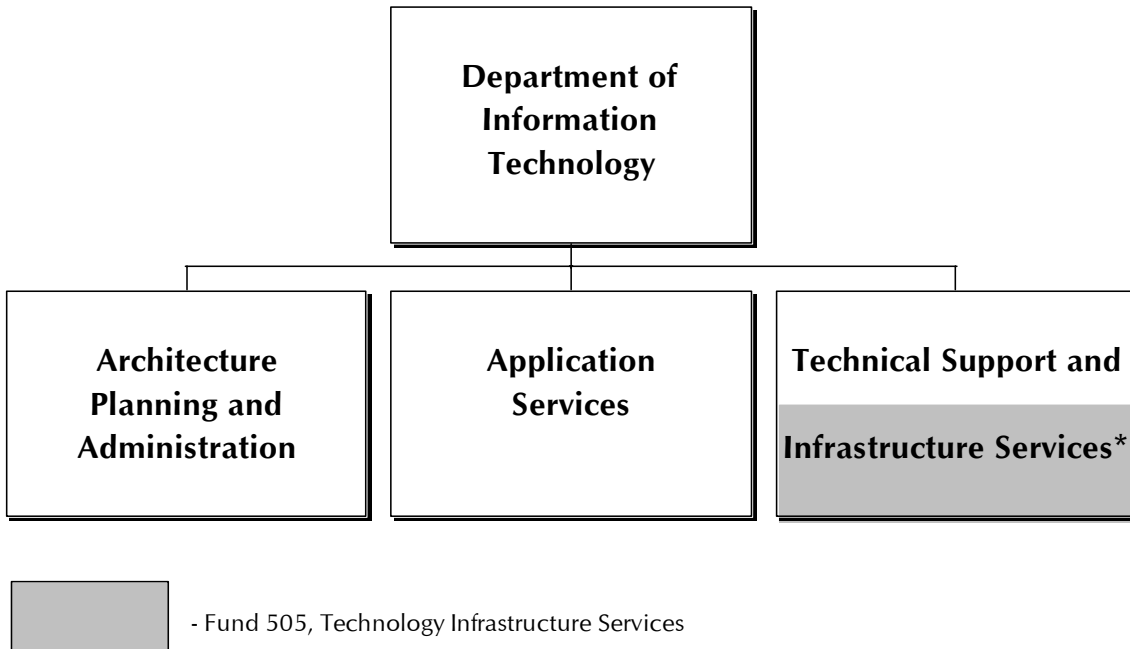


Fund 505 Technology Infrastructure Services



* All staffing and operating support for Infrastructure Services is found in Volume 2, Fund 505.

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

The infrastructure activity in the Department of Information Technology (DIT) provides the underlying technology foundation supporting information systems and communications for County government. DIT coordinates all aspects of information technology for the County and plays an enabling role in advancing the strategic value of technology to transform work processes and provide quality services to customers. Funding for DIT activities is included in the General Fund, two Funds that DIT manages (Funds 505 and 104), and in Fund 120, E-911 which supports public safety information technology projects. Fund 505, Technology Infrastructure Services, includes technology activities performed for County agencies such as replacement of County desktop computers and servers, operation of the County computer center (Enterprise Technology Operation Center, or ETOC), monitoring and maintenance of the enterprise data communications network, and Radio Center services. Fund 104, Information Technology, funds major information technology projects, including those with countywide strategic importance, such as infrastructure and application system modernization initiatives. Fund 120, E-911 funds DIT activities that support the County's emergency communications and emergency dispatch systems. These activities are reviewed by the Public Safety Policy Governance Board, established in FY 2005, to ensure the integration of public safety initiatives.

Support for Fund 505 is derived from its customers (County agencies and other entities such as the Fairfax County Public Schools) and a General Fund Transfer, which helps support the new Public Service Radio System; expenditures are primarily driven by customer requests for information technology services (i.e., public safety radio system maintenance, enhanced telecommunications services, use of the data center infrastructure utility-like system for data processing and data storage requirements, and required software maintenance and licenses, etc.).

