing a new Cashier System and Delinquent Tax Collections module along with various development work to upgrade technology being utilized for various business processes within the Department of Finance.

In FY2016-17, the **IT Network/Telecom team** completed the migration of all Library locations' data connections from legacy Verizon TLS to Comcast ENS, which resulted in an excess of \$40,000 annual savings for like services. An upgraded network connection was added to the DR site to increase data replication needs. Information Technology continues to maintain and operate the County's visual security infrastructure. These systems are being migrated from legacy analog stand-alone systems to IP-based digital systems when funding is available or priorities dictate. Information Technology has built an entire new fiber-optic backbone for the WGC complex, which will be utilized to connect the campus to the County's new Data Center. Also, Information

Technology has recently completed a refresh of 94 aging wireless access points at various locations throughout the County with more advanced devices. This wireless refresh will enhance the County's wireless capabilities and footprint dramatically.

The **IT Web Team** was involved in two major projects in the last year, a rebranding effort and the launch of a new search engine for henrico.us. Four applications received a visual overhaul this year to match the redesign of henrico.us launched in 2016. With this redesign, these applications also received their first mobile user interfaces for better use on devices like smartphones and tablets (which makes up 40% of the County's web traffic). A new search engine tool was launched due to Google's exit from the paid site search market. This new tool provides enhanced technology on both the user and administrative side, with constant improvements and search refinements.

The **Office 365 team** continued to work on governance and administration, while also onboarding several departments into Office 365, including some of the largest departments in the County. The team also shifted in support for just SharePoint to looking at Office 365 as an entire tool. New sites and projects were launched to assist several departments with new collaboration methods, significant time savings in previous workflows, and active use of multiple Office 365 tools.

Both the Web and Office 365 teams worked with the Heroin Task Force to implement a new website and collaborative environment. The Web team worked with HCPS and interns to develop BounceBackHC.com, a website for addiction resources in Henrico County. The Office 365 team worked with the task force to create a SharePoint team site to aid in collaboration, communication, and scheduling.

The **FileNet team** launched a major update to their web interface, migrating to the Navigator platform. They also implemented several new projects for various agencies around the County.

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 FY2016-17, the Help Desk received more than 6,100 tickets via the Kace ticketing system. The average of 508.3 tickets per month does not include other departmental queues

## *Information Technology (cont'd)*

such as General Services or Recreation & Parks. In 2017, the IT Help Desk began supporting the four locations of CRWP in Henrico, Richmond, and Chesterfield.

The **IT Oracle Application Express (APEX)** development team delivered five new in-house applications for four different agencies. These include the Customer Tracking for the Permit Center, Liquid Haul Waste and Lien Tracking for Public Utilities, Vacant House tracking for Community Revitalization, and the Card Access Request Tracking for General Services. IT APEX development team upgraded the Dog Licensing system to allow citizens to purchase lifetime licenses starting in November of 2017. The IT APEX Development team supports over forty APEX applications used by every agency in the County at a rate of 13.5 million page views a year. New systems in the works for the IT APEX Development team includes Real Estate Commercial Assessments tracking for Finance, VoIP phone inventory system and an expanded application portfolio and equipment management system for Information Technology.

The **IT Community Development & Services Team**, in collaboration with Purchasing and the Enterprise Land Management System (ELMS) Committee, conducted in-depth evaluation of three potential vendor products selected from RFP responses. The ELMS Committee expects to make a recommendation to the Board of Supervisors during the first or second quarter of 2018. In addition, the team supports seven commercial-off-the-shelf systems and numerous APEX applications, interactive reports, and Crystal Reports. The team created a Project Management Office, hiring an experienced Project Manager to streamline project development and system implementation for Information Technology and the County.

The **IT Public Sector Reporting Team** implemented the Chronic Offender Program (COP) which allows the Police Division to see details on specific repeat offenders. Chronic Offenders are identified based on decay rates for incidents/arrests and the values assigned to specific offenses. Additionally, locations are similarly scored to assist the Police Division in identifying locations with repeated crimes. The team implemented an automated court check-in system for the Police Division. The system replaces an old paper system and enables officers to sign in and out of court electronically. This assists court staff in confirming officers scheduled for court have arrived.

To assist with collaboration between Public Safety agencies, the team took over the IT project management support of the Sheriff's Office. The team is assisting the Sheriff's Office with the purchase and replacement of the aging Jail Management System (JMS).

The **IT Computer Aided Dispatch Team** made numerous enhancements to the Cad24x7 system during the past year. These include interfacing the CAD system with the County's new fire alerting system which has enabled the automation of dispatches for Fire and EMS calls, fire unit station transfers and display of unit status information and on-map call visualization on in-station monitors. The creation and integration with CAD of the Smoke Alarm Initiative system. The implementation and integration with CAD of the Fire Passport fire fighter safety and accountability system. The implementation of a single Public Safety map application to replace three individual maps. The creation of an automated methodology to assist with the creation of new fire districts based upon GIS routing technology.

