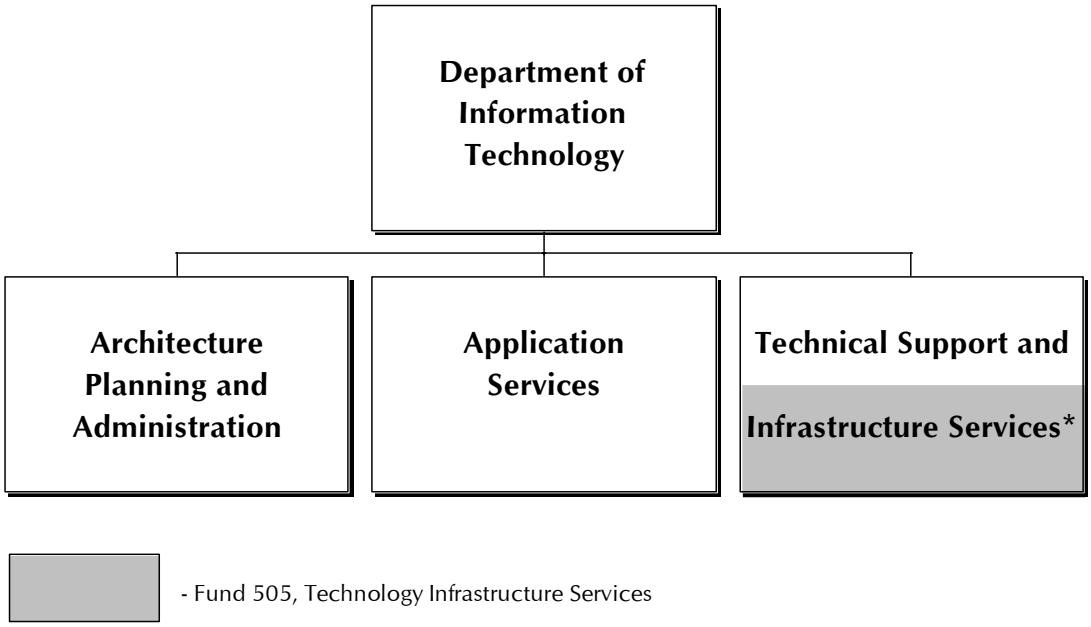
# Department of Information Technology




* Staffing, management and operational support is in the Department of Information Technology General Fund, except for positions and operational specific to Infrastructure Services which is found in Fund 505.

The LOBs in this document in the Department of Information Technology relate to the high level functions in DIT as follows:

- **Architecture Planning and Administration LOBs:**
  - E-government & Advanced Technology
  - Information Security
  - Asset and Policy Management
  - Courtroom Technology
  - HIPAA
  - Information Technology Initiatives management
- **Applications Services LOBs:**
  - GIS
  - Application Development and Support
- **Technical Support & Infrastructure Services LOBs:**
  - Communications Technology
  - Enterprise Technology Infrastructure
  - End User Support Services
  - Radio and Emergency Communications
  - Enterprise Fleet Digital Printer/Copier Program

# Department of Information Technology

## Mission

To deliver and support innovative technology solutions that strengthens the public service commitment of Fairfax County.

## Focus

The Department of Information Technology (DIT) manages all aspects of information technology and communications systems deployment and maintenance supporting the delivery of County agencies' services to residents. These activities support the County's goals for improvement of service delivery to County residents through the use of technology. In addition to the General Fund, funding for DIT activities is also included in Fund 505, Technology Infrastructure Services, which includes data center operations, enterprise automated productivity tools, the enterprise data communications network, radio center services and 911 communications. Fund 104, Information Technology, supports major projects for agency automation initiatives and business application system modernization (e.g. public safety; human services, land development, revenue, and financial systems, etc.); others with countywide strategic importance; enterprise-level applications such as Geographic Information Systems (GIS), content and document management and imaging, CRM, and e-government (WEB) initiatives; and supporting technology infrastructure enhancements.

***THINKING STRATEGICALLY***

Strategic issues for the department include:

- Fulfilling new and increasing demands for technology services in innovative, cost-effective ways;
- Ensuring the security of the County's IT investments and information assets;
- Pursuing IT investment opportunities that provide residents with increased government access, integrated information and improved services;
- Aligning technology solutions with the County's changing business needs; and
- Keeping pace with rapid change in the technology field by maintaining high technical competence of IT staff.

The Department strives to implement proven and dependable technology using best practice management techniques and fully leveraging technology investments across the enterprise. Recognizing the fluid technology environment in which the County supports a wide variety of business function requirements along with the rapid pace of marketplace technology advancement, DIT continually seeks to find the appropriate balance between its stewardship role in leveraging the current information technology investments and its strategic role in pursuing and embracing opportunities to innovate and strengthen technology use that will result in high value County services. In fulfilling its mission, DIT builds strategic 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 a return on investment in the form of increased access to the government, as well as improved service that facilitates the ability to meet County growth and demand for services economically. The results are improved processes for County operations, greater efficiencies and effectiveness in service delivery, improved opportunities for data sharing and decision making, enhanced capability to the public for access to information, and improved utility and security of County technology and information assets. The work of DIT is primarily performed by County staff in direct execution, project management and asset management roles. DIT partners with the private sector for expert skills to augment the overall capacity to develop and implement projects, deliver solutions, and to support operational activities.

In ensuring the integrity and viability of the County's technology assets, DIT executes the County's IT security policy through strategies that build a secure technology infrastructure, and, security architecture and processes that protect the County's systems from threats and vulnerabilities, unauthorized access, intrusions, and potential loss of data assets. This activity is closely aligned with the Health Insurance Portability and Accountability Act (HIPAA) compliance program and its core group of interdepartmental representatives. The security requirements of HIPAA are incorporated in the information security and infrastructure programs within DIT, in order to develop technical strategies and solutions required to meet standards, policy and compliance around the IT aspects of HIPAA and other privacy legislation.

In 2006, the Board of Supervisors commissioned a citizen advisory group to study enhancements for improved public accessibility to land-use information and greater visibility for community-wide development. By mid-2007, recommendations from the study were released that expanded upon initiatives to include further integration of GIS into County land use information systems and enhancements to the My Neighborhood portal on the County's Web site as well as new features into related agency information systems. Another strategic emphasis for the County's technology program is internal and regional interoperability for communications and secure data sharing. The County has a significant leadership role in developing the architecture and standards that are being adopted through the national capital area. This architecture is a foundation for the County's technology strategy to create a process that ties together agency-based independent applications and enables them to share data.

The County's technology programs have been recognized with many honors over the past five years for innovation and contribution to excellence in public service, and are routinely referenced in the industry as best practice examples. In 2006, the County was recognized as being one of the top "Best Places to Work in IT" among the field of predominately private sector technology firms. In 2007, the County won awards for Digital Cities Best of the Web, and was recognized as one of the top digital counties in the nation by the Center for Digital Government and the National Association of Counties.

## Budget and Staff Resources

| Agency Summary (General Fund) | | |
|---|---|---|
| **Category** | **FY 2007 Actual** | **FY 2008 Adopted Budget Plan** |
| Authorized Positions/Staff Years | | |
| Regular | 252/252 | 257/ 257 |
| Expenditures: | | |
| Personnel Services | $18,672,286 | $21,027,467 |
| Operating Expenses | 13,047,382 | 14,352,884 |
| **Subtotal** | **$31,719,668** | **$35,380,351** |
| Less: | | |
| Recovered Costs | ($6,510,398) | ($7,191,873) |
| **Total Expenditures** | **$25,209,270** | **$28,188,478** |
| Income: | | |
| Map Sales and Miscellaneous Revenue | $43,912 | $29,023 |
| Pay Telephone Commissions | 0 | 1,417 |
| City of Fairfax - Communication | 33,410 | 50,444 |
| **Total Income** | **$77,322** | **$80,884** |
| **Net Cost to the County** | **$25,131,948** | **$28,107,594** |

| Agency Summary (Fund 104) | | |
|---|---|---|
| **Category** | **FY 2007 Actual** | **FY 2008 Adopted Budget Plan** |
| **Total Expenditures** | **$16,315,364** | **$13,760,015** |
| **Total Income** | **$3,409,898** | **$1,400,000** |
| **Net Cost to the County** | **$12,905,466** | **$12,360,015** |

| Agency Summary (Fund 505) | | |
|---|---|---|
| **Category** | **FY 2007 Actual** | **FY 2008 Adopted Budget Plan** |
| Authorized Positions/Staff Years | | |
| Regular | 67/67 | 67/67 |
| Expenditures: | | |
| Personnel Services | $6,018,642 | $6,614,660 |
| Operating Expenses | 20,196,736 | 21,297,841 |
| Capital Equipment | 3,173,392 | 1,400,000 |
| **Total Expenditures** | **$29,388,770** | **$29,312,501** |
| **Total Income** | **26,274,801** | **26,784,384** |
| **Net Cost to the County** | **$29,388,770** | **$2,528,117** |

| | | |
|---|---|---|
| **Total Net Cost to the County** | **$67,426,184** | **$42,995,726** |