Fund 505 Technology Infrastructure Services

DIT'S Technology Infrastructure Division provides intra-governmental services including the operation and maintenance of the County computer center and server platforms 24 hours a day, seven days per week; the safeguarding of County software license obligations, data repositories and information assets; the maintenance of County data and radio communication networks; and the provision of integrated communication service to all County agencies and other government customers. The County's enterprise network provides bandwidth securely connecting over 200 facilities to the vast array of business applications available on the County mainframe or server platforms. To maintain reserves for the replacement and upgrade of enterprise computer equipment a General Fund Transfer is provided, beginning in FY 2007. Prior to this, a five percent surcharge was applied to the agencies' data center bills to generate funding for these requirements. However, with the movement from mainframe-based to server-based systems, the funding generated from the surcharge was not sufficient to support the increasing requirements for processing capacity and storage equipment.

THINKING STRATEGICALLY

Strategic issues for the Department include:




- o Maintaining communication interoperability within the County and with other government entities; and
- o Providing adequate storage, backup and security for County data.

DIT also manages a PC replacement fund in Fund 505, ensuring funding is available for scheduled desktop device technology refresh to remain consistent with advancements in technology required for services. A comprehensive review conducted in FY 2004 resulted in recommendations to continue a four year replacement cycle, provide options for restructuring the end-user training, further review various service options for deploying equipment, increase the number of PCs in the program to account for additional purchases by agencies in prior years, and broaden the types of PCs that are provided for replacement to better match needs of users to types of available desktop technology. In addition, increasing demands on security at the desktop level and client software licensing are included in the cost to deploy PCs. This optimizes both allocation of IT assets and provides more efficient and predictable desktop maintenance and support. The annual amount collected per PC for FY 2007 remains \$500/year, so that the future year cash flow will be sufficient to support the hardware and software components of this essential program.



DIT is also responsible for coordinating radio repair and engineering support to County agencies and the Fairfax County Public School system. Operational maintenance of the radio network is of primary importance to the County public safety agencies, public works agencies, Fairfax County Public Schools (FCPS), and other County agencies. With the deployment of both the new public safety and public service radio systems, the operations of the Radio Center now include interoperability management to ensure 24 hours a day, seven days per week communication with other jurisdictions. To support the operational and maintenance requirements of the systems, costs will be recovered from user entities such as the FCPS and Fairfax Water, and with a General Fund Transfer.

Fund 505 Technology Infrastructure Services

New Initiatives and Recent Accomplishments in Support of the Fairfax County Vision


 Maintaining Safe and Caring Communities	Recent Success	FY 2007 Initiative
Implemented voice and data communications infrastructure to support the Alternate Emergency Operations Center (AEOC) to meet the needs of the County's Emergency Response Teams.	<input checked="" type="checkbox"/>	
Ongoing implementation of radio system infrastructure and radio refresh, as well as support for the public safety and public service radio systems, ensuring network monitoring, system performance, database management, inter-jurisdictional compatibility coordination and interoperability, identity tracking, radio reprogramming, compliance with FCC band modifications (re-banding), and contingency and redundancy testing consistent with emergency management plans.		<input checked="" type="checkbox"/>
Connecting People and Places	Recent Success	FY 2007 Initiative
Implement the equipment required for 'lighting up' the County's fiber optic Institutional Network (I-Net), which will, over the next several years, replace most of the commercial carrier provided wide area network and provide the transport layer for the County and Schools voice, data and video traffic.		<input checked="" type="checkbox"/>
 Maintaining Healthy Economies	Recent Success	FY 2007 Initiative
Continue to expand the use of remote access technology for providing secure, less bandwidth-intensive access to County systems for the County's workforce at small remote sites, and for supporting the expansion of telework.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
 Exercising Corporate Stewardship	Recent Success	FY 2007 Initiative
<p>Continue the implementation of a new enterprise-wide security architecture that:</p> <ul style="list-style-type: none"> ▪ uses a multi-pronged approach to providing internal government, business partners and public access to appropriate electronic transactions and services; ▪ provides for an advanced authentication process to comply with security and privacy concerns supporting e-government programs; and ▪ provides improved monitoring, intrusion detection, and auditing capability. 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Fund 505 Technology Infrastructure Services