The **IT GIS Office** has had several major accomplishments during the past year. Highlights include: data preparation work for NG911 to make Henrico's roadway network function seamlessly with that of surrounding jurisdictions; creating of new training curriculum and classes for ArcMap for internal County GIS users; implementation of a new Sharepoint based internal website for the GIS office; and initiation of a new quarterly GIS newsletter for internal GIS users.

**IT Fire Division support** for custom information systems includes the Fire Roster system, the Smoke Alarm Initiative system and the Fire Passport system. Additional custom in-house applications are currently under development and will be implemented in the coming year.

**IT also supports the E-9-1-1 telephone system** and the voice recording system both of which are used in the 9-1-1 Emergency Communications center and both vendor-provided systems. Both also required technology upgrades during 2017. IT's role was in the project management aspects of the upgrades which involved planning, coordination and control. The project was successfully concluded earlier this year. The 9-1-1 telephone upgrade involved a multi-node implementation with the City of Richmond which will provide a very robust backup capability

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for both jurisdictions. Most recently the 9-1-1 telephone system has added a Text-to-9-1-1 capability which is planned for region wide rollout in early 2018.



**Department Operating Budget  
Henrico County, Virginia  
FY2018-19  
INFORMATION TECHNOLOGY**

Account Description	Prior Year Actual	Approved Budget	Proposed Budget	Dollar Inc/Dec	Percent Inc/Dec
50100 Full-Time Salaries and Wages - Regular	7,257,525	7,736,666	8,004,611	267,945	3.5%
50101 Full-Time Salaries and Wages - Overtime	6,972	6,600	6,600	0	0.0%
50104 Temporary Salaries and Wages - Regular	13,900	0	0	0	0.0%
50108 Hybrid Disability Prgm (Prev Wage Adj)	4,030	0	9,449	9,449	100.0%
50109 Vacancy Savings	0	-184,033	-194,322	-10,289	-5.6%
50110 FICA	538,153	584,445	609,156	24,711	4.2%
50111 Retirement VRS	896,686	1,006,540	1,063,813	57,273	5.7%
50112 Hospital/Medical Plans	668,459	740,886	797,034	56,148	7.6%
50113 Group Insurance - Life (VRS)	89,809	102,898	104,860	1,962	1.9%
50209 Other Professional Services	213,125	202,000	202,000	0	0.0%
50210 Maintenance and Repairs	9,624	15,000	15,000	0	0.0%
50211 Maintenance Service Contracts	160,394	216,669	216,669	0	0.0%
50213 Maintenance Service Contracts- Computers	350,485	345,589	345,589	0	0.0%
50220 Lease/Rent Of Equipment	25,851	21,132	21,132	0	0.0%
50270 Other Contractual Services	47,823	41,296	41,296	0	0.0%
50310 Automotive/Motor Pool	15,567	14,474	14,474	0	0.0%
50410 Postal Services	35	100	100	0	0.0%
50412 Telecommunications	756,235	771,260	771,260	0	0.0%
50430 Mileage	25	700	700	0	0.0%
50431 Education and Training	13,891	9,700	69,700	60,000	618.6%
50450 Dues And Association Memberships	492	500	500	0	0.0%
50453 Freight Charges	90	100	100	0	0.0%
50455 Tuition	2,790	3,500	3,500	0	0.0%
50500 Office Supplies	67,954	100,000	100,000	0	0.0%
50512 Books and Subscriptions	59	300	300	0	0.0%
50514 Other Operating Supplies	-3	0	0	0	0.0%

<b>Account Description</b>	<b>Prior Year Actual</b>	<b>Approved Budget</b>	<b>Proposed Budget</b>	<b>Dollar Inc/Dec</b>	<b>Percent Inc/Dec</b>
50521 Computer Software	2,044,162	2,310,486	2,510,486	200,000	8.7%
50805 Computer Equipment-New \$5000 and Over	33,306	86,100	86,100	0	0.0%
50812 Furniture and Fixtures-New Less Than \$5000	9,298	15,000	15,000	0	0.0%
50813 Telecommunications Equipment-New Less Than \$5000	-7	0	0	0	0.0%
50815 Computer Equipment-New Less Than \$5000	73,889	91,450	91,450	0	0.0%
50825 Computer Equipment-Replacement \$5000 and Over	164,024	329,665	329,665	0	0.0%
50833 Telecommunications Equipment-Replacement Less Than \$5000	-20	0	0	0	0.0%
50911 Interdepartmental Billings	0	0	-78,000	-78,000	-100.0%
<b>Total Department</b>	<b>13,464,623</b>	<b>14,569,023</b>	<b>15,158,222</b>	<b>589,199</b>	<b>4.0%</b>



