

Department of Information Technology

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 (IT) 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.

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, a host of County agencies' production business applications, and regional interoperability for secure communications and data exchange.

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 and achieved enterprise-wide IT efficiencies and cost savings.

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- 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 217 offices in 113 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 Urban Area Security Initiative (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.

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.

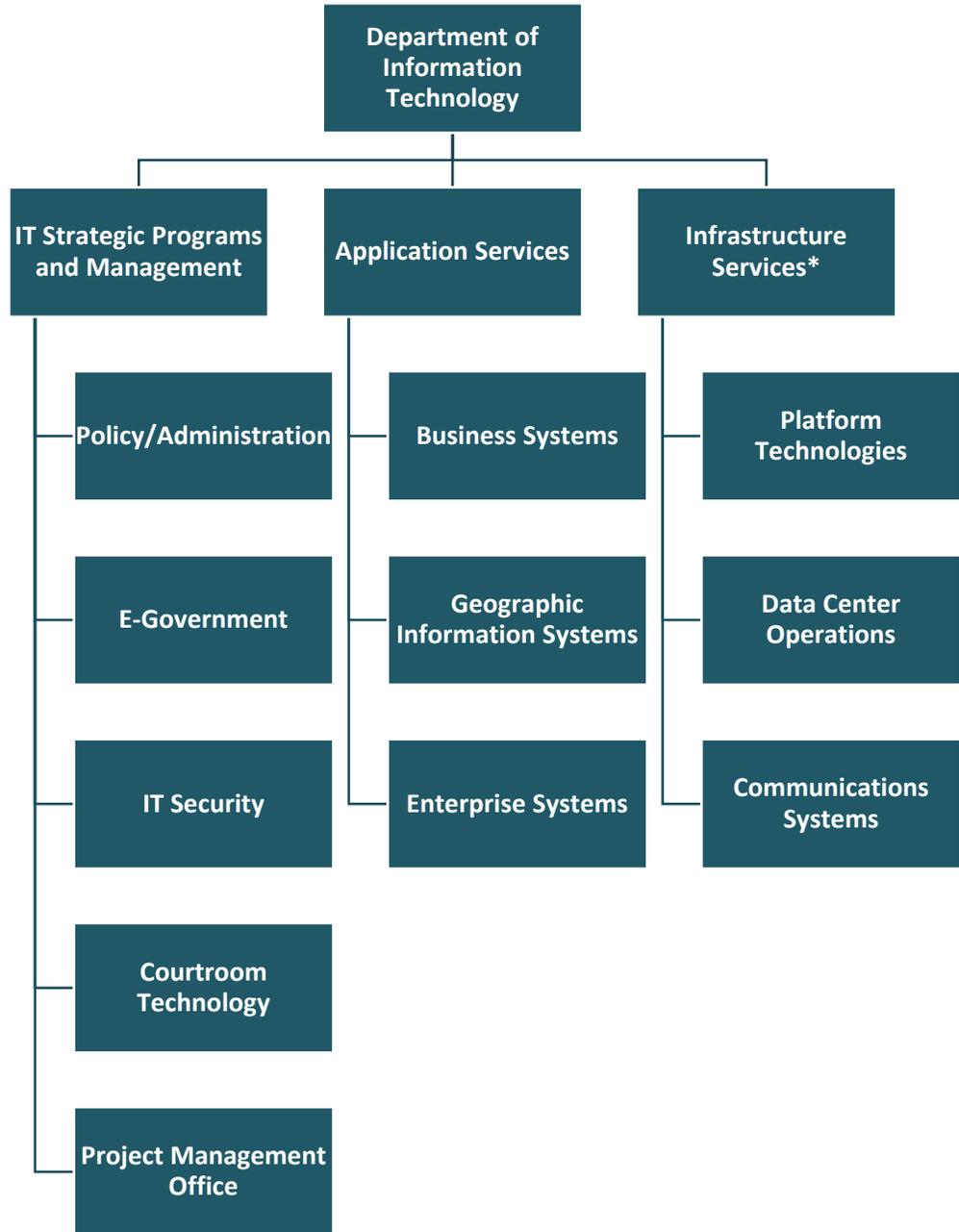
The County has a significant leadership role in developing the technical architecture and standards that are being adopted through the National Capital Region (NCR) in regional geospatial map views, situational awareness and data and communications interoperability. This architecture also is a key foundation 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. Fairfax County was recognized in the top ten of the Center for Digital Government's 2020 Digital Counties Survey, as a technological innovator, in the category of jurisdictions with populations greater than 1 million. Fairfax County has been in the top 10 in fifteen of the last sixteen years of the award and in the top 3 nine times. Fairfax County also received two National Association of Counties 2020 Achievement Awards, recognizing effective and innovative programs that have a positive impact on local communities (Fairfax County Community Emergency Response Guide and Park Authority Idea Portal). The County also received a Virginia Association of Counties (VACo) 2020 Achievement Award for The Fairfax County Field Journal, a hands-on education tool that connects thousands of students to their local watershed and the Chesapeake Bay, while also providing an opportunity for teachers to relate state-mandated standards of learning to real world experiences. 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.

