Department of Information Technology

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│ IT Strategic      │  │ Application        │  │ Infrastructure     │
│ Programs and      │  │ Services           │  │ Services*          │
│ Management        │  │                    │  │                    │
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IT Strategic Programs and Management
- Policy/Administration
- E-Government
- IT Security
- Courtroom Technology
- Project Management Office

Application Services
- Business Systems
- Geographic Information Systems
- Enterprise Systems

Infrastructure Services*
- Platform Technologies
- Data Center Operations
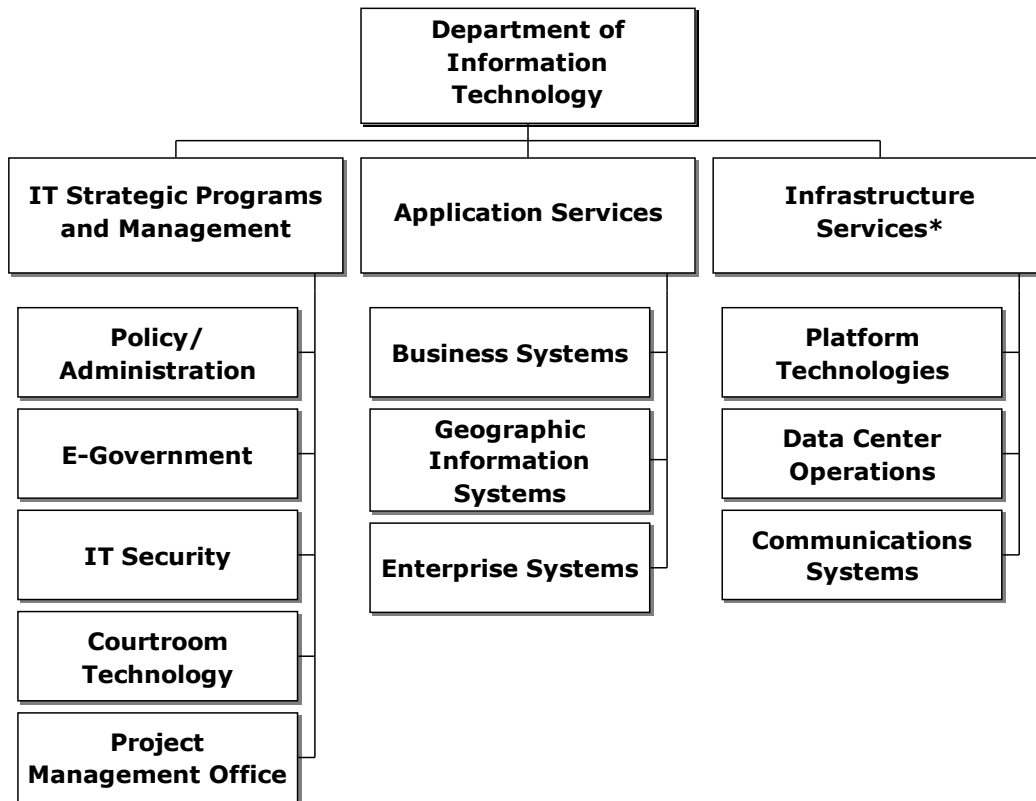- Communications Systems

* A portion of staffing and operating support for the Infrastructure Services area is found in Technology Infrastructure Services, Volume 2, Fund 60030.

Mission

To deliver and support an innovative technology environment to strengthen the public service commitment of Fairfax County.

Focus

The Department of Information Technology (DIT) is a central technology provisioning agency that designs, manages, and implements all aspects of information technology solutions and supporting infrastructure enabling County agencies to deliver information and services. In that role, DIT is responsible for overall IT policy, governance, and enforcement for the deployment and use of Countywide IT assets and resources. DIT also performs application development and integration and provides IT project management oversight for technical execution of agencies' major/core business applications. Goals for County technology include leveraging IT solution investments across the enterprise, ensuring the integrity of the County's information systems and data, and enabling secure access to County information and services. The DIT General Fund budget provides for staff and service resources based on technology specialty subject matter expertise, including systems analysts and software developers that support revenue systems (tax); corporate systems; human services agencies; land development, public works and zoning; public safety/judicial administration; Library; Park Authority; Facilities Management, and others. DIT is also responsible for the multi-channel e-Government program, a specialized courtroom technology group, countywide telecommunications, data networks and radio systems, and the countywide information security program. Open data, data analytics, and smart communities are important growth areas.   DIT fosters an environment that harnesses new information, communication and social technologies in order to empower the public services of tomorrow.

