Fund 60030: Technology Infrastructure Services

Mission

To provide a reliable and secure technology infrastructure foundation required to support County business processes and systems that strengthen the public service commitment of Fairfax County.

Focus

Fund 60030, Technology Infrastructure Services, provides the underlying technology foundation supporting information technology (IT) applications, platforms, hardware, and communications systems for Fairfax County government. This consists of the enterprise portfolio of computers, data communications equipment, radio systems, data center operations, voice communication systems and other critical infrastructure. The Department of Information Technology (DIT) coordinates all aspects of IT for the County and plays an essential enabling role assisting County agencies in advancing the strategic value of technology to transform work processes and provide quality services. Technology infrastructure is managed as an enterprise asset, and this approach results in the delivery of technology infrastructure services that function 24 hours per day, seven days per week.

Fund 60030 is an internal service fund supported by revenues from County agencies and other entities such as the Fairfax County Public Schools (FCPS). Expenditures are primarily driven by customer agencies' use of the IT infrastructure including enterprise and major cross-agency software licenses, data center operations, computer equipment refresh, the PC Replacement Program, telecommunication carrier services, the Wireless Technologies Center, staff support positions and outside services. In addition, the chargeback also includes enterprise-wide applications on the platforms in the data center, including the Fairfax County Unified System (FOCUS), which is a joint finance and procurement system for Fairfax County Government and FCPS, and the human resources system for the County. The technology backbone of FOCUS is a contemporary enterprise resource planning (ERP) application suite.

The County's centralized approach to common infrastructure systems and operations provides economies and efficiencies through consolidation and leveraging of resources. Optimum performance is achieved by automated IT support processes and enterprise-wide security tools, ensuring data integrity and system-use accountability. County IT architecture employs industry-standard products and best practices for efficient solution delivery and support. Through energy efficiency initiatives, DIT has achieved major goals in server platform consolidation, which provides significant technology infrastructure cost and operational efficiencies. New IT projects are implemented through Fund 10040, Information Technology, and some IT systems, applications, and data repositories are implemented directly by agencies, however, all new IT systems require IT infrastructure. The resulting infrastructure service obligations can result in higher infrastructure costs over time. Growth in digitization, industrial systems automation and visual data are key contributors.

Technology infrastructure activities in Fund 60030 support systems and operations for County agencies and include the management of County end-user computers (PCs, laptops and tablets), voice communication systems, servers, storage systems, enterprise office-productivity software, e-mail and messaging system (Microsoft Office Suite), and databases (Oracle and SQL). In FY 2018-2019, the e-mail/calendar/messaging applications were transitioned to the Microsoft Office 365 Cloud, a cost-effective best practice in government with expanded enterprise functionality and storage capacity. Fund 60030 also supports the operations of the County's primary data center, a disaster recovery capability hosted off-site, the management of the County's Radio Systems, Wireless Technologies services, administration of authorized County software license obligations for certain applications, data repositories, the safeguarding of stored data assets, and the enterprise-wide communication networks. Protective measures such as network security and user access tools are typically incorporated into the infrastructure portfolio. In addition to the data center—including the associated server hardware, software, database administration, data storage systems,

subscription services for 'cloud' hosted software, and other operational support—the other major infrastructure activities of note are:

- The County's enterprise-wide data communications network which incorporates both commercial networks and the fiber-optic Institutional Network (I-Net) infrastructure providing bandwidth and access security connecting County agencies to the vast array of business applications available on the County's server platforms (over 17,000 end-user end-point devices and over 1,900 virtual servers, 90 Physical ESXi servers and 1,000 production databases on consolidated virtual server farms). The I-Net provides a private and secure network infrastructure connecting over 400 County and FCPS buildings and serving data, voice and video transport.