 Exercising Corporate Stewardship	Recent Success	FY 2007 Initiative
Continue to implement a multi-phase Network Security Perimeter that uses a multiple firewall strategy to safeguard corporate data, facilitating expansion of e-government transactions and fulfilling the Electronic Protected Health Information (ePHI) requirements of the Health Insurance Portability and Accountability Act (HIPAA).	☑	☑
Completed the second phase of the redesign of the County's data network to improve redundancy, capacity, security, and flexibility to meet the needs of new applications.	☑	
Improve network security through implementation of Network Address Translation (NAT), which will "hide" internal IP addresses from display to outside sources, and employ Open Standards.		☑
Continue server consolidation initiative to optimize allocation of server processing resources, reduce server footprint, operating and software licensing costs, and balance server resources across applications providing increased effectiveness and efficiency of the management and utility of the County's server farm.	☑	☑
Implemented a full network monitoring and management upgrade for applications and infrastructure that resulted in more timely and more complete systemic information on the status of network connected systems and provided enhanced capabilities to respond to system problems before they affect system users. In accordance with the County's Business Continuity Requirements, the upgrade also provides greater systems redundancy.	☑	
 Exercising Corporate Stewardship	Recent Success	FY 2007 Initiative
Continue to provide additional storage capacities in the County's Storage Area Networks (SAN) that support the increasing portfolio of systems and data. Also provide local "Hot Site" backup capabilities for critical systems data. This initiative will strengthen the County's disaster recovery posture and provide recovery capabilities locally.	☑	☑
Continue on-going improvements to the County's critical Enterprise Technology Operations Center (ETOC) as part of a multi-year facility modernization initiative to ensure that the ETOC remains a highly reliable and secure resource supporting the technology systems critical to County business operations, thus improving operational effectiveness within an optimized fail-safe environment.	☑	☑
Continue to refresh desktop and laptop computers under the PC Replacement Program, thereby replacing obsolete equipment. PCs in the program are replaced at the end of a four-year cycle. Incorporate 'software assurance' coverage for all PCs on the County network to ensure software licensing obligation and ability to implement enhancements without having to purchase individual software upgrades.	☑	☑

Fund 505

Technology Infrastructure Services

 Exercising Corporate Stewardship	Recent Success	FY 2007 Initiative
Continue to improve utility and efficiency of corporate and agency specific business applications through the County's Enterprise Application Integrator (EAI) tool 'Webmethods', a middleware product that creates a seamless process between disparate applications.	✓	✓
Added a secondary Internet Service Provider (ISP) connection to provide back-up, accommodate peak time load, and provide a level of redundancy which allows business continuity during unforeseen commercial ISP outages.	✓	
Upgraded the mainframe server and operating system with advanced architecture and features that provides improved throughput and more efficient allocation of processing power. Updated communications controller technology and tape sub-system equipment reduce annual maintenance costs.	✓	
Implement automated tools within the mainframe processing environment to reduce manual intervention of systems processing, automate first tier problem notification, automated restarts, and escalation processes. The long-term goal is to move toward a "lights out" operation environment that would streamline processes and reduce the dependence of personnel resources for operations and redirect the focus to the growing area of server and network monitoring.		✓