*Note: Also included in this LOB section is the I-Net portion of Fund 105 (see LOB 70-04).*

## SUMMARY OF ALL AGENCY LOBS
## (FY 2008 Adopted Budget Data)

| Number | LOB Title | Net LOB Cost | Number of Positions | LOB SYE |
|---|---|---|---|---|
| 70-01 | E-Government and Advanced Technology | $1,951,042 | 20 | 20.0 |
| 70-02 | Geographic Information Systems | $1,900,695 | 21 | 21.0 |
| 70-03 | Application Development and Support | $12,025,830 | 94 | 94.0 |
| 70-04 | Communications Technologies | $6,920,871 | 36 | 36.0 |
| 70-05 | Information Security | $1,949,352 | 10 | 10.0 |
| 70-06 | Enterprise Technology Infrastructure | $1,088,500 | 53 | 53.0 |
| 70-07 | User Support Services | $5,156,372 | 47 | 47.0 |
| 70-08 | Asset and Policy Management | $1,545,242 | 29 | 29.0 |
| 70-09 | Radio Communications | $314,103 | 10 | 10.0 |
| 70-10 | Courtroom Technology | $306,078 | 3 | 3.0 |
| 70-11 | HIPAA | $127,626 | 1 | 1.0 |
| 104-01 | Information Technology Initiatives | $12,360,015 | 0 | 0.0 |
| **TOTAL** | | **$45,645,726** | **324** | **324.0** |

NOTE: Includes Agency 70 in the General Fund, all of Fund 104 and Fund 505, and the DIT portion of Fund 105 (an amount of $2,650,000 which is included in LOB 70-04). DOES NOT include Fund 120, Fund 303, Fund 312, or Fund 504.

## LOBS SUMMARY

## 70-01: E-Government and Advanced Technology

| Fund/Agency: 001/70 | Department of Information Technology |
|---|---|
| LOB #: 70-01 | E-Government and Advanced Technology |
| Personnel Services | $1,768,935 |
| Operating Expenses | $182,107 |
| Recovered Costs | $0 |
| Capital Equipment | $0 |
| **Total LOB Cost:** | $1,951,042 |
| Federal Revenue | $0 |
| State Revenue | $0 |
| User Fee Revenue | $0 |
| Other Revenue | $0 |
| **Total Revenue:** | $0 |
| **Net LOB Cost:** | $1,951,042 |
| | |
| Positions/SYE involved in the delivery of this LOB | 20 / 20.0 |

## ► LOB Summary

The e-government program in the Department of Information Technology (DIT) develops and maintains systems that provide information and services to citizens through publicly accessible on-line mediums. This program supports the County's mission to provide convenient, efficient, effective and timely information and transactions with government, 24 hours a day, 7 days a week. E-government is the hallmark of the benefits obtained through solid planning and investment in information technology, providing the catalyst for a change in the way government operates. Utilizing concepts of e-business and e-commerce, the e-government program facilitates the connection between citizens, the government, and back-end business systems. Further, e-government gives the County an additional means to meet growing demand and expectations. The County's e-government program is considered a best practice in government, being recognized by national organizations, and in government and technology publications and journals. Officials from over fifteen different countries have visited the County specifically to gain insight on how to establish a good e-government program. A steering committee of agencies reporting to the Deputy County Executive for Information including DIT, DCCCP, OPA, and FCPL gives input to strategy and the development of new channels that further the value and effectiveness of the program.

E-government provides the public with responsive and flexible alternatives for obtaining information and services and to allow residents to conduct business with the County any time, form most anywhere. The fundamental premise is to build a "government without walls, doors, or clocks" – that is, provide access to information and services 24 hours a day, seven days a week from the constituents' home, office or anywhere. The work is carried out by the Public Access Technologies group in DIT, who work with County agencies and other public and private sector entities to improve business operations and accommodate the growing variety of services and needs by thoroughly understanding business needs and by planning, implementing and managing the best public access solutions available. The three technology platforms comprising the County's e-government initiative are:

- The **Fairfax County Web Site**, located on the World Wide Web at www.fairfaxcounty.gov. The County site currently includes over 17,000 and nearly four dozen interactive applications, with more than 60 agencies participating. The website has 40,271 visitors per day, more than 1,200,000 visits per month.

- **Information Kiosks** that use multimedia (audio, video, graphics and text) touch screen technology to provide information at times and locations convenient to the public, including interactive applications such as the DMV application that allows residents to apply for and renew vehicle registrations, licenses, etc. There are currently over 25 kiosks in 22 locations around the County, including county buildings, Libraries, a hospital and a mall. The CRiS kiosk is also a regional resource with participation from Fairfax City, the town of Warrenton and others. There have been more than 10.8 million "screen touches" to date.

- **Interactive Voice Response (IVR)** units that permit telephone callers to select information and services from audio menus via a touch-tone telephone. There are a total of 22 IVR applications that have served 4 million people since FY 2005.

These three technologies are consolidated under one management team. Many of the same information look-ups and business transactions are available on all three channels, integrated on a single platform architecture, with seamless connectivity to state and federal e-government programs and services. This provides a holistic solution to making service available to all constituents

regardless of their ability to own technology. Capabilities also include secure electronic payments capabilities through certified third party payments portal, with consolidated payment services across the three e-government channels.

Future enhancements includes more interactive and social media applications, enhanced search, and content management (CM) which provides a set of tools to allow for more active content contribution from agency staff allowing agencies to quickly add or update information without the need for technical expertise. The pre-defined CM templates will ensure consistency of the presentation layer (i.e., Web, Kiosk, etc.) as well as automatically ensuring compliance with ADA and other mandates. Workflow components with the CM software will ensure the integrity of the quality assurance and approval process. We are also incorporating voice recognition into the IVR system, where appropriate.

The e-government staff is committed to adhering to both the dictates and spirit of ADA accessibility guidelines and mandates. The addition of all new information areas and business functionality will include ADA compliance as a principal focus.

The increased reliance on e-government programs for county services delivery demand the requirements for 24/7 support. Today the program is supported by a single staff shift on-call. The essential nature of the program demands hard examination of the staffing, budgetary and infrastructure implications to keep it vital.

Because of the power of electronic data interchange and associated implications, these technologies are receiving more scrutiny of lawmakers to ensure privacy and protections. We expect additional requirements to avoid inappropriate penetration and attacks to maintain the security and integrity of our e-government environment as we continue to roll out e-government initiatives. The e-government LOB is supported by the Information Protection, Asset & Policy Management, Communications Technologies, and Information Technologies Initiatives (104) LOBs in DIT. The e-government program works collaboratively to support the GIS, Corporate Applications, and Enterprise Technology Services LOBs in DIT.

In addition to the e-government channels, this group is responsible for the development of the county's data and system interoperability strategy and framework; application development methodology and advancement and lifecycle development methodology for all other DIT groups; Service Oriented Architecture, meta data structures and business intelligence; content and document management platform and project management; wireless applications; CRM/311 strategy and projects; and regional and state interoperability and data sharing initiatives.

## ► Method of Service Provision

The County's e-government programs are provided by a combination of internal staff and contracting support with specialized expertise and skills. County staff performs approximately 80 percent of the work. Contract services are used on an as-needed or special projects basis. For example, County staff developed the new web site design and navigation, but contract services were used to assist in converting the approximately 15,000 pages to the new format. Contract services were also used for the development of several web applications. In addition, contract services provide systems maintenance for IVR hardware and operating system software. It is anticipated that

this mix of internal staff with contract support as required will continue. The site is available 24/7 and the staff of the branch respond to emergency outages on an "on-call" basis.

## ▶ Mandate Information

There is no federal or state mandate for this LOB.

# 70-02: Geographic Information Systems

| Fund/Agency: 001/70 | Department of Information Technology |
|---|---|
| **LOB #: 70-02** | **Geographic Information Systems** |
| Personnel Services | $1,392,211 |
| Operating Expenses | $537,507 |
| Recovered Costs | $0 |
| Capital Equipment | $0 |
| **Total LOB Cost:** | $1,929,718 |
| Federal Revenue | $0 |
| State Revenue | $0 |
| User Fee Revenue | $29,023 |
| Other Revenue | $0 |
| **Total Revenue:** | $29,023 |
| **Net LOB Cost:** | $1,900,695 |
| | |
| Positions/SYE involved in the delivery of this LOB | 21 / 21.0 |

## ▶ LOB Summary

The Geographic Information Systems Branch (GIS) provides high quality geo-spatial infrastructure, innovative analytical applications products, and mapping and web services to Fairfax County government agencies and the public. The centralized investment in GIS data layers has allowed all agencies and departments to benefit from shared data layers, shared use of aerial and orthophotography, and shared use of spatial analyses.