**Operating Line Item Budget By Cost Center**  
**Henrico County, Virginia**  
**FY2018-19**  
**INFORMATION TECHNOLOGY**

Cost Center	Prior Year Actual	Approved Budget	Proposed Budget	Dollar Inc/Dec	Percent Inc/Dec
<b>19001 Information Technology</b>					
50100 Full-Time Salaries and Wages - Regular	7,257,525	7,736,666	8,004,611	267,945	3.5%
50101 Full-Time Salaries and Wages - Overtime	6,972	6,600	6,600	0	0.0%
50104 Temporary Salaries and Wages - Regular	13,900	0	0	0	0.0%
50108 Hybrid Disability Prgm (Prev Wage Adj)	4,030	0	9,449	9,449	100.0%
50109 Vacancy Savings	0	-184,033	-194,322	-10,289	-5.6%
50110 FICA	538,153	584,445	609,156	24,711	4.2%
50111 Retirement VRS	896,686	1,006,540	1,063,813	57,273	5.7%
50112 Hospital/Medical Plans	668,459	740,886	797,034	56,148	7.6%
50113 Group Insurance - Life (VRS)	89,809	102,898	104,860	1,962	1.9%
50209 Other Professional Services	213,125	202,000	202,000	0	0.0%
50210 Maintenance and Repairs	9,624	15,000	15,000	0	0.0%
50213 Maintenance Service Contracts- Computers	350,485	345,589	345,589	0	0.0%
50220 Lease/Rent Of Equipment	25,851	21,132	21,132	0	0.0%
50270 Other Contractual Services	48,363	41,296	41,296	0	0.0%
50310 Automotive/Motor Pool	15,567	14,474	14,474	0	0.0%
50410 Postal Services	35	100	100	0	0.0%
50412 Telecommunications	577,711	350,888	350,888	0	0.0%
50430 Mileage	25	700	700	0	0.0%
50431 Education and Training	13,891	9,700	69,700	60,000	618.6%
50450 Dues And Association Memberships	492	500	500	0	0.0%
50453 Freight Charges	90	100	100	0	0.0%
50455 Tuition	2,790	3,500	3,500	0	0.0%



<b>Cost Center</b>	<b>Prior Year Actual</b>	<b>Approved Budget</b>	<b>Proposed Budget</b>	<b>Dollar Inc/Dec</b>	<b>Percent Inc/Dec</b>
50500 Office Supplies	67,954	100,000	100,000	0	0.0%
50512 Books and Subscriptions	59	300	300	0	0.0%
50521 Computer Software	2,044,162	2,310,486	2,510,486	200,000	8.7%
50805 Computer Equipment-New \$5000 and Over	33,306	86,100	86,100	0	0.0%
50812 Furniture and Fixtures-New Less Than \$5000	9,298	15,000	15,000	0	0.0%
50815 Computer Equipment-New Less Than \$5000	73,889	91,450	91,450	0	0.0%
50825 Computer Equipment-Replacement \$5000 and Over	164,024	329,665	329,665	0	0.0%
50911 Interdepartmental Billings	0	0	-78,000	-78,000	-100.0%
<b>Total Cost Center</b>	<b>13,126,275</b>	<b>13,931,982</b>	<b>14,521,181</b>	<b>589,199</b>	<b>4.2%</b>
<b>19002 County Phones</b>					
50270 Other Contractual Services	-540	0	0	0	0.0%
50412 Telecommunications	-136,446	0	0	0	0.0%
50514 Other Operating Supplies	-3	0	0	0	0.0%
50813 Telecommunications Equipment-New Less Than \$5000	-7	0	0	0	0.0%
50833 Telecommunications Equipment-Replacement Less Than \$5000	-20	0	0	0	0.0%
<b>Total Cost Center</b>	<b>-137,016</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.0%</b>
<b>19003 E-911</b>					
50211 Maintenance Service Contracts	107,160	160,500	160,500	0	0.0%
50412 Telecommunications	314,970	420,372	420,372	0	0.0%
<b>Total Cost Center</b>	<b>422,130</b>	<b>580,872</b>	<b>580,872</b>	<b>0</b>	<b>0.0%</b>
<b>19004 Emergency Notification Systems</b>					
50211 Maintenance Service Contracts	53,234	56,169	56,169	0	0.0%
<b>Total Cost Center</b>	<b>53,234</b>	<b>56,169</b>	<b>56,169</b>	<b>0</b>	<b>0.0%</b>