Budget and Staff Resources

Agency Summary					
Category	FY 2005 Actual	FY 2006 Adopted Budget Plan	FY 2006 Revised Budget Plan	FY 2007 Advertised Budget Plan	FY 2007 Adopted Budget Plan
Authorized Positions/Staff Years					
Regular	67/ 67	67/ 67	67/ 67	67/ 67	67/ 67
Expenditures:					
Personnel Services	\$5,547,139	\$5,822,235	\$5,822,235	\$6,329,658	\$6,329,658
Operating Expenses	16,912,650	18,525,772	21,678,676	21,340,874	21,340,874
Capital Equipment	1,173,213	1,420,000	5,698,789	463,500	463,500
Total Expenditures	\$23,633,002	\$25,768,007	\$33,199,700	\$28,134,032	\$28,134,032

Position Summary		
<u>Network/Data Communication Services</u>	<u>Data Center Services</u>	<u>Radio Center Services</u>
1 Info. Tech. Program Director I	1 Info. Tech. Program Director II	1 Network/Telecom Analyst IV
1 Info. Tech. Program Manager I	3 Info. Tech. Program Managers II	3 Network/Telecom Analysts III
2 Network/Telecom Analysts IV	4 Systems Programmers III	1 Communications Engineer
12 Network/Telecom Analysts III	5 Systems Programmers II	2 Communications Technicians
4 Network/Telecom Analysts II	3 Systems Programmers I	2 Electronic Equipment Technicians II
1 Network/Telecom Analyst I	2 Programmer Analysts III	1 Administrative Assistant III
1 Management Analyst I	1 Programmer Analyst II	
	1 Programmer Analyst I	
	5 IT Technicians III	
	8 IT Technicians II	
	1 IT Technician I	
	1 Business Analyst I	
TOTAL POSITIONS		
67 Positions / 67.0 Staff Years		

Fund 505

Technology Infrastructure Services

FY 2007 Funding Adjustments

The following funding adjustments from the FY 2006 Revised Budget Plan are necessary to support the FY 2007 program:

- ◆ **Employee Compensation** **\$507,423**
An increase of \$507,423 associated with salary adjustments necessary to support the County's compensation program.

- ◆ **Infrastructure and Radio Services** **\$1,603,976**
A net increase of \$1,603,976 to purchase software license and maintenance contract renewals; support telecommunication increases; augment security measures for daily application operations and incident investigation required to further protect the County from unauthorized entry into County systems, attacks, viruses, data destruction and other cyber threats; and support the equipment necessary to maintain the County's Wide Area Network.

- ◆ **Replacement and Upgrade of Computer Equipment** **\$760,000**
A net increase of \$760,000 for the replacement and upgrade of computer equipment used in the Enterprise Technology Operations Center (ETOC). This increase is necessary to keep up with the growing demand for capacity on the mainframe requiring an upgrade to the County's mainframe license; additional servers for the mainframe disaster recovery program in the event of an emergency; replacement servers that have exceeded their useful life; and increasing storage needs as new software applications are moved from the testing environment into day-to-day operation, and as the amount of data generated from existing software (email, real estate transactions, etc) continues to increase.

- ◆ **PC Replacement Program** **(\$505,374)**
A net decrease of \$505,374 in the PC Replacement Program based on the number of PCs scheduled to be replaced in FY 2007, according to the four-year replacement cycle.

- ◆ **Carryover Adjustments** **(\$2,731,693)**
A decrease of \$2,731,693 as a result of one-time funding at the FY 2005 Carryover Review.

Board of Supervisors' Adjustments

The following funding adjustments reflect all changes to the FY 2007 Advertised Budget Plan, as approved by the Board of Supervisors on May 1, 2006:

- ◆ The Board of Supervisors made no adjustments to this fund.

Changes to FY 2006 Adopted Budget Plan

The following funding adjustments reflect all approved changes in the FY 2006 Revised Budget Plan since passage of the FY 2006 Adopted Budget Plan. Included are all adjustments made as part of the FY 2005 Carryover Review and all other approved changes through December 31, 2005:

- ◆ **Carryover Adjustments** **\$2,731,693**
As part of the FY 2005 Carryover Review, FY 2006 expenditures increased \$2,731,693 due to encumbered carryover of \$2,031,518 and unencumbered carryover of \$700,175 for a replacement mainframe server, the purchase of which was delayed pending a study examining how future capital equipment and hardware/software maintenance costs might vary depending upon the mainframe model.