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DIT continues to manage growth in demand for County agencies' needs through prudent resource planning, use of selected sourcing opportunities and investment in IT support automation tools. DIT strives to accommodate agencies' needs as they implement their strategic plans, automate business processes and introduce new technology capabilities. In addition, DIT implemented enterprise-wide programs such as mobile device management, enhanced internet capabilities such as social media, enhanced wireless infrastructure, and Geographic Information Systems (GIS). DIT also supports major business transformation and cross agency initiatives such as the Tri-Court Courtroom Technology collaborative, land-based system processes, inspections, code enforcement, FOCUS, public safety interoperability, Integrated Human Services and Diversion First, and a host of County agencies' production business applications, and regional interoperability for secure communications and data exchange.

The Department of Information Technology supports the following County Vision Elements:

Maintaining Safe and Caring Communities

Building Livable Spaces

Connecting People and Places

Practicing Environmental Stewardship

Exercising Corporate Stewardship

The work of DIT is primarily performed by County staff in direct execution, project management and asset management roles. DIT utilizes private sector expertise to augment the overall capacity to develop and implement projects, and to support operational activities. Competitive contracts are used for major project efforts and commercial solutions. In addition to the General Fund, other components of the IT enterprise functions are supported by funding in other DIT funds:

- Fund 60030, Technology Infrastructure Services, includes data center operations, enterprise automated productivity tools and email, the enterprise data communications network, the countywide desktop PC replacement program, servers, data storage, radio communications network, Wireless Technologies services and voice telecommunications. The County has been recognized for successful IT infrastructure and power management projects that decreased the County's carbon footprint, achieved enterprise-wide IT efficiencies and cost savings.

- Fund 60020, Document Services, supports the Print Shop, Multi-Functional Digital Device (MFD) program, Mail Room and County Archives. The MFD solution incorporates copying, printing, faxing and scanning via the County's network throughout the County government, providing flexibility and document printing and digitizing efficiencies. The Print Shop provides digital printing, offset printing and bindery services to the County and Fairfax County Public Schools. Print Services are integrated with Data Center operations, improving overall print output options and efficiencies, coverage, utilization of staff and reduced cost. The Mail Room processes outgoing and incoming U.S. mail and parcel deliveries, and delivers inter-office mail daily to 263 offices in 112 County facilities. Finally, the County Archives offers expert consultations and trainings to assist agencies to maintain compliance with the numerous laws affecting the collection, retention, security, and dissemination of public records.

- Fund 10040, Information Technology, supports technology-related programs and projects that provide improvements, efficiencies and innovation for County agencies, citizens and employees and optimize enterprise-wide resources. Projects include e-Government and GIS initiatives; County agencies' business modernization and inter-agency applications in financial management, land development processes, Human Services and Public Safety business areas; enterprise technology infrastructure modernization projects in communications; and other areas such as document management, server platform consolidation/virtualization and 'cloud' technologies, and cyber-security.

DIT also manages significant technology programs in other funds, including supporting technology for Fund 40090, E-911; capital construction for technology infrastructure tasks in Fund 30010, General Construction and Contributions; the fiber institutional network (I-Net) in Fund 40030, Cable Communications, that interconnects over 400 County and school sites; and several Department of Homeland Security UASI grants supporting National Capital Region (NCR) interoperability and cyber security initiatives for which Fairfax is a major stakeholder. DIT conducts the technical work and program management for the related regional projects. DIT also has a major emergency support function in its role to support the County Emergency Operations Center during natural and other disaster situations.

DIT continually seeks to find the appropriate balance between a stewardship role in leveraging County technology investments and a strategic role in pursuing and embracing opportunities to innovate and strengthen technology use that will result in high value County services and optimized cost. In fulfilling its mission, DIT builds partnerships with internal and external stakeholders. DIT uses a strategic planning process and a collaborative business and technical execution model to ultimately provide the County with the best available return on investment that facilitates the ability to meet County growth and demand for services economically. The results are manifested in modernizing processes for County operations, greater efficiencies and effectiveness in service delivery, improved opportunities for data sharing and decision-making, embracing new internet-based capabilities and mobile apps for public access to information and services, transparency, and improved utility and security of County technology and information assets.