- The PC Replacement Program provides a funding mechanism for scheduled PC, laptop, tablets, etc., device technology refreshes. The cost per PC in the program includes PC hardware, required software licenses, security requirements, protected disposal, service desk and desk-side staff support. This type of program has been recognized as a cost-effective and best-practice model in the governmental and commercial sectors, fully optimizing the allocation of IT assets and providing efficient and predictable desktop maintenance and support. DIT continually reviews various service options for efficiencies in the acquisition and deployment of devices, while ensuring the program remains cost-effective and competitive against other options. In recent years, DIT has begun the process of reviewing alternative Microsoft Office license requirements as costs continue to increase. Working with agencies, DIT is identifying a significant number of users that do not use the full functionality of the Microsoft suite of applications, and therefore provides an opportunity for the conversion to a "light" license for those appropriate. To aid in this effort, DIT is working on migrating existing on-premise SharePoint content and solutions to SharePoint Online version in order to make it fully functional for "light" license users. Additional work on the PC Replacement Program is anticipated in FY 2021.

- The County's radio systems, devices and support services are used by public safety, public works, the County's bus fleets, FCPS, and other County agencies. Radio communications operate over dedicated critical infrastructure systems relied upon by public safety organizations worldwide, and as is the case with the County, they are managed locally. These systems have proven through many emergency events to be optimally reliable, surviving and sustaining operational integrity through extreme weather such as hurricanes, as well as other regional emergency and high security events while commercial telecommunications carrier networks were jammed or compromised. In FY 2020 and FY 2021, Solid Waste and FCPS will continue the transition to the now available smart phone 'push-to-talk' radio functionality. The Connector bus fleet is scheduled to transition to a Voice Over Internet Protocol (VoIP) solution that will readily integrate its smart bus technology with a vendor solution utilizing cellular communications. The Wireless Technologies staff will continue to work on regional interoperability initiatives and on the Department of Homeland Security national strategy to ensure effective communication between local, state and federal partners for responders. The radio communications platform is evolving, and staff is looking to the next generation of solutions as appropriate for general County agency use. To support the operational and maintenance requirements of the systems, costs are recovered from the County user agencies and FCPS.

- Voice telecommunications utility services are supported by Fund 60030. DIT continues to evaluate shifts in marketplace technology to include convergence of voice and data, and advancement in wireless and Wi-Fi. DIT is in the process of replacing its current Private

Branch Exchange (PBX) digital phone system with an on-premises cloud solution that will utilize VoIP communications modality and the Institutional Network (I-Net) for the transport of internal County calls. The new solution is subscription-based and will provide detailed accounting and data reporting that will allow for more explainable telecommunications chargebacks to agencies. Additionally, the new solution significantly reduces the equipment footprint for call processing equipment and voice gateways at most County locations. This upgraded system has several improved features that will provide a more mobile workforce with additional flexibility and options. Other activities supported by this branch include system installations and executing moves, adds and changes that result from reorganizations and new hiring. DIT recovers the expense for telecommunications via annual and quarterly chargebacks to user agencies.

- DIT is in the process of relocating the data center functions offsite as part of a countywide space planning and consolidation effort. This will eventually allow County agencies using leased space to move into vacated Government Center space as well as help to achieve DIT technical operational efficiency, resiliency, high-availability and data security goals.