GIS updates, maintains, and publishes the parcel and zoning maps for the County, and is responsible for assignment of the unique Parcel Identifier Numbers (sometimes called map numbers) for every parcel in the County. It also maintains and produces the large format wall maps, of which approximately 10,000 are distributed annually. GIS is also responsible for the Master Address Repository (MAR) database. DPWES collaborates to add new addresses into MAR, and GIS is the data administrator and ensures that the MAR data are available to the GIS and that parcel/address histories are maintained. All of the data for these maps, as well as many other categories (or layers) of information are now maintained by GIS for the entire County in a highly accessible GIS data warehouse. The core spatial data warehouse includes digital aerial photography, parcel information, zoning and over 600 additional layers.

GIS provides critical components such as historic and mandated baseline of parcel and zoning mapping, and aerial photography including oblique (side view) and ortho (direct overhead view).

GIS supports zoning research and has dramatically expanded data and mapping services to the County during the past nine years. During 2008-2009, GIS will have an increased role supporting public safety needs and data requirements for the new Computer Aided Dispatch (CAD) system.

Fairfax County's GIS has continued its growth in the number of direct GIS users (now over 700) as well as thousands of indirect users, working with applications and departments that now include GIS embedded as part of their operation. The tools and information are available to both the county staff on the intranet (Infoweb), and the public via the Internet. Overall GIS usage by the public and by County staff continues to increase as a result of heavier use of existing applications and several new applications, including the My Neighborhood (see Figure 2) application, the police incident mapper, and the IQ GIS interface for Board of Supervisors members' offices. The Digital Map Viewer increased usage again, this time by 35 percent as more property/zoning and other maps are now viewed/downloaded via the internet. Online digital maps have enabled GIS to significantly reduce the number of printed map books each year.

In response to demand, historic maps were added to GIS for property and zoning. Complete sets of the property maps are now available back to 2000, and zoning maps back to 2002. Over the next year, all available historic zoning and property maps will be scanned and made available online. At that point we will have property maps back to 1961 and zoning maps to 1986. Currently, over 7,000 pre-made maps are now available online.

The amount of information available in the GIS data warehouse continued to increase as it now holds over 600 layers of GIS data. The overall size of the vector data has increased to 88 GB (including business data tables), and the raster data is now over 5 TB. Vector data includes data layers and is represented by points, lines or polygons. Raster data includes the digital imagery: raw photographs, orthophotos, and oblique imagery. The GIS data layers and the aerial photography require high accuracy and special technical processing and control so they can be overlaid and integrated with each other.

The amount of data within the layers continues to increase. Table 1 illustrates some of the most significant layers and their 2005, 2006 and 2007 values, along with some additional values that we began tracking in FY 2007:

| Data Layers | FY 2005 | FY 2006 | FY 2007 |
|---|---|---|---|
| Parcels | 341,000 | 343,500 | 356,000 |
| Addresses | 360,000 | 365,000 | 368,000 |
| Building Outlines | 248,000 | 252,000 | 257,000 |
| Miles of Roads | 4,000 | 4,600 | 4,700 |
| Number of streetlights | - | - | 57,939 |
| Linear miles of sanitary sewer lines | - | - | 3,350 |
| Linear miles of perennial streams | - | - | 1,090 |

The GIS Branch collaborates with other agencies to share ownership of GIS data. The GIS Branch enters and maintains most primary and core data (such as parcels, zoning, planimetric data, and orthoimagery) into the Data Warehouse and serves it to both the County staff and to the general public. Other departments are responsible for entering and maintaining other datasets in the

warehouse. For instance, DPWES maintains the sanitary and storm sewer data, while Parks, DPWES, and DPZ maintain the trails layer.

**GIS in Fairfax County: A Brief Background**

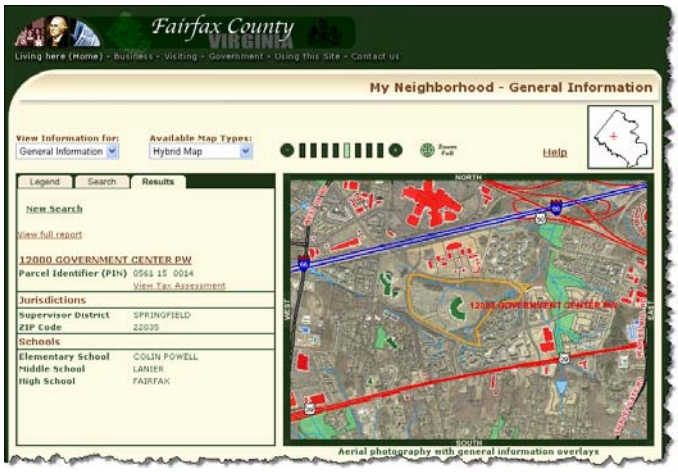
The County uses digital mapping. The foundation for this transition occurred when the County started investigating and planning an enterprise GIS project in the mid 1980s. From 1991-1993, the GIS team conducted a comprehensive applications survey to determine potential uses of GIS and help form a detailed database design. In 1995, the County implemented a project called "Quick Start" that converted 17 small-scale data layers (such as Magisterial District, School Attendance Area, Public Facilities Maps, etc.) and implemented workstation GIS software around the County. In 1997, the County initiated a large-scale data conversion contract that consisted of the conversion of all parcel, zoning, contours, and planimetric data (for example, conversion of mylars to digital information). Delivery of GIS data from that contract began in 1998. In 1999, Fairfax County implemented a server-based GIS Data Warehouse and Application Server that enables any County employee connected to the LAN to access not only GIS data but also the GIS applications. Citrix server technology has completely changed the GIS paradigm for the County and enabled greatly expanded GIS usage with low increases in GIS licensing fees at the desktop. For example, in 2007 GIS is able to effectively serve via Citrix over 600 GIS users with about 100 GIS software licenses. This helps reduce the burden of constantly upgrading hardware and software for office desktops that are heavy users of GIS.

In 2001 the GIS office moved to totally digital production of its map products, retiring the paper and mylar based work from the previous 33 years. This switch has significantly enhanced the productivity of the office. Today we are able to enter and maintain more data into the GIS and on the maps than ever before, with fewer dedicated staff. Many time-consuming manual steps are now replaced with the digital production process enabling staff to capture more critical features in the GIS (such as more easements, particularly conservation easements). Additionally, the changes to those maps are posted to the internet daily, providing web users of the Digital Map Viewer with the latest versions of the maps. Prior to this innovation, departmental users and external constituents had to deal with old paper maps that were annually updated for printing. The popularity of that frequently updated data is shown by the continuing increase in the usage of the Digital Map Viewer (over 1.4 million maps were served through the Viewer in FY 2006).

Over the next year there will be several major additions to GIS functionality. GIS is implementing a web-based GIS tool that will enable agencies to create their own internal GIS web applications. This should significantly broaden the number of GIS users and the number of uses of GIS data. At the request of the Board of Supervisors, GIS is providing more integration of land use and land development data with GIS to make it easier for constituents to locate and view land development information. GIS is also participating in a pilot program to investigate future digital submission of plans. And GIS is also moving into 3-D imagery which has already been obtained for part of Tysons Corner with more coming in 2008 for the Reston-Herndon area. The Branch is also investigating options to make the 3-D imagery available on the web for general constituent use.

**GIS Branch Services**

The GIS Branch provides a wide range of services to County agencies. These services are tailored to both support the ongoing work of digitizing parcels and foster growth in GIS understanding and use across County agencies. In addition to providing the software, data and server support that ensures GIS is available across the County, the Branch provides a broad range of services for County Agencies:




- Training: Regular hands-on GIS software training sessions are offered to all County staff. The training involves hands-on use of actual County GIS data. Eleven different classes are offered.

- Software Support: Any County GIS user can call for support on GIS software and mapping issues, with GIS staff available to answer use and technical questions.

- Database Support: Provides special technical support to allow user departments to integrate their operational data and databases with GIS data layers and databases.

- Special Project Support: Many GIS users need special purpose thematic maps and spatial analyses for unique reasons throughout the year.

- Application Development: The GIS Branch works with other County agencies to develop specific applications for their business processes. For instance it has worked extensively in the development of the Police Incident Mapper, the LDSNet GIS component, the IQ GIS component and with FIDO to enter flood plain information. It can provide in-house staff supplemented by contractor programming staff to develop agency specific applications.

- Spatial Data Updates: The Branch is also responsible for updating key components of the GIS data warehouse - in particular the digital orthophotography, oblique imagery, planimetric, and cadastral (parcel) data. The GIS staff has expertise in each of these areas, enabling them to draft project proposals and manage the resulting work.