Pandemic Response and Impact

In response to COVID-19, DIT has adapted quickly and ably to address rapidly changing requirements. The pandemic's disruption has emphasized the importance of ensuring that all elements of the County's technology structure are current, capable, modernized, secure, and mobile-friendly as resilient, secure, high-performing IT services are increasingly essential to effective government. Working with several partner agencies, DIT has aggressively moved to increase mobile options and improve the ability to conduct work and County business remotely and securely. A key component of this is converting the County's mostly desktop computer system to one that is primarily mobile. Additional investments in future budget processes are anticipated to build on this foundation and keep the County moving forward.

Organizational Chart



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

Budget and Staff Resources

Category	FY 2020 Actual	FY 2021 Adopted	FY 2021 Revised	FY 2022 Advertised
FUNDING				
Expenditures:				
Personnel Services	\$24,983,849	\$26,160,037	\$24,859,694	\$26,479,487
Operating Expenses	11,889,030	11,338,409	13,186,521	11,398,409
Total Expenditures	\$36,872,879	\$37,498,446	\$38,046,215	\$37,877,896
Income:				
Map Sales and Miscellaneous Revenue	\$9,543	\$11,115	\$11,115	\$11,115
Total Income	\$9,543	\$11,115	\$11,115	\$11,115
NET COST TO THE COUNTY	\$36,863,336	\$37,487,331	\$38,035,100	\$37,866,781
AUTHORIZED POSITIONS/FULL-TIME EQUIVALENT (FTE)				
Regular	260 / 260	260 / 260	257 / 257	257 / 257

FY 2022 Funding Adjustments

The following funding adjustments from the FY 2021 Adopted Budget Plan are necessary to support the FY 2022 program:

Body-Worn Camera Program **\$329,450**
 An increase of \$329,450 is required to provide ongoing baseline funding for 4/4.0 FTE positions that were added as part of the *FY 2020 Carryover Review*. It should be noted an increase of \$161,386 in Fringe Benefits funding is included in Agency 89, Employee Benefits, for a total cost of \$490,836 in FY 2022. For further information on Fringe Benefits, please refer to the Agency 89, Employee Benefits, narrative in the Nondepartmental program area section of Volume 1.

Transfer of Training Budget **\$50,000**
 An increase of \$50,000 is provided as a result of a realignment of IT resources. This increase is fully offset by a decrease to Agency 89, Employee Benefits.

Changes to FY 2021 Adopted Budget Plan

The following funding adjustments reflect all approved changes in the FY 2021 Revised Budget Plan since passage of the FY 2021 Adopted Budget Plan. Included are all adjustments made as part of the *FY 2020 Carryover Review*, *FY 2021 Mid-Year Review*, and all other approved changes through December 31, 2020:

Carryover Adjustments **\$547,769**
 As part of the *FY 2020 Carryover Review*, the Board of Supervisors approved funding of \$547,769, including \$341,862 in encumbered funding in Operating Expenses primarily associated with software and contract services. The remaining \$205,907 reflects funding of \$199,657 in Personnel Services and \$6,250 in Operating Expenses, and 4/4.0 FTE new positions to support the workload resulting from implementation of a Body-Worn Camera Program.

Redirection of Positions **\$0**
 As part of an internal reorganization of positions approved by the County Executive, a total of 7/7.0 FTE positions have been redeployed to other agencies to provide additional support for critical County programs.

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, compliance functions supporting the entire DIT department, and strategic innovation centers for certain specialized IT programs and initiatives.

Category	FY 2020 Actual	FY 2021 Adopted	FY 2021 Revised	FY 2022 Advertised
EXPENDITURES				
Total Expenditures	\$16,072,121	\$17,174,548	\$17,591,379	\$17,503,998
AUTHORIZED POSITIONS/FULL-TIME EQUIVALENT (FTE)				
Regular	65 / 65	65 / 65	68 / 68	68 / 68

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 2020 Actual	FY 2021 Adopted	FY 2021 Revised	FY 2022 Advertised
EXPENDITURES				
Total Expenditures	\$11,985,715	\$7,137,315	\$7,211,439	\$7,137,315
AUTHORIZED POSITIONS/FULL-TIME EQUIVALENT (FTE)				
Regular	112 / 112	112 / 112	108 / 108	108 / 108

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 2020 Actual	FY 2021 Adopted	FY 2021 Revised	FY 2022 Advertised
EXPENDITURES				
Total Expenditures	\$8,815,043	\$13,186,583	\$13,243,397	\$13,236,583
AUTHORIZED POSITIONS/FULL-TIME EQUIVALENT (FTE)				
Regular	83 / 83	83 / 83	81 / 81	81 / 81

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Position Detail

The FY 2022 Advertised Budget Plan includes the following positions:

IT STRATEGIC PROGRAMS AND MANAGEMENT – 68 Positions			
Policy, Planning & Admin			
1	Director of Information Technology	1	Human Resources Generalist III
3	Deputy Directors	1	Human Resources Generalist I
2	IT Program Directors I	1	Programmer Analyst III
1	Business Analyst IV	1	Management Analyst IV
2	Business Analysts II	1	Management Analyst I
1	Business Analyst I	2	Administrative Assistants V
2	Financial Specialists III	4	Administrative Assistants IV
3	Financial Specialists II	1	Administrative Assistant II
1	Financial Specialist I		
E-Gov. & Enterprise Architecture			
1	IT Program Director I	1	IT Systems Architect
1	IT Program Manager I	1	Internet/Intranet Architect IV
1	Data Analyst III	5	Internet/Intranet Architects III
1	Data Analyst II	1	Internet/Intranet Architect II
IT Security Office			
1	IT Security Program Director	3	Info. Security Analysts II
1	IT Program Director III	1	Info. Security Analyst I
2	Info. Security Analysts IV	1	Network/Telecom Analyst IV
2	Info. Security Analysts III	1	Network/Telecom Analyst II
Courtroom Technology			
1	Courts IT Program Director	1	Programmer Analyst IV
2	Network/Telecom Analysts IV	2	Programmer Analysts III
1	Network/Telecom Analyst III	1	IT Systems Architect
3	Network/Telecom Analysts II	1	Info. Tech. Technician I
4	Network/Telecom Analysts I		
APPLICATION SERVICES – 108 Positions			
Business Systems			
2	Info Tech. Program Directors I	1	Programmer Analyst II
3	Info. Tech. Program Managers II	12	IT Systems Architects
2	Info. Tech. Program Managers I	1	Business Analyst IV
5	Programmer Analysts IV	1	Business Analyst II
17	Programmer Analysts III	1	Internet/Intranet Architect III
Geographic Information Systems			
1	Info. Tech. Program Director I	3	Geo. Info. Spatial Analysts II
1	Info. Tech. Program Manager II	4	Geo. Info. Spatial Analysts I
7	Geo. Info. Spatial Analysts III	3	IT Systems Architects
Enterprise Systems			
1	Info. Tech. Program Director II	7	Programmer Analysts IV
2	Info. Tech. Program Directors I	22	Programmer Analysts III
1	Info. Tech. Program Manager II	2	Programmer Analysts II
1	Business Analyst III	8	IT Systems Architects
INFRASTRUCTURE SERVICES – 81 Positions			
Platform Technologies			
1	IT Program Director II	1	Business Analyst III
3	Info. Tech. Program Managers II	2	Network/Telecom Analysts I
3	Systems Engineers III	4	Enterprise IT Technicians
14	Systems Engineers II	1	Info. Tech. Technician I
8	Systems Engineers I		
Communications Systems			
2	Info. Tech. Program Managers II	2	Network/Telecom Analysts IV
1	Info. Tech. Program Manager I	2	Network/Telecom Analysts III
1	Systems Engineer III	4	Network/Telecom Analysts II
2	Systems Engineers II		

Data Center Operations

1	IT Program Manager II	2	Info. Tech. Technicians III
2	Systems Engineers III	1	Info. Tech. Technician II
5	Systems Engineers I	1	Info. Tech. Technician I
4	Database Administrators III	13	Enterprise IT Technicians
1	Network/Telecom Analyst II		

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) is constantly adapting 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 2020.

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. 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. Service encounters rebounded in FY 2020 by nearly 15 percent to a level more in line with previous year (pre-FY 2019) data. Improvements to the GEM and the Jade applications drove more use and a large number of web applications were deployed. Five percent growth is projected in FY 2021 and FY 2022.

As a result of the organization-wide expansion of telework in response to the pandemic, end users were more reliant on digital solutions to conduct county business. The IT Service Desk experienced an 8.0 percent increase in requests for services in FY 2020 compared with FY 2019. Despite the increased volume, the Service Desk was able to close an increased percentage of calls within 72 hours compared with FY 2019, but still fell slightly short of the target. Similarly, the Service Desk was able to resolve 94 percent of customer requests at initial contact, but the unique challenges associated with the rapid deployment of new software and equipment to support telework resulted in a slight decrease in the percentage resolved at initial contact compare with FY 2019, falling slightly short of the target.

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Indicator	FY 2018 Actual	FY 2019 Actual	FY 2020 Estimate	FY 2020 Actual	FY 2021 Estimate	FY 2022 Estimate
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	(5.28%)	(14.95%)	(9.98%)	14.59%	5.00%	5.00%
Percent of revenue collected on applicable E-Government platforms	10.00%	10.00%	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	5	5	5	5	6	7
Business days to fulfill service requests from initial call to completion of request for: Critical requests	2	2	2	3	4	5
Business days to fulfill service requests from initial call to completion of request for: Emergency requests	1	1	1	1	2	2
Infrastructure Services						
Percent of calls closed within 72 hours	80%	70%	75%	71%	72%	74%
Percent of first-contact problem resolution	92%	97%	97%	94%	95%	96%

A complete list of performance measures can be viewed at
<https://www.fairfaxcounty.gov/budget/fy-2022-advertised-performance-measures-pm>