Strategically, DIT employs a broad strategy that uses technology and policy to enable cohesive public access to information and services by utilizing contemporary web-based and communication solutions, digitization and open data concepts that also will improve citizen experience in engagement with County government – a key Board priority. The e-Government program, recognized as a national model, is a multi-channel solution that includes the County's website, Interactive Voice Response (IVR) system, mobile access solutions, emergency alerts via text messaging, Customer Relationship Management (CRM) initiatives and broadcast cable television. The County embraces social media in its e-Government program, utilizing podcasts, RSS newsfeeds, moderated discussion sessions, and County presence on YouTube, Facebook, Twitter and other outlets as e-Government tools to interact with all audiences. Social media platforms are employed to expand and redefine interactive communication and information dissemination efforts. The e-Government program also delivers mobile apps for its *'Government in the Palm of Your Hands'* initiative. The County expanded government-to-citizen transparency through leadership and collaboration with the Office of Public Affairs in the adoption of capabilities and initiatives that enhance customer experience that will continue and evolve over time.

Another key technology platform is GIS. A significant number of County agencies, including Public Safety agencies, Land Development Services and the Health Department use GIS in their operations. The GIS portfolio includes "Virtual Fairfax", a 3D visualization tool, with zoom-in capability for County buildings and terrains with links to County land information systems and the Northern Virginia Regional Routable Centerline Project, a collaboration with five other Northern Virginia jurisdictions, recognized by the Commonwealth as a best practice.

DIT continues to strengthen the County's information security and disaster recovery posture which protect the County's technology assets, business operations, and data from rapidly advancing cyber-attacks and IT disaster events. In ensuring the integrity and viability of the County's technology assets, DIT executes the County's security policy through strategies that build a secure technology infrastructure with security architecture and processes. The objectives of the information security program are to ensure confidentiality of information, integrity of data, systems and operations, technical compliance for the Federal Health Insurance Portability and Accountability Act (HIPAA), Payment Card Industry (PCI), other privacy mandates, and to ensure the availability and security of the County's networks, systems and data. Security architecture uses 'defense-in-depth' designed to provide protection for all levels of County information processing resources and includes application of industry best practices for overall risk reduction. Over the years, the County's security program has been nationally recognized as a best practice and based on vigilant enforcement and implementation of modern security tools, breaches or wide-scale vulnerabilities have been kept below appreciable levels.

The County has a significant leadership role in developing the technical architecture and standards that are being adopted through the National Capital Region (NCR) in regional geospatial map views, situational awareness and data and communications interoperability. This architecture also is a key foundation for the County's technology strategy that ties together agency-based independent applications and enables them to share data. The demands of the regional collaborative work continue to grow, and with this expansion it is especially important to leverage IT resources and assets. Fairfax County is often the lead jurisdiction for technical design and implementation of regional capabilities that support public safety and homeland security critical infrastructure and applications which are deemed best practices.

The County's overall technology programs continue to be recognized with many honors for innovation and contribution to excellence in public service, and are routinely referenced in the industry as best practice examples, to include WEB, mobile apps, IT Security, government cloud, green initiatives and 'cloud'. The Center for Digital Government's 2018 Digital Counties Survey ranked Fairfax County third in the nation for using information and communications technology for jurisdictions with populations of 1,000,000 or greater. Fairfax County has been ranked in the top five for fourteen consecutive years, earning first place three times during this span. In addition, Fairfax County has received two Governor's Technology Awards, presented during a ceremony at the Commonwealth of Virginia Innovative Technology Symposium (COVITS) in September 2018. The awards recognize the use of information technology to drive innovation and protect information, specifically for the county's new Freedom of Information Act (FOIA) office and next generation cyber security. The County has also been honored by multiple organizations for the recent redesign of its website. Fairfax County is recognized as a perennially high-achieving County which relies on agile development, flexible technology infrastructure and strong governance to align IT strategies with overall County business objectives - and this alignment is critical as the County is challenged with limited resource growth.