Fund 505

Technology Infrastructure Services

The following funding adjustments reflect all approved changes to the FY 2006 Revised Budget Plan from January 1, 2006 through April 24, 2006. Included are all adjustments made as part of the FY 2006 Third Quarter Review:

- ◆ **Third Quarter Adjustments** **\$4,700,000**
 As part of the FY 2006 Third Quarter Review, expenditures increased \$4,700,000 including \$3,000,000 to initiate a disaster recovery program for non-mainframe applications and \$1,700,000 for the replacement of high-speed data storage. In concert with the County's Continuity of Operations Plan (COOP), the \$3.0 million will be used to develop and implement a disaster recovery process for the critical server-based applications that must remain operational in order for the County to perform its essential functions. An additional \$1.7 million will be used to replace the County's primary high-speed storage area network (SAN) that will not allow for further expansion. The technical design of this unit is approaching obsolescence; its inefficiencies and age have resulted in high annual maintenance costs. The funding requirement for the expenditure adjustment was met with an increase to the General Fund transfer of \$4,700,000.

Key Performance Measures

Objectives

- ◆ To maintain the number of business days to fulfill Telecommunications service requests for a) non-critical requests at a standard of 4 days; b) critical requests at a standard of next business day; and c) emergency requests at a standard of the same day.
- ◆ To maintain the percentage of LAN/PC workstation calls to Technical Support Services closed within 72 hours by at 88 percent.
- ◆ To improve the resolution rate for the average first-call problem for the Technical Support Center (TSC), DIT Help Desk by five percentage points, from 70 percent to 75 percent.

Indicator	Prior Year Actuals			Current Estimate	Future Estimate
	FY 2003 Actual	FY 2004 Actual	FY 2005 Estimate/Actual	FY 2006	FY 2007
Output:					
Responses to calls for repairs on voice devices	4,204	4,836	4,800 / 4,139	4,600	4,600
Moves, adds or changes (voice and data)	2,271	2,498	2,400 / 2,858	2,400	2,400
Calls resolved	18,223	29,117	26,250 / 22,557	24,800	24,800
Help desk calls with data questions	2,682	2,726	2,400 / 1,899	2,500	2,500
Customer requests for service fulfilled by Technical Support Center (TSC) (1)	54,058	74,872	75,000 / 66,538	73,000	75,000
Efficiency:					
Cost per call	\$110	\$102	\$105 / \$92	\$105	\$105
Average number of hours annually spent per staff member to resolve calls	844	1,407	1,042 / 1,042	1,042	1,042
Customer requests for service per TSC staff member	4,505	6,239	6,250 / 5,545	6,100	6,700

Fund 505 Technology Infrastructure Services

Indicator	Prior Year Actuals			Current Estimate	Future Estimate
	FY 2003 Actual	FY 2004 Actual	FY 2005 Estimate/Actual	FY 2006	FY 2007
Service Quality:					
Customer satisfaction with telecommunication services	95.0%	90.0%	95.0% / 90.0%	95.0%	95.0%
Percent of customers reporting satisfaction with resolution of LAN/PC workstation calls	77%	80%	80% / 75%	80%	82%
Percent satisfaction of County employees with support from Technical Support Center	86%	86%	89% / 85%	89%	89%
Outcome:					
Business days to fulfill service requests from initial call to completion of request for non-critical requests	3	4	4 / 4	4	4
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	2	2	1 / 1	1	1
Percent of calls closed within 72 hours	80%	78%	85% / 85%	88%	88%
Percent of first-contact problem resolution	77%	80%	85% / 63%	70%	75%

(1) The FY 2004 merger of the Human Services IT help desk with DIT increased customer requests for TSC service.