Organizational Chart
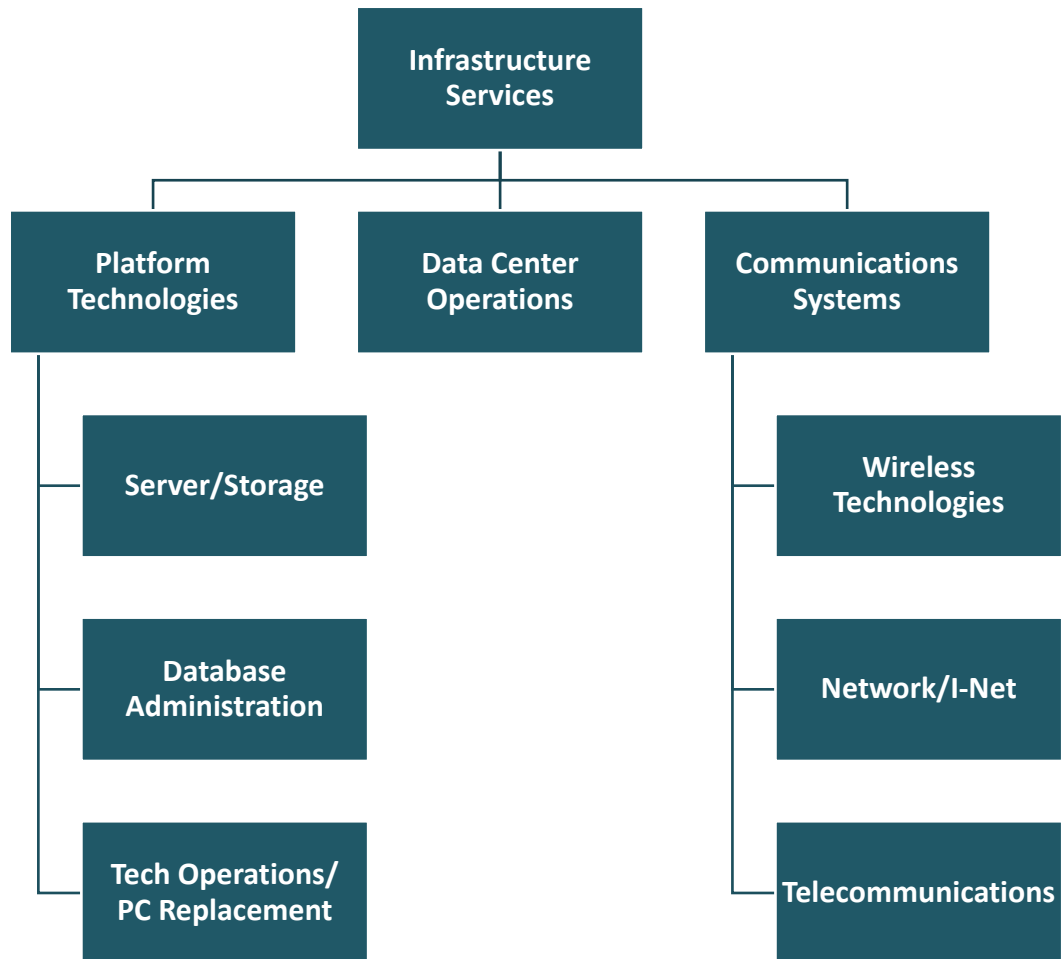
Budget and Staff Resources

Category	FY 2019 Actual	FY 2020 Adopted	FY 2020 Revised	FY 2021 Advertised
FUNDING				
Expenditures:				
Personnel Services	$7,515,800	$8,527,950	$8,527,950	$8,814,977
Operating Expenses	34,655,489	30,967,871	37,499,573	31,635,707
Capital Equipment	4,189,234	4,600,000	5,333,247	4,975,000
Total Expenditures	**$46,360,523**	**$44,095,821**	**$51,360,770**	**$45,425,684**
AUTHORIZED POSITIONS/FULL-TIME EQUIVALENT (FTE)				
Regular	67 / 67	67 / 67	70 / 70	70 / 70

FY 2021 Funding Adjustments

The following funding adjustments from the FY 2020 Adopted Budget Plan are necessary to support the FY 2021 program:

Employee Compensation $287,027

An increase of $287,027 in Personnel Services includes $177,401 for a 2.06 percent market rate adjustment (MRA) for all employees and $109,626 for performance-based and longevity increases for non-uniformed merit employees, both effective July 2020.

Operating System Requirements $477,020

An increase of $477,020 in Operating Expenses is due to the increased baseline operating system requirements resulting from a recent system audit.