Department of Information Technology

Budget and Staff Resources

Category	FY 2018 Actual	FY 2019 Adopted	FY 2019 Revised	FY 2020 Advertised
FUNDING				
Expenditures:				
Personnel Services	$22,603,693	$25,249,599	$24,499,599	$25,698,145
Operating Expenses	10,212,774	9,838,540	11,250,933	10,742,702
Capital Equipment	10,032	0	0	0
Total Expenditures	**$32,826,499**	**$35,088,139**	**$35,750,532**	**$36,440,847**
Income:				
Map Sales and Miscellaneous Revenue	$11,677	$16,287	$16,287	$16,287
Total Income	**$11,677**	**$16,287**	**$16,287**	**$16,287**
NET COST TO THE COUNTY	**$32,814,822**	**$35,071,852**	**$35,734,245**	**$36,424,560**
AUTHORIZED POSITIONS/FULL-TIME EQUIVALENT (FTE)				
Regular	249 / 249	253 / 253	251 / 251	251 / 251

FY 2020 Funding Adjustments

The following funding adjustments from the <u>FY 2019 Adopted Budget Plan</u> are necessary to support the FY 2020 program.

♦ **Employee Compensation** $553,016

An increase of $553,016 in Personnel Services includes $252,496 for a 1.0 percent market rate adjustment (MRA) for all employees and $300,520 for performance-based and longevity increases for non-uniformed merit employees, both effective July 2019.

♦ **Payment Card Industry Compliance** $486,712

An increase of $486,712 is included in Operating Expenses to support recurring costs for software used to scan, monitor, and secure unmanaged assets without disrupting other networks, and to ensure compliance with card data security and monitor for vulnerabilities.

♦ **Compensation-Related Chargebacks** $255,285

An increase of $255,285 in Operating Expenses covers compensation-related adjustments for information technology staff supporting Fund 60020, Document Services, and Fund 60030, Technology Infrastructure Services, that are being charged through this agency.

♦ **Urban Areas Security Initiative** $162,165

An increase of $162,165 is associated with the transition of Urban Areas Security Initiative (UASI) programs from federal funding to local government funding. Funding supports the National Capital Region Geospatial Data Exchange (NCRGDX) platform which allows for the exchange of contextual and emergency event related geospatial data for emergency management and response, as well as the Identity and Access Management Services (IAMS) project, which allows first responders and other emergency support functions in the NCR to access regional and shared applications.

♦ **Position Adjustment** **($104,470)**

A decrease of $104,470 in Personnel Services is associated with the transfer of 1/1.0 FTE position in FY 2019 to the Office of Internal Audit in Agency 02, Office of the County Executive, to support Health Insurance Portability and Accountability (HIPAA) requirements.

Changes to FY 2019 Adopted Budget Plan

The following funding adjustments reflect all approved changes in the FY 2019 Revised Budget Plan since passage of the FY 2019 Adopted Budget Plan. Included are all adjustments made as part of the FY 2018 Carryover Review, and all other approved changes through December 31, 2018.

♦ **Carryover Adjustments** **$662,393**

As part of the *FY 2018 Carryover Review*, the Board of Supervisors approved encumbered funding of $662,393 in Operating Expenses associated with software maintenance, staff augmentation, and consulting services.

♦ **Position Adjustment** **$0**

In order to better align resources, 1/1.0 FTE position transferred to Agency 02, Office of the County Executive, to address HIPAA requirements. In addition, the County Executive approved the redirection of 1/1.0 FTE position due to workload requirements.

Cost Centers

The General Fund supports three Department of Information Technology cost centers; IT Strategic Programs and Management, Application Services, and Infrastructure Services.

IT Strategic Programs and Management

The IT Strategic Programs and Management cost center provides for policy, administrative and programmatic management, and compliance functions supporting the entire DIT department, and strategic innovation centers for certain specialized IT programs and initiatives. There are four sections within this cost center.