- Public Safety Support – GIS is preparing to take on additional responsibility in maintenance of the road centerline data and preliminary plan digitization so that GIS data can directly feed the new CAD system planned to go live in 2009. GIS has established a Public Safety GIS committee to coordinate GIS activities in Public Safety agencies (Police, Fire and Rescue, Public Safety and Communication, as well as the emergency management and Sheriff's departments).

- Walk-in Customer Support: The Branch serves dozens of citizen and County agency requests daily through its front counter desk. Customers are provided copies of maps, property plats, interpretation of maps, parcel research, flood plain research, aerial photography for environmental and zoning research, and customized mapping through public terminals that are linked directly to the GIS data warehouse and the Branch's high speed plotters. The front desk also provides copies of digital data to the public. Over the next year GIS plans to transition away from making copies of plats and film and move those

files to DPWES (Land Development Services – Environmental Site Review Division). Users will then be able to obtain all plan copies in one location.

- Web-based applications and access to maps and data: Public Support via the World Wide Web: The GIS Branch now serves both data and software functionality via the Web to both County staff and the general public. This service has provided dramatic growth in functionality and increased public access to GIS and mapping information on a 24/7/365 basis.

- Maps and Publications Office: GIS provides printed wall maps to County staff and the public. The public can purchase the wall maps in the County's Maps and Publications Central Store in the Government Center's first floor. Also available there are the printed parcel and zoning books. Overall about 10,000 of the maps are delivered annually.

- Consulting to Other Agencies: The GIS Branch provides GIS consulting and application development support to other County agencies and departments, through both existing staff and other contractors.

- Special Services: The GIS Branch also provides special GIS services to County agencies. The most recent example is the planning, design, and support of the GIS Services and training for the Citizen's Advisory Committee on Reapportionment. This required a wide range of services from many of the GIS staff for an extended period of time.

- Web-Services – GIS now has web services that are used by other applications to automatically validate GIS data against the MAR. It also provides GIS web services that can be reused and embedded into other applications.

**Publications**

The GIS Branch Staff has authored many papers and given many presentations. Papers have included "Transit GIS Applications in Fairfax County, Virginia" in the Journal of Public Transportation; "Shared Geography: Building a Common Street Centerline Resource to Service State and County Governments", "Achieving Enterprise GIS Data Integration in Fairfax County – Using GIS Every Day", "Implementing a Server Based Computing Solution in an Enterprise GIS", and "GIS Quality Assurance – Data Acceptance Specification and Control", all presented at and published at URISA conferences and proceedings. "Fairfax County Virginia GIS: Planning, Design and Implementation – The Critical Steps" was presented at an ESRI User Conference and published in their proceedings. Other presentations have been given at URISA, the ESRI International User's Conference, the Virginia State GIS conference, and other local and regional GIS conferences. Other local and international jurisdictions have sent employees and delegations to Fairfax County in part to learn about our GIS program.

To provide these services, the Branch has organized its staff into three areas: Systems and Applications, Data Maintenance, and Customer Services. Two additional positions provide liaison with Public Safety and oversee aerial imagery acquisition and related ground control issues.

**Awards and Recognition to GIS**

In FY 2005 Fairfax County's GIS won FOSE's E-Town Award for GIS Integration. The County's GIS program also received a "Best of Breed" award in the 2003 Digital Counties Survey. This survey and award recognition was conducted by the Center for Digital Government, in partnership

with the National Association of Counties. Other awards to county GIS programs include the VA Governor's Technology award for DPWES' use of GIS in routing refuse collection vehicles.

Fairfax County's GIS has received international recognition via the Environmental Systems Research Institute (ESRI) Special Achievement in GIS (SAG) Awards for both the GIS Branch work and the countywide efforts in GIS. It also received recognition from the National Association of Counties for its use of GIS in the reapportionment process. The awards highlight increasing use of GIS in Agency operations, which is an important goal of GIS.

Fairfax County GIS projects have also been highlighted in ESRI's annual Map Book publication of local government GIS maps and spatial analyses.

### ▶ Method of Service Provision

The GIS Branch delivers GIS services to County staff, walk-in customers, and residents with existing full-time and limited-term staff, as well as contract programmers.

### ▶ Mandate Information

A portion (7-10 percent) of this LOB is state mandated. See the January 2007 Mandate Study, page 12 for the specific state code and a brief description.

## 70-03: Application Development and Support

| *Fund/Agency: 001/70* | *Department of Information Technology* |
|---|---|
| *LOB #: 70-03* | *Application Development and Support* |
| Personnel Services | $8,720,344 |
| Operating Expenses | $3,305,486 |
| Recovered Costs | $0 |
| Capital Equipment | $0 |
| **Total LOB Cost:** | $12,025,830 |
| Federal Revenue | $0 |
| State Revenue | $0 |
| User Fee Revenue | $0 |
| Other Revenue | $0 |
| **Total Revenue:** | $0 |
| **Net LOB Cost:** | $12,025,830 |
| | |
| Positions/SYE involved in the delivery of this LOB | 94 / 94.0 |

## ► LOB Summary

The Application Development and Support activities in the Department of Information Technology (DIT) support the core operations of the County by developing, implementing, and maintaining over 700 computer applications for county agencies. There have been major changes in the work of this program since 1997 when most of the applications were mainframe based and considered "legacy". Since that time, many applications have been replaced with commercial off-the-shelf (COTS) software packages, on a variety of server platforms including Windows and Unix. Work efforts continue to be changes to application code, primarily driven by county, state and federal mandates, agency business process improvement initiatives, reports and analytics, and migrating systems to newer technologies resulting from projects in the technology investment program (Fund 104). This program is continues to modernize the existing legacy systems to WEB based application architectures, integrate with the e-government capabilities, improve data mining and decision support capabilities, and seamless interoperability between disparate systems and data.

Due to centralization, the County's computer applications support is highly effective. The systems are stable, perform reliably, and meet the basic mission requirements of the agencies supported. Approximately 95 positions under this LOB ensure that applications providing services for public health and safety, human services, taxation, and land planning and development functions are accessible to facilitate the transaction of County business; and applications required to perform corporate administrative and management functions such as finance and accounting, budget, purchasing, payroll and human resource management, and facilities management. This LOB is organized in DIT with branch groups with special knowledge and focus on the needs these business areas. With an average of about one staff year equivalent per system, it is imperative to keep these systems in optimum operational order and minimize the level of maintenance required. Staff needs to have sufficient depth of knowledge about the software architecture of each application and the business of the user agency to provide quality support. Staff provides services ranging from planning and coordinating major projects, system design and configuration management, software acceptance testing, documentation and training, and, systems implementation planning, maintenance and enhancements. They also evaluate business process impacts, assist in resolving problems and reviewing alternatives. Staff coordinates all application issues affecting vendors and users, especially for Commercial-Off-The-Shelf (COTS) software.

Staff is also heavily involved in development and technical review of numerous RFP documents that support projects in the IT Plan Fund 104. Some highlighted activities in the LOB include:

- **In-house application development primarily by County staff** such as the web-based inquiry portion of the Human Services Resource Services and the Victim-Witness System, an Adoptions System for Circuit Court, development of a Court Services Court Appointed Attorney system to appoint and pay attorneys, warning ticket process and system for the Police Department, new Jail Management system, and others. Staff also directly supports Personnel Resources Information System (PRISM) – the County's personnel system, the Financial Management Information System (FAMIS) accounting system that is used by both the County of Fairfax and Fairfax County Public Schools with two separate database and data warehouse for the Fairfax County Public Schools. The County and Schools Procurement System (CASPS), Personal Property Tax system, Police Records Management System, the Urban Development Information System (UDIS) now IPLS, several document management and imaging systems for a variety of agencies, and others.

- **Commercial-off-the-shelf (COTS) software applications**: staff provides system solution architecture, reporting, and integration services for COTS applications. Some examples include: Real Estate System; Harmony Social Services System, Inspections and Permitting System (FIDO), Library Systems (Sirsi),and the Customer Relationship Management (CRM) IQ software used by several agencies, including the Board of Supervisors, to track issues, correspondence, complaints and events pertinent to providing answers to our constituents.

- **Custom developed software with the use of contractors**, such as the Zoning and Planning System, LDSNet, the Plans and Waivers system, and a variety of sub-systems.

- Many applications provide access to information on the Internet or Kiosk and via the Interactive Voice Response system. For more detailed information, please refer to the e-government LOB.

**Links with Other Governments**

Both the federal and state governments mandate that Fairfax County provide information to numerous federal and state agencies and databases. The Application Development and Support staff works with the agencies to fulfill these requirements, primarily in the public safety and human resources areas. Among the many recent examples of these activities are: update of the Virginia Compensation Board's Local Inmate Data System (LIDS) database from the Sheriff's Adult Detention Center Information System (ADCIS) to ensure correct prisoner reimbursements from the state; update of the Virginia Crime Information Network (VCIN) and subsequently the Federal National Crime Information Center (NCIC) from the supported Police Records Management System (PRMS) consisting of numerous databases to enable accurate queries by other law enforcement jurisdictions; Provision of mandated Incident-Based Reporting (IBR) statistics to the State Police also from PRMS.