Software Adjustments $690,816

An increase of $690,816 is primarily associated with increased software licensing costs in the County's PC program. The County is in the process of renegotiating its software license agreement with Microsoft that allows County employees to utilize Microsoft products on their PCs. Additional adjustments are likely going to be required to ensure that the County remains in compliance and that all County employees that utilize a PC have an appropriate license.

Telecommunications Services ($500,000)

A decrease of $500,000, fully offset by lower chargeback revenue, in the baseline telecommunications services program based on recent experience in the fund.

Capital Equipment $375,000

Funding of $4,975,000 is included for Capital Equipment, which is an increase of $375,000 over the FY 2020 Adopted Budget Plan. Of this total, $2,900,000 is directly associated with the I-Net Refresh, $800,000 reflects recurring upgrades of sites and refresh of local area network switches and related County enterprise data network equipment and gear that allow user access County applications and internet services, and $1,275,000 to support infrastructure replacement costs, specifically the Nutanix hardware platform and data protection suite.

Changes to FY 2020 Adopted Budget Plan

The following funding adjustments reflect all approved changes in the FY 2020 Revised Budget Plan since passage of the FY 2020 Adopted Budget Plan. Included are all adjustments made as part of the FY 2019 Carryover Review, and all other approved changes through December 31, 2019.

Carryover Adjustments   **$7,264,949**

As part of the *FY 2019 Carryover Review*, the Board of Supervisors approved funding of $7,264,949, of which $3,525,051 is due to encumbered carryover supporting data center operations, computer equipment, and various maintenance requirements, and $2,200,000 reflects an increase in appropriations for Microsoft licensing costs and to support the data center move. The additional $1,539,898 reflects a General Fund transfer into Fund 60030, of which $1,130,000 million supports the migration of FairfaxNet to the cloud, $209,898 for staff augmentation to manage One Identity, and $200,000 for Webmethods software for the retrieval and processing of tax data.

Reclassification of Non-Merit Benefits Eligible Positions to Merit   **$0**

As part of an ongoing Board-directed review of the County's use of limited-term staffing, 3/3.0 FTE new merit positions are included due to the reclassification of non-merit benefits-eligible positions to merit status. These are part of a total of 235 positions that were identified in the *FY 2019 Carryover Review* across all County agencies as candidates for possible conversion based on the tasked performed by each position and the hours worked by incumbents. No additional funding has been included as the work hours of these positions are expected to remain largely unchanged.

Position Detail

The FY 2021 Advertised Budget Plan includes the following positions:

TECHNOLOGY INFRASTRUCTURE SERVICES – 70 Positions			
PC Replacement			
10	Enterprise IT Technicians		
2	IT Technicians II		
Wireless Technologies			
1	Network/Telecom Analyst IV	4	Network/Telecom Analysts II
4	Network/Telecom Analysts III	1	Network/Telecom Analyst I
Data Center Services/IT Service Desk			
1	IT Program Director III	6	Systems Engineers II
2	Info. Tech. Program Managers II	1	Systems Engineer I
2	IT Technicians II	5	Network/Telecom Analysts I
1	Programmer Analyst III	12	Enterprise IT Technicians
2	Systems Engineers III		
Network/I-Net			
1	Info. Tech. Program Director I	3	Network/Telecom Analysts IV
1	Info. Tech. Program Manager I	5	Network/Telecom Analysts III
1	Info. Security Analyst IV	3	Network/Telecom Analysts II
2	Systems Engineers III		

Performance Measurement Results

The Technical Support Center Help Desk (IT Service Desk) requests for service increased slightly in FY 2019. The number of calls remained relatively high based on a significant number of service calls related to rolling out the latest generations of Microsoft Windows and Office, unified messaging, Enterprise Service Manager Platform (ESMP) rollout, and increased deployment of mobile devices. Strengthened enterprise-wide management and image control processes have allowed resolution of end-user desktop requests quickly; however, customer satisfaction was impacted in FY 2019 due to staffing issues. Efforts in FY 2020 and FY 2021 will focus on enhanced remote resolution, new mobile devices/apps, and IT Service desk system-workflow services to streamline routine processes to help improve service quality.