Category	FY 2018 Actual	FY 2019 Adopted	FY 2019 Revised	FY 2020 Advertised
EXPENDITURES				
Total Expenditures	$13,504,940	$16,216,414	$16,563,869	$16,883,688
AUTHORIZED POSITIONS/FULL-TIME EQUIVALENT (FTE)				
Regular	57 / 57	61 / 61	59 / 59	59 / 59

	Policy, Planning & Admin		**E-Gov. & Enterprise Architecture**		**IT Security Office**
1	Director of Information Technology	1	IT Program Director I	1	IT Security Program Director
2	Deputy Directors	1	IT Program Manager I	3	Info. Security Analysts IV
2	IT Program Directors I	1	Data Analyst III	2	Info. Security Analysts III
1	Business Analyst IV	1	Data Analyst II	3	Info. Security Analysts II
2	Business Analysts II	1	IT Systems Architect	1	Info. Security Analyst I
1	Business Analyst I	1	Internet/Intranet Architect IV	1	Network/Telecom Analyst IV
2	Financial Specialists III	5	Internet/Intranet Architects III		
3	Financial Specialists II	1	Internet/Intranet Architect II		**Courtroom Technology**
1	Financial Specialist I			1	Courts IT Program Director
1	Human Resources Generalist III			2	Network/Telecom. Analysts IV
1	Human Resources Generalist I			1	Network/Telecom. Analyst II
2	Programmer Analysts III			2	Network/Telecom Analysts I
1	Management Analyst IV			1	Programmer Analyst IV
2	Administrative Assistants V			2	Programmer Analysts III
4	Administrative Assistants IV			1	IT Systems Architect

TOTAL POSITIONS
59 Positions / 59.0 FTE

Application Services

The Application Services cost center provides for the design, implementation and maintenance of information systems for all County business areas, including the enterprise-wide financial and GIS platforms integrated to many agencies' business systems and strategic and tactical operations.

Category	FY 2018 Actual	FY 2019 Adopted	FY 2019 Revised	FY 2020 Advertised
EXPENDITURES				
Total Expenditures	$11,524,042	$6,852,390	$7,109,315	$7,068,832
AUTHORIZED POSITIONS/FULL-TIME EQUIVALENT (FTE)				
Regular	113 / 113	113 / 113	113 / 113	113 / 113

	Business Systems		**Geographic Information Systems**		**Enterprise Systems**
1	Info. Tech. Program Director III	1	Info. Tech. Program Director I	1	Info. Tech. Program Director II
4	Info. Tech. Program Managers II	1	Info. Tech. Program Manager II	2	Info. Tech. Program Directors I
2	Info. Tech. Program Managers I	7	Geo. Info. Spatial Analysts III	1	Info. Tech. Program Manager II
5	Programmer Analysts IV	4	Geo. Info. Spatial Analysts II	1	Business Analyst III
16	Programmer Analysts III	4	Geo. Info. Spatial Analysts I	7	Programmer Analysts IV
4	Programmer Analysts II	4	IT Systems Architects	22	Programmer Analysts III
11	IT Systems Architects			4	Programmer Analysts II
1	Business Analyst IV			8	IT Systems Architects
1	Business Analyst II				
1	Internet/Intranet Architect III				

TOTAL POSITIONS
113 Positions / 113.0 FTE

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Infrastructure Services

The Infrastructure Services cost center functions include management of the County's local area network (LAN) environments, server and data storage platforms, database administration, telephony services and end-user desk-top support. This cost center also provides operational and contingency services for the McConnell Public Safety and Transportation Operations Center (MPSTOC).

Category	FY 2018 Actual	FY 2019 Adopted	FY 2019 Revised	FY 2020 Advertised
EXPENDITURES				
Total Expenditures	$7,797,517	$12,019,335	$12,077,348	$12,488,327
AUTHORIZED POSITIONS/FULL-TIME EQUIVALENT (FTE)				
Regular	79 / 79	79 / 79	79 / 79	79 / 79

Platform Technologies
- 1 IT Program Director II
- 2 Info. Tech. Program Managers II
- 2 Network/Telecom. Analysts IV
- 10 Network/Telecom. Analysts III
- 10 Network/Telecom. Analysts II
- 1 Business Analyst III

Communications Systems
- 2 Info. Tech. Program Managers II
- 1 Network/Telecom. Analyst IV
- 4 Network/Telecom. Analysts III
- 7 Network/Telecom. Analysts II

PSTOC
- 1 Network/Telecom. Analyst IV
- 2 Network/Telecom. Analysts III
- 1 Network/Telecom. Analyst II
- 2 Info. Tech. Program Managers II