## ► Method of Service Provision

This LOB is supported directly by County staff assigned to DIT, augmented by outside consulting assistance as well as for temporary staff supervised by County Staff for assistance with large projects.

It should be noted that many of the services that are provided to citizens and other County agencies are available 24 hours a day, 7 days a week. DIT staff work normal Monday through Friday business hours, but must be available for operational support of applications on nights and weekends, and during special periods of activity. The necessity for working outside and often in addition to normal hours is especially true within the Public Safety and other areas that require 24/7 operations of IT applications. This is also the case with the growing public access/Internet applications.

## ► Mandate Information

There is no federal or state mandate for this LOB.

# 70-04: Communications Technologies

| Fund/Agency: 001/70 | Department of Information Technology |
|---|---|
| **LOB #: 70-04** | **Communications Technologies** |
| Personnel Services | $3,245,486 |
| Operating Expenses | $18,353,498 |
| Recovered Costs | ($6,762,569) |
| Capital Equipment | $0 |
| **Total LOB Cost:** | $14,836,415 |
| Federal Revenue | $0 |
| State Revenue | $3,521,687 |
| User Fee Revenue | $0 |
| Other Revenue | $4,393,857 |
| **Total Revenue:** | $7,915,544 |
| **Net LOB Cost:** | $6,920,871 |
| | |
| Positions/SYE involved in the delivery of this LOB | 36 / 36.0 |

*Note: this LOB contains portions of the General Fund, Fund 105, and Fund 505. Please see the table below for a cost summary:*

| LOB #: 70-04 | General Fund | Fund 105 | Fund 505 | Total |
|---|---|---|---|---|
| Personnel Services | $1,143,732 | $469,893 | $1,631,861 | $3,245,486 |
| Operating Expenses | $7,539,122 | $5,701,794 | $5,112,582 | $18,353,498 |
| Recovered Costs | ($6,762,569) | | | ($6,762,569) |
| Capital Equipment | | | | $0 |
| **Total LOB Cost:** | $1,920,285 | $6,171,687 | $6,744,443 | **$14,836,415** |
| Federal Revenue | | | | $0 |
| State Revenue | | $3,521,687 | | $3,521,687 |
| User Fee Revenue | | | | $0 |
| Other Revenue | $51,861 | | $4,341,996 | $4,393,857 |
| **Total Revenue:** | $51,861 | $3,521,687 | $4,341,996 | **$7,915,544** |
| **Net LOB Cost[1]:** | $1,868,424 | $2,650,000 | $2,402,447 | **$6,920,871** |

[1]Net cost equates to General Fund support of this LOB after applying revenues and fund balance.

## ► LOB Summary

The Communications Technology LOB in the Department of Information Technology (DIT) has the responsibility for planning, designing, implementing, and managing the County's voice, data and video communications enterprise network. This includes phone systems, intercom systems and telecommunications, and hot lines; voice messaging; voice and video teleconferencing; data and video network; 911 Center communications; PSTOC infrastructure, building wiring and cabling; wireless "hot spots" in Libraries and other locations; wireless devices such as cell phones, pagers, Blackberries and PDAs; Alert Notification system; in-building wireless coverage infrastructure; Internet pipes; and wireless wide-band data capability.

The group also supports the county's private fiber network - I-Net - connecting 400 County and Schools buildings. The I-Net is the foundation layer for all communications technologies. The I-Net provides a cost-effective, reliable, and flexible infrastructure which enables the County to adjust its communications bandwidth requirements on the spot as needed, providing virtually "unlimited" bandwidth to meet the County's present and future communication network requirements. It is a carrier class network, becoming the "super highway" for the County's internal video, voice and data communication network. The Fairfax County Public Schools is a partner with the County in the I-Net.

In addition, this service and support extend beyond County locations to external networks, such as the Commonwealth of Virginia Department of Information Technology, State Government-to-County Government services, Public Safety, State Courts, ADVANTIS, VCIN, NCIC, and various mandated federal and state human service programs and agencies.

Services and support is provided to over 12,000 employees located at over 400 County facilities and office locations, including parks, firehouses, group homes, recreation facilities, police stations, SACC centers, health clinics, libraries, governmental centers, maintenance shops, etc. The primary staff for support of this technology is located at the Government Center. Staff is responsible for the design, planning, implementation, management and support of the voice and data communications networks on a 24/7 basis. This service includes coordinating the provision and maintenance of all electronic (voice and data) communications for Fairfax County government and related agencies; managing and maintaining all communications equipment and services; designing and implementing communication features and applications; planning and managing the installation of new communication equipment and services; evaluating emerging communications technologies.

The group continues to enhance convergence of voice and data over the network with the enhancements significantly improving access to County critical information, in addition to:

- Improved security and reliability, and increased capacity to support ongoing and future application while providing a faster flow of information between County agencies;

- Improved TCO, reduced operational and maintenance costs by installing new communication equipment thereby increasing availability of replacement parts, when components fail;

- Improved service levels to the public by empowering County employees with the technology to more expeditiously extract information to fulfill County citizen requests;

- Increased public satisfaction with government services and the attractiveness of Fairfax County to prospective businesses and residents by more quickly responding to constituent inquiries or business transactions saving valuable private and corporate resources; and

- Reduced staff time permitting redeployment of staff to higher value-added issues, such as increasing number of customers serviced and/or providing improved services at a lower cost to County citizens.

Communication Technologies strategies continue implementation of technology enhancements such as Voice over IP (VoIP), Virtual Private Networks (VPN), wireless LANs, reconfiguration of the network to Natural Address Translation (NAT), proxy servers, teleconferencing and full motion

video, etc. Voice over IP (VoIP) will result in significant increases in capability while reducing overall network costs through the utilization of a single network cable and network appliance to provide voice, data and video services to the client. VoIP reduces initial implementation and overall maintenance and support costs.

Virtual Private Networks (VPN) provide significant advantage to the County by increasing the security of the data transmitted, providing easier access by employees, and reducing overall network costs. Since VPNs use the public Internet to securely connect remote offices and remote employees at a fraction of the cost of dedicated, private telephone lines the County could eliminate the need for the racks of modems required for remote access. One of the biggest advantageous of VPNs is that it allows access to protected network resources by only authorized users and through the use of highly sophisticated encryption techniques.

Wireless technology strategies have redefined the way LANs are implemented. This infrastructure has been implemented in the Board Auditorium, AEOC, Conference Rooms, training rooms, other general use areas, and even more importantly, in on-site emergency events, such as command posts for Public Safety Emergency Response Teams. The ability to send and receive critical information in times of catastrophic emergencies is vital.

Natural Address Translation (NAT) and the use of proxy services provide increased security for the County's network. NAT is a re-addressing scheme, which allows only a single IP address to be seen outside the County's internal network. This reduces the possibility of a user determining the IP address of a specific device (such as a PC, a router, or a switch), thereby compromising access to the network. Proxy servers provide two advantages, which are increased security and increased Internet speed. Proxy servers are devices, which store copies of the County's public data, as well as received static Web pages. Users never "touch" the live data stored behind the firewall on the internal Network. The user thereby retrieves the data quicker, a "cyber" hacker can only corrupt this copy of the data, not the real protected data, and the County can quickly restore the data by simply providing a new copy from the protected database.

Funding for these programs is found in the DIT general fund (telecommunications), DIT Infrastructure Fund 505 (data network operating), and a portion of the Cable Fund 105 (for I-Net).

## ► Method of Service Provision

The work of the communications technologies group is accomplished by County staff that applies management, design, installation, monitoring, maintenance and support techniques common to information technology installation. The staff in this LOB has specialized expertise in deploying effective, efficient, cost-justified, maintainable and reliable enterprise-wide voice and data communications network. Staff resources are augmented with vendor provided contractor expert engineers. Staff coordinates with agencies and vendors to determine communication requirements and design solutions. The work of this group also includes billing and agency charge-back.

## ► Mandate Information

There is no federal or state mandate for this LOB.