Indicator	FY 2017 Actual	FY 2018 Actual	FY 2019 Estimate/Actual	FY 2020 Estimate	FY 2021 Estimate
Business days to fulfill service requests from initial call to completion of request for non-critical requests	4	5	4/5	5	5
Business days to fulfill service requests from initial call to completion of request for critical calls	2	2	2/2	2	2
Business days to fulfill Telecommunications service requests for emergencies	1	1	1/1	1	1
Percent of calls closed within 72 hours	81%	80%	81%/70%	75%	80%
Percent of first-contact problem resolution at IT Service Desk	93%	92%	94%/97%	97%	97%

A complete list of performance measures can be viewed at
https://www.fairfaxcounty.gov/budget/fy-2021-advertised-performance-measures-pm

FUND STATEMENT

Category	FY 2019 Actual	FY 2020 Adopted Budget Plan	FY 2020 Revised Budget Plan	FY 2021 Advertised Budget Plan
Beginning Balance	**$9,029,309**	**$2,486,466**	**$8,171,087**	**$1,866,517**
Revenue:				
Telecommunication Charges	$4,330,382	$5,000,000	$5,000,000	$4,500,000
Wireless Technologies	725,920	850,000	850,000	900,000
PC Replacement Charges	7,024,391	7,134,367	7,134,367	7,396,624
DIT Infrastructure Charges				
County Agencies and Funds	$23,639,997	$23,787,824	$23,787,824	$24,551,871
Fairfax County Public Schools	2,030,009	2,030,009	2,030,009	2,030,009
Subtotal DIT Infrastructure Charges	$25,670,006	$25,817,833	$25,817,833	$26,581,880
Total Revenue	**$37,750,699**	**$38,802,200**	**$38,802,200**	**$39,378,504**
Transfers In:				
General Fund (10001)	$3,037,500	$0	$1,539,898	$0
Cable Communications (40030)[1]	4,714,102	4,714,102	4,714,102	4,714,102
Total Transfers In	**$7,751,602**	**$4,714,102**	**$6,254,000**	**$4,714,102**
Total Available	**$54,531,610**	**$46,002,768**	**$53,227,287**	**$45,959,123**
Expenditures:				
Telecommunication Services	$3,959,728	$5,000,000	$5,411,958	$4,500,000
Infrastructure Services	30,394,844	29,315,938	32,479,316	30,203,121
Wireless Technologies	1,413,816	1,470,699	1,470,699	1,512,964
Computer Replacement Program	9,604,033	7,209,184	8,910,617	7,934,599
Technology Infrastructure Equipment	988,102	1,100,000	3,088,180	1,275,000
Total Expenditures	**$46,360,523**	**$44,095,821**	**$51,360,770**	**$45,425,684**
Total Disbursements	**$46,360,523**	**$44,095,821**	**$51,360,770**	**$45,425,684**
Ending Balance[2]	**$8,171,087**	**$1,906,947**	**$1,866,517**	**$533,439**
Infrastructure Replacement Reserve[3]	$8,171,087	$1,906,947	$1,866,517	$533,439
Unreserved Balance	**$0**	**$0**	**$0**	**$0**

[1] Funding of $4,714,102 reflects a direct transfer from Fund 40030, Cable Communications, $1,814,102 is to support staff and equipment costs related to construction of the I-Net and $2,900,000 supports a new multi-year commitment to replace and refresh core equipment elements of the I-Net. The continuation of the equipment refresh effort will help to ensure I-Net continues to operate effectively.

[2] The fluctuation in ending balance is primarily due to the operation of the PC Replacement and Computer Equipment Reserve Programs. The programs collect funding each year, hold it in reserve until needed, and then expend the funds for replacement equipment. The time period for this action varies based on the needs of the programs.

[3] This reserve is designed to assist in the scheduled replacement of enterprise computer and network assets.