Performance Measurement Results

This fund provides critical infrastructure services including integrated communication service to all County agencies and other government customers, the County's critical enterprise technology operations center (ETOC), and maintains the County data communication networks. The performance measures for this fund focus on delivering and securing a stable IT environment.

Overall, many factors continue to affect agency performance, including more calls seeking assistance with complex technology and new agency-specific applications that the Technical Support Center had not been trained to help with; increased use of remote access for telework, older generation PCs on the network; and a growing number of customized desk-top configurations in agencies. Since July 2003, the support provided by DIT and Human Services Information Technology help desks has been combined, which is reflected in the high volume of requests for service fulfilled at the Technical Support Center.

Fund 505

Technology Infrastructure Services

FUND STATEMENT

Fund Type G50, Internal Service Funds

Fund 505, Technology Infrastructure Services

	FY 2005 Actual	FY 2006 Adopted Budget Plan	FY 2006 Revised Budget Plan	FY 2007 Advertised Budget Plan	FY 2007 Adopted Budget Plan
Beginning Balance	\$8,988,336	\$2,822,102	\$6,397,996	\$2,454,182	\$2,454,182
Revenue:					
Radio Services Charges	\$668,209	\$583,547	\$583,547	\$584,949	\$584,949
PC Replacement Charges	3,640,801	5,180,000	5,180,000	5,580,000	5,580,000
DIT Infrastructure Charges					
County Agencies and Funds	14,883,941	17,062,819	17,062,819	18,596,119	18,596,119
Fairfax County Public Schools	1,255,028	1,305,229	1,305,229	1,357,438	1,357,438
Outside Customers	130,843	108,000	108,000	108,000	108,000
Subtotal DIT Infrastructure Charges	\$16,269,812	\$18,476,048	\$18,476,048	\$20,061,557	\$20,061,557
Total Revenue	\$20,578,822	\$24,239,595	\$24,239,595	\$26,226,506	\$26,226,506
Transfer In:					
General Fund (001) ¹	\$463,840	\$316,291	\$5,016,291	\$1,816,291	\$1,816,291
Total Transfer In	\$463,840	\$316,291	\$5,016,291	\$1,816,291	\$1,816,291
Total Available	\$30,030,998	\$27,377,988	\$35,653,882	\$30,496,979	\$30,496,979
Expenditures:					
Infrastructure Services	\$15,077,148	\$17,972,547	\$20,675,965	\$20,069,461	\$20,069,461
Radio Center Services	766,328	899,838	923,295	901,240	901,240
Computer Equipment Replacement Program	7,001,593	6,155,622	6,612,657	5,663,331	5,663,331
Upgrade/Replacement of Technology Infrastructure Equipment	787,933	740,000	4,987,783	1,500,000	1,500,000
Total Expenditures	\$23,633,002	\$25,768,007	\$33,199,700	\$28,134,032	\$28,134,032
Total Disbursements	\$23,633,002	\$25,768,007	\$33,199,700	\$28,134,032	\$28,134,032
Ending Balance²	\$6,397,996	\$1,609,981	\$2,454,182	\$2,362,947	\$2,362,947
Infrastructure Replacement Reserve (CERF) ³					
Reserve (CERF) ³	\$2,634,175	\$832,191	\$123,018	\$115,114	\$115,114
PC Replacement Reserve ⁴	3,763,821	777,790	2,331,164	2,247,833	2,247,833
Unreserved Balance	\$0	\$0	\$0	\$0	\$0

¹ A General Fund Transfer will support the system wide charges of the new Public Safety and Public Service radio program for General Fund and General Fund Supported agencies, as well as to maintain funding for the replacement and upgrade of enterprise computer equipment.

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 A reserve program to assist in the scheduled replacement of mainframe computer and network assets. The funds are held in this Computer Equipment Replacement Fund (CERF).

⁴ The balance in the PC Replacement Reserve fluctuates annually based on scheduled PC replacements which are on a four-year replacement cycle.