# 70-05: Information Security

| Fund/Agency: 001/70 | Department of Information Technology |
|---|---|
| **LOB #: 70-05** | **Information Security** |
| Personnel Services | $955,969 |
| Operating Expenses | $993,383 |
| Recovered Costs | $0 |
| Capital Equipment | $0 |
| **Total LOB Cost:** | $1,949,352 |
| Federal Revenue | $0 |
| State Revenue | $0 |
| User Fee Revenue | $0 |
| Other Revenue | $0 |
| **Total Revenue:** | $0 |
| **Net LOB Cost:** | $1,949,352 |
| | |
| Positions/SYE involved in the delivery of this LOB | 10 / 10.0 |

## ► LOB Summary

The Information Security and Protection LOB in the Department of Information Technology (DIT) is responsible for ensuring the implementation of information security practices and technology architecture for the County government that protect automated government services, and the privacy for sensitive and protected information. The role of the Information Security Office (ISO) is to protect the integrity and availability of systems, networks, and data. In order to carry out its mission, the ISO has developed a policy and management framework for information security, authorized by the County Executive. The information security staff serves as catalysts for ensuring that cyber security risks are considered in planned and ongoing agency and DIT operations, a central resource for advice and expertise to units throughout the organization, a conduit for keeping top management informed about security-related issues and activities affecting the organization, and policy enforcement and compliance. The Information Security Office reports to the County' Chief Technology Officer, receiving authority for compliance activities from the County Executive and risk tolerance guidance from the Senior IT Steering Committee.

Specific activities of the Information Security Office staff include:

- exploring and assessing information security risks to business operations;
- researching potential threats, vulnerabilities, and control techniques and communicating this information to others in the organization;
- determining what policies, standards, and controls are worth implementing to reduce these risks;
- developing and adjusting countywide policies and procedures to ensure information systems reliability and accessibility, and to prevent and defend against unauthorized access to systems, networks and data;

- promoting awareness and understanding of security issues among program managers, computer users, and systems development staff and ensuring sound security principles are reflected in organization's visions and goals;
- developing and implementing programs to ensure that systems, network, and data users are aware of, understand, and adhere to systems security policies and procedures;
- participating in assurance of security compliance with regulatory requirements;
- participating in network and systems design to ensure implementation of appropriate systems security policies;
- conducting risk and vulnerability assessments of planned and installed information systems to identify vulnerabilities, risks, and protection needs;
- developing systems security contingency plans and disaster recovery procedures;
- monitoring various aspects of the organization's security-related activities;
- establishing a computer incident response capability, and, in some cases, serving as members of the emergency response team;
- accounting for the number and types of security incidents;
- facilitating the gathering, analysis, and preservation of evidence used in the prosecution of computer crimes;
- assessing security events to determine impact and implementing corrective actions; and
- ensuring rigorous application of information security/information assurance policies, principles, and practices in the delivery of all Information Technology services.

**Operational Audit and Access Controls Mechanisms**

- **Perimeter Vulnerability Assessment:** The objective of performing the network perimeter vulnerability assessment has been to establish the County of Fairfax's security baseline as it relates to electronic threats and vulnerabilities associated with Internet connectivity. Through contractual support, commercial and public domain tools often employed by hackers, were used to perform analysis on Fairfax County devices that are Internet-accessible. The information that is acquired from the scan identifies potential weak points in configuration and/or architecture. The findings provided the impetus for the implementation of processes and procedures required to minimize risk and improve the County's security posture.
- **War-Dialing Assessment:** The objective of performing the War-Dial has been to attempt to establish a connection to remote access servers or unregistered modems behind the perimeter or firewall, as well as searching for weak security points, such as common usernames and weak passwords. Through contractual support, extensive scanning has been performed on a sample block of analog phone numbers. The information provided from this scan is being utilized to eliminate unsecured remote access.
- **Internal Network Scanning Assessment:** Internal scanning detects unauthorized capabilities on the internal network. Through contractual support, commercial and public

domain tools were used to perform the analysis. The results of this analysis are being utilized to address vulnerabilities associated with system configuration, unidentified or undocumented services and equipment, and to address network segmentation issues.

- **Network Architecture Review:** Network architecture reviews evaluate the current and planned network architecture and recommend enhancements to increase the security of the proposed network.

- **E-government Security:** The Security Infrastructure is evolving to meet the increased need for e-government activities. Activities include Public Encryption Infrastructure (PKI) certificates, which identify specific Internet servers and provided encryption capabilities; and secure authentication for transactions and data requiring privacy.

- **Anti-Virus Protection:** The County uses the Three-Tier protection model with anti-virus software employed at the Internet Gateway, on servers and on desktop/laptops. With the implementation of a new firewall, anti-virus software will be employed at the firewall level. Virus protection is also the Outlook E-mail platform with the capability to perform subject-line filtering. Currently the majority of malicious code attacks (e.g. virus, Denial of Service, WORM, etc.) are being stopped preventing an infection of the system.

- **Firewall Implementation:** External communications entering the County's system are routed through dedicated circuits or via the Internet. All external traffic transiting the Internet is routed through a firewall before access to the County's system is granted. Behind the firewall the County has implemented a public/private network topology. Platforms that contain publicly accessible information are located on the public network. Platforms that require more protection are located throughout the private side. The firewall is implementing controls to ensure that the majority of external hosts are denied access to the internal network.

- **Mainframe to Decentralized Network Infrastructure:** The Security Infrastructure currently in effect is a centrally managed enterprise effort using decentralized computing platforms. Every County user is granted the required access necessary to perform job functions. User identification and authentication is based upon a unique User ID that is used to create access accounts on the mainframe, network, servers, and other platforms. Auditing on all platforms is conducted based upon this User ID. Users are authenticated to the system by using passwords uniquely connected to the User ID. Security functionality (i.e. User Identification and Authentication, Access Control and Auditing) is accomplished at the operating system, with such functionality that is inherent to the operating system, and at the application level using internal access tables and application specific controls.

- **Use of Security Tokens for Dial-Up Remote Access:** Dial-Up Remote access is granted to individuals who are approved telecommuters; users who periodically need to access the system from home or other locations, and individuals who need access while traveling. By use of Dial-Up Remote access the user is provided the same access as if the user were physically present at his or her workstation. Dial-Up Remote authentication uses security tokens, which provide two-factor authentication.

- **Audit Tools:** Info Sec has the ability to audit user activity at all device levels including servers, PCs and Laptops.

- **Computer Forensics:** InfoSec has the capability to interrogate user activity on county network, databases and internet use. These services are used to support investigations.

The Federal Rules of Civil Procedure (FRCP) amendments took effect December 1, 2006. The amendments (e-Discovery) mandate that when the County reasonably anticipates litigation, the County must take affirmative steps to preserve electronically stored information (ESI). The County can reasonably anticipate litigation with EEOC complaints, claim letters, lawsuits filed against the County, its Board or employees, when someone threatens to file suit, during investigations and anything else that makes litigation "foreseeable". Once an attorney for the County has made a determination that litigation is foreseeable, they issue a notice to Infosec to find, preserve and retain any electronically stored information identified by the attorney. Information stored electronically includes email, instant messaging threads, SKYpe chats and other forms of electronic communication. The changes to the FRCP require organizations to manage their data in such a way that this data can be produced in a timely and complete manner when necessary during legal discovery proceedings. Possible sanctions for not preserving ESI include adverse inference jury instruction, monetary sanctions against the attorney or the party or both, disallowing testimony or defense and bad publicity.

## ► Method of Service Provision

Services are provided primarily by internal staff and expert contractors for operations support and projects.

## ► Mandate Information

There are several federal and/or state mandates affecting this LOB, specifically in protecting integrity of financial reporting, the privacy of certain information and health records (HIPAA), as well as lawful uses of the internet.

Approximately 60 percent of this LOB is state or federally mandated. See the January 2007 Mandate Study, page 11 for the specific federal or state code and a brief description. It should be noted that e-Discovery is a recent federal mandate made effective December 2007.

# 70-06: Enterprise Technology Infrastructure

| Fund/Agency: 001/70 | Department of Information Technology |
|---|---|
| **LOB #: 70-06** | **Enterprise Technology Infrastructure** |
| Personnel Services | $4,704,793 |
| Operating Expenses | $10,624,705 |
| Recovered Costs | $0 |
| Capital Equipment | $1,400,000 |
| **Total LOB Cost:** | $16,729,498 |
| Federal Revenue | $0 |
| State Revenue | $0 |
| User Fee Revenue | $15,640,998 |
| Other Revenue | $0 |
| **Total Revenue:** | $15,640,998 |
| **Net LOB Cost:** | $1,088,500 |
| | |
| Positions/SYE involved in the delivery of this LOB | 53 / 53.0 |

*Note: This LOB contains portions of the General Fund and Fund 505. Please see the table below for a cost summary:*

| LOB #: 70-06 | General Fund | Fund 505 | Total |
|---|---|---|---|
| Personnel Services | $1,004,264 | $3,700,529 | $4,704,793 |
| Operating Expenses | $84,236 | $10,540,469 | $10,624,705 |
| Recovered Costs | | | $0 |
| Capital Equipment | | $1,400,000 | $1,400,000 |
| **Total LOB Cost:** | $1,088,500 | $15,640,998 | **$16,729,498** |
| Federal Revenue | | | $0 |
| State Revenue | | | $0 |
| User Fee Revenue | | | $0 |
| Other Revenue | | $15,640,998 | $15,640,998 |
| **Total Revenue:** | $0 | $15,640,998 | **$15,640,998** |
| **Net LOB Cost:** | $1,088,500 | $0 | **$1,088,500** |