Data Center Operations
- 1 IT Program Manager I
- 1 Network/Telecom. Analyst IV
- 4 Network/Telecom. Analysts III
- 1 Network/Telecom. Analyst II
- 2 Network/Telecom. Analysts I
- 1 Info. Tech. Technician III
- 17 Enterprise IT Technicians
- 4 Database Administrators III
- 2 Database Administrators II

TOTAL POSITIONS
79 Positions / 79.0 FTE

Key Performance Measures

	Prior Year Actuals			Current Estimate	Future Estimate
Indicator	FY 2016 Actual	FY 2017 Actual	FY 2018 Estimate/Actual	FY 2019	FY 2020
Management and Administration					
Percent risk of unauthorized network perimeter access including network security breaches and inbound network worm attacks	2.00%	2.00%	2.00%/2.00%	2.00%	2.00%
Application Services					
Percent change in GIS service encounters[1]	(0.40%)	(0.40%)	5.00%/ (5.28%)	5.00%	5.00%
Percent of revenue collected on applicable E-Government platforms	9.50%	19.00%	10.00%/10.00%	10.00%	10.00%
Infrastructure Services					
Business days to fulfill service requests from initial call to completion of request for: Non-critical requests	4	4	4/5	4	4
Business days to fulfill service requests from initial call to completion of request for: Critical requests	2	2	2/2	2	2
Business days to fulfill service requests from initial call to completion of request for: Emergency requests	1	1	1/1	1	1

Indicator	Prior Year Actuals			Current Estimate	Future Estimate
	FY 2016 Actual	FY 2017 Actual	FY 2018 Estimate/Actual	FY 2019	FY 2020
Infrastructure Services					
Percent of calls closed within 72 hours	82%	81%	84%/80%	82%	81%
Percent of first-contact problem resolution	94%	93%	94%/92%	94%	94%

[1] Increases reflected in this measure mark the shift from analog/manual requests for data to digital requests from many GIS applications, which is more reflective of the demand and growth for GIS data that utilizes modern technology.

A complete list of performance measures can be viewed at
https://www.fairfaxcounty.gov/budget/fy-2020-advertised-performance-measures-pm

Performance Measurement Results

A key program within the IT Strategic Programs and Management cost center is IT/Cyber Security. All County IT systems are connected and accessed through the enterprise-wide network, with strict policies and controls to safeguard County IT systems and data from threats and unauthorized access. As with all major organizations, the County IT systems receive millions of security threats per week. Fairfax County's Cyber Security profile and technical architecture has protections against unauthorized intrusions in the technology infrastructure, and threats reported on a daily basis have increased as new technology is better able to identify and isolate these threats. Of note, the County enterprise network experienced 99.99 percent uptime, a sustained achievement due to the resilient network design and cyber security program.

The landscape of cyber security is dramatically changing with growth in the consumer markets for mobile devices such as smart phones and tablets, to network-enabled industrial control systems (HVAC, Physical Access Control, lighting systems, supervisory control and data acquisition systems etc.) referred to as the "Internet-of-Things." "Clouds" present more complex risk and challenges as these solutions are adopted. As product development transforms the enterprise-enabled landscape, the Information Security Office (ISO) will need to adapt to evolving threats targeting untraditional endpoints and data repositories. ISO continues to experience increases in malicious code detection and a continued increase in the collection of electronic records related to agency personnel investigations, legal requests, and Freedom of Information Act (FOIA) requests. DIT successfully identified and stopped all material security threats during FY 2018.

The County is a leader in the use of GIS technologies with the most gigabytes in the GIS database among large jurisdictions and other Virginia localities according to International City/County Management Association (ICMA) benchmarks. The introduction of additional GIS applications and tools as well as changes to the calculation methodology to fully capture service encounters resulted in significant increases in recent years, a trend that is anticipated to continue in FY 2019 and FY 2020. Service encounters consist of counter sales, internal work requests, GIS projects, zoning cases, right of way projects, parcel related work, server connections, and spatial database usage.

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It is anticipated that requests for services at the IT Service Desk will continue at levels similar to those experienced in FY 2018. Strengthened enterprise-wide management and image control processes have allowed resolution of end-user desktop requests more quickly. Customer satisfaction generally continues to be strong due to internal quality control measures and remote resolution capabilities. Efforts in FY 2020 will focus on enhanced remote resolution, new mobile devices/apps, and IT Service desk system-workflow services to streamline routine processes.