## ► LOB Summary

The Enterprise Technology Infrastructure (ETI) LOB in the Department of Information Technology (DIT) provides the technology infrastructure framework and central operational management for computer systems in Fairfax County. Services are provided for all County agencies, as well as the Fairfax County Public Schools, the Fairfax County Water Authority, and Circuit, General District, and Juvenile and Domestic Relations Courts. ETI provides a central center of operation (enterprise data center) for servers and processors, data access and storage, hardcopy production and output, and system back-up and recovery needs. ETI also performs comprehensive platform architecture support services for the mainframe, Windows and Unix servers, operating systems, databases, middle-ware technology, and print services. ETI is also responsible for the operation of the County's Outlook/Exchange (e-mail, calendaring and messaging system, and Citrix remote interface). In the DIT budget, this LOB includes several branches with specialists:

- Enterprise Data Center Operations
- Computer Platforms (Servers, Citrix, Exchange/Outlook, Unix and Windows)
- Database Administration (DB2, IDMS, Oracle, SQL)

*Note: other related and integrated technology hardware environments are represented by the End-User Support Services LOB which is staffed in both the DIT general fund and DIT 505 Infrastructure fund), and, the Enterprise Fleet Digital Printer Copier Program which is in a separate fund – Fund 504- which is shared with the Department of Cable Communications and Consumer Protection's Print Shop).*

ETS actively participates and/or consults with agencies in the following areas:

- hardware computer platforms, operating systems and middleware, software configuration management and systems monitoring;
- system engineering and integration between system platforms;
- technology architecture requirements for new systems;
- system problem resolution;
- database design and administration;
- server procurement and installation and monitoring;
- data storage; and
- disaster recovery and IT COOP.

**Background**

DIT has adopted IT industry technology architecture innovations that have enhanced business information processing, storage and retrieval activities. Enterprise Technology Infrastructure (ETI) LOB in DIT provides computer hardware platform, database and middle-ware architecture support for over 1,000 applications in the County. ETI supports multiple computer platforms including the mainframe with several mission critical applications (human resources, payroll, financial accounting personal property tax, public safety applications and others), over 800 Windows based servers supporting a variety of agency based applications, 25 mid-tier UNIX servers supporting applications such as enterprise e-mail, Libraries, DPW-LDS, Real-Estate, human services applications, and related data storage systems. The County's portfolio of application systems and have grown dramatically in the past 5 years, which increases processing and data storage requirements and related performance. (*See Charts in Performance Measurements section).*

Database support has expanded to include more than 50 ORACLE and 150 SQL Server production databases. This is in addition to mainframe based IDMS and DB2 databases. Correspondingly, data storage requirements have grown by <u>one thousand percent</u> in the County since 2001.

In addition to duties in implementing and maintaining computer processing environment for enterprise-wide and agencies systems, the technical staff in ETI also performs internal consulting for county agencies in the analysis, design, implementation and support of agency specific systems, and

work with the project managers and analysts in the DIT Application Development, e-Government, End-User Support, and Information Security LOBs. ETI performs technical reviews of all agency hardware/software procurements. ETI is the DIT lead LOB for computer disaster recovery and COOP planning.

**Functions That Are In The ETI LOB**

**Enterprise Technology Center (ETC):** The ETC (Data Center) contains over 700 servers, mainframe and mini-computers, high speed impact and laser printers, and the enterprise network's central communication lines, routers and hubs; all in a temperature controlled, raised floor environment that can operate on its own independent power source.

The ETC operates 24 hours a day, 7 days a week for scheduling, monitoring, hardcopy and backup/restore services, and generates and distributes 300,000 documents annually, including Court Dockets, Residential and Commercial inspection schedules, Real Estate Bills, Personal Property taxes, 1099's, W-2's and payroll stubs. The ETC also executes 387,000 batch (overnight) computer programs each year that support financial transactions, mailing labels, and electronic bank file transfers for Community Service Organizations, employees, and business partners (i.e., banks, mortgage companies, state and federal governments).

ETC is also responsible for Disaster Recovery support for all mission critical County systems. ETI staff maintains an off-site tape storage facility for system backup tapes, and conducts three Disaster Recovery exercises each year. During the Disaster Recovery exercise, systems are installed and tested at the County's Disaster Recovery "hot" site by County employees to ensure business continuity in the event of a Data Center disaster (flooding, fire, tornado, etc.).

**The Technology Platform group** supports 4 different database management systems (DB2, ORACLE, IDMS, SQLSERVER,), 200 middle-ware/third party products, and 4 operating systems (OS/390 on the mainframe, open systems and e-government hardware platforms). This group responds to over 1,500 requests each year from County agencies and citizens for assistance in the design and administration of databases, baseline and ad-hoc reports, and the procurement, configuration and deployment of application, file and print servers.

Systems Management (SM) staff maintains the "guts" of all application systems by installing and maintaining server and mainframe operating systems such as WINDOWS 2003, UNIX and OS/390. SM staff also creates and manages over 12,000 User IDs and 117 million middle-ware transactions that support e-government, enterprise and agency-specific applications such as FAMIS, CASPS, ISIS, PAMS, PRISM, SYNAPS, REABS, Fire, Police, and billing and client tracking systems of the Water Authority and Office for Children.

SM staff is responsible for the development of all County server, database and operating system standards and also provides multi-platform (server, mainframe) "quick response" teams to resolve agency IT emergencies. Examples of quick-response activities include fixing agency servers or databases anomalies and system fail conditions, supporting agency developed systems that flounder after the "departure" of agency IT staff or vendors, and developing new reports required for County agencies, FOIA inquiries, security related requirements.

Components:

- Storage Area Network (SAN) addresses the explosive growth in storage. Benefits of the SAN include: providing the ability to share data across different platforms rather than building "islands of data"; and reducing storage costs by standardizing on a single enterprise solution rather than operating system specific storage solutions. The SAN will reduce the total cost of ownership, and reduce the return on investment for storage and related acquisitions by providing scaleable storage capacity that will allow users to increase their storage as needed, and provide a single resource point for storage for all platforms and applications.

- County-wide Windows Active Directory Services provides a standard server operating system for all servers optimizing the management of network resources, streamline the administration of user id's and passwords and, implementing group policies that standardize desktop configurations thereby reducing the time required to fix end-user PC problems. This also eliminates incompatibilities among various server operating systems and enables end-user single point of entry to County data. County IT staff will have the capability to maximize limited training resources on the mastery of one server operating system to enhance staff's ability to administer the network server infrastructure.

- MS Office desktop and Systems Management Server (SMS) facilitate improved business communications and data sharing and provide a platform with automated capabilities for work group collaboration and coordination. It also extend mainstream desktop productivity tool to integrate with emerging Internet and Intranet capabilities. SMS on desktops automates the distribution of software to desktops, and allow staff to resolve desktop problems electronically rather than visiting each individual PC thereby reducing the time and cost to support desktops throughout the County.

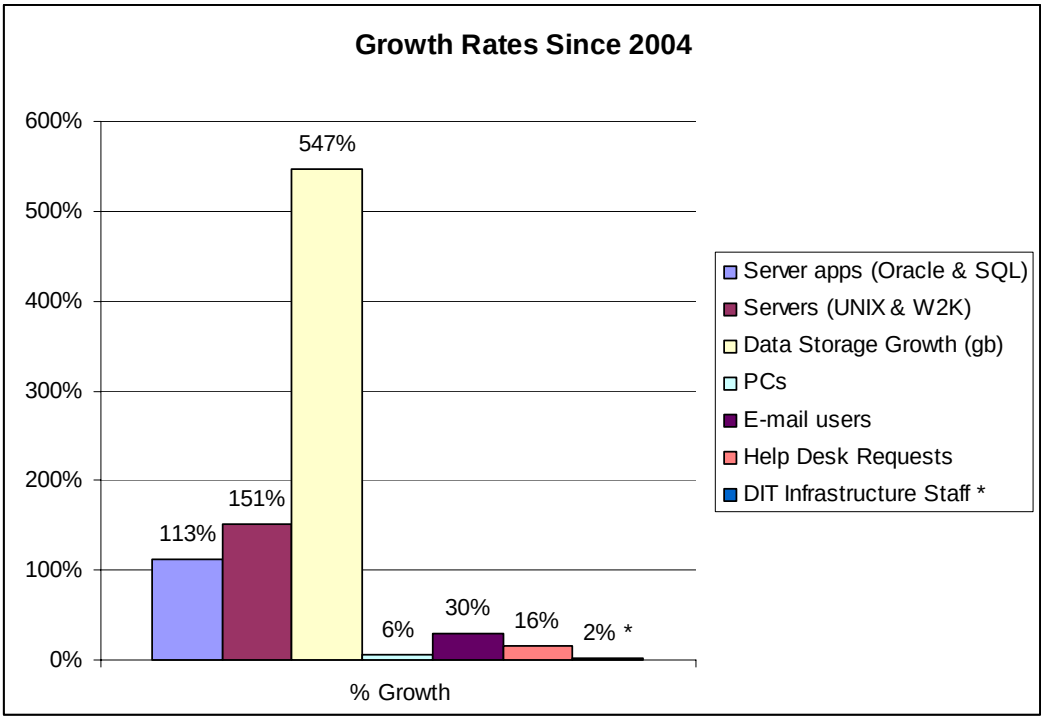
- MS Exchange and Outlook, which is the enterprise e-mail and messaging management systems. Developed, tested on 8 different occasions, and implemented a Disaster Recovery Plan for mission critical County systems to ensure business continuity in the event of a disaster.

ETI has an exceptional performance record. On average 99.8 percent system availability rate is maintained (does not include scheduled system maintenance time) for enterprise application systems.

It should be noted that ETI has been viewed quite favorably in a study performed by the Gartner Group, the IT industry's leading management consulting firm. The Gartner Group found that DIT's desktop and server total cost of ownership is significantly lower than peers in both the public and private sectors, with support of the County's hardware and software infrastructure found to be more efficient and cheaper than other private or public IT support organizations similar in size and scope.

Challenges faced by ETI include server consolidation, exponential growth in data storage requirements, electronic records retention requirements, going 'green', and expanded disaster recovery and COOP requirements.

There are no performance measures for the LOB, but the following chart shows growth in many areas of this LOB.




## ► Method of Service Provision

Services are provided primarily by internal staff. Consultants/contractors are utilized as needed for special projects or for areas where additional staffing is needed. Recipients of these services include: e-government; Applications; Communications Technologies; User Support Services; GIS; all Fairfax County agencies and the Board of Supervisors' offices.

The ETI is funded both by the General Fund and by Fund 505.

Hours of operation are 365 days a year, 7 days a week, 24 hours a day for critical services. Both onsite and on-call support are provided.

## ► Mandate Information

Approximately 60 percent of this LOB is state or federally mandated. See the January 2007 Mandate Study, page 11 for the specific federal or state code and a brief description.

# 70-07: User Support Services

| Fund/Agency: 001/70 | Department of Information Technology |
|---|---|
| **LOB #: 70-07** | **User Support Services** |
| Personnel Services | $5,007,425 |
| Operating Expenses | $6,328,847 |
| Recovered Costs | $0 |
| Capital Equipment | $0 |
| **Total LOB Cost:** | $11,336,272 |
| Federal Revenue | $0 |
| State Revenue | $0 |
| User Fee Revenue | $6,179,900 |
| Other Revenue | $0 |
| **Total Revenue:** | $6,179,900 |
| **Net LOB Cost:** | $5,156,372 |
| | |
| Positions/SYE involved in the delivery of this LOB | 47 / 47.0 |

*Note: This LOB contains portions of the General Fund and Fund 505. Please see the table below for a cost summary: Also included in this LOB are PSTOC positions not reflected in the FY 2008 Adopted Budget Plan.*

| LOB #: 70-07 | General Fund | Fund 505 | Total |
|---|---|---|---|
| Personnel Services | $4,480,748 | $526,677 | $5,007,425 |
| Operating Expenses | $864,057 | $5,464,790 | $6,328,847 |
| Recovered Costs | | | $0 |
| Capital Equipment | | | $0 |
| **Total LOB Cost:** | $5,344,805 | $5,991,467 | **$11,336,272** |
| Federal Revenue | | | $0 |
| State Revenue | | | $0 |
| User Fee Revenue | | $6,179,900 | $6,179,900 |
| Other Revenue | | | $0 |
| **Total Revenue:** | $0 | $6,179,900 | **$6,179,900** |
| **Net LOB Cost:** | $5,344,805 | ($188,433) | **$5,156,372** |

## ► LOB Summary

The User Support Services (USS) LOB in the Department of Information Technology (DIT) is responsible for providing direct technical support services for over 12,000 end-users with first tier service to 22 agencies and partners with the remaining County agencies for second tier technical support. The role of User Support Services is comprehensive, providing a wide-range of technical services, including help desk support, dispatched technicians, the PC replacement program, and PC break-fix (desktop hardware (PCs) and software (Microsoft) administration and management), network user access and authentication, and blackberry severs. The activities of this area spans the spectrum from daily operational requirements, to standards and support in implementation of IT initiatives. The funding for USS staff and activities comes from Fund 505 and Fund 104.

**Background**

The basic services provided by this LOB have always been a part of Department of Information Technology's core mission, but have expanded dramatically in the past several years. Over the years, its organizational structure has evolved into the Technical Support Services groups and Technical Support Center (help-desk activity) into an integrated business unit of several teams: Desktop Support Services organized in regions, the PC replacement program, direct Customer Services liaisons and Technical Support Center whose primary purpose is to respond directly to the individual users' technical needs (problems, break/fix, or installation) via the phone or dispatch to first and second tier technical staff. The organizational changes have resulted from streamlining efforts and enhance DIT's capability to handle expansion in technology components without staff increases. This has enabled the organization to leverage staff and resources effectively and provide services in our rapidly changing technological environment, which has experienced phenomenal growth in both the expanded use of new technology and in the services provided to support it. The desktop support group configures, distributes and/or repairs 3,500 devices each year, with a total inventory of 13,000 desktops and printers.

We systematically overhaul the County's computing environment to provide the latest and most powerful desktop computing standards to county end-users, based on a determined lifecycle of supportable technology. Technology changes of the last five years were rapid and wide-ranging that the users and the providers of technology support must keep up with a rapid pace of change, which normally requires increased level of skill sophistication and the support level demand from users.

PCs are "standard equipment" assigned to almost every office worker. PC operating systems, MS-Suite application resides on local hard drives, with data residing on centrally managed network based file servers supported by the ETI LOB in DIT. This includes more complex technical support requirements for workers in using the power of these tools in their daily jobs and problems associated with up-time performance expectations. The proliferation of applications, larger data files and increased usage of e-mail with file attachments has also meant more support at the back end (ETI LOB) as well.

In order to manage this environment, USS operates under a standards policy for products, provides various awareness campaigns, develops use policies, and works with DIT's training unit (see Asset and Policy Management LOB) to determine course offerings.

Here is a very brief review of how dramatically the client/server technology deployment has increased in the past five years (estimated):

| | 1996 | 2001 | 2007 | Approx. % Increase |
|---|---|---|---|---|
| Number of PCs | 1,981 | 8,103 | 12,000 | 600% |
| Number of Servers | <20 | >120 | 900 | 800% |
| Number of E-mail Users | 3,500 | >10,000 | 14,000 | 250% |
| | | | | |
| Number of associated merit staff | 5 | 14 | 14 | |

* Service Level is 24 to 48 hours for dispatch.

In addition to the widespread use of technology throughout the County, the rapid technological advances in software technology also have resulted in the need for more robust. To keep systems operational and ensure the hardware supports software implementations, DIT manages a strategy

that replaces PCs on a regular cycle through the PC replacement program, which began in FY 1995. While this has worked, we continue investigating best-practices and other acquisition strategies for supplying and managing the PC inventory for the future.

The tremendous increase in the user population along with the implementation of more advanced end-user computing tools created additional increases in direct and indirect user support. The following strategies were developed to address the user support needs and expectations:

- The Technical Support Center provides County users with a central point of contact for technical support.
- Desktop Support Services group put the teams most directly involved with user support together in regions for faster service delivery and reduced transportation time and costs.
- User outreach programs that include three staff focused on direct interface for high level agency user needs and to provide additional technical support liaison with staff in Enterprise Technology Infrastructure LOB (see 70-06).

In addition to daily operation support of its customers, the User Support Services LOB also provides special support for ad hoc events. A sampling includes the annual Celebrate Fairfax and Fall for Fairfax fairs, local, state, and federal elections, Senior Job fairs, and special events in the Library (such as summer programs for children requiring additional computer resources), Senior Tax Assistance program, and special situations such as elections, Emergency Operations support in setting up remote relief sites, and Strike Force operations.

## ► Method of Service Provision

Although services are expected 24 hours a day, 7 days a week, and 365 days a year for certain customers, USS has a single workforce shift (staggered), with all staff on-call.

Business Hours: The Technical Support Center business hours are Monday-Thursday 7 a.m. to 9:30 p.m., Friday 7 a.m. to 6:30 p.m., Saturday 10 a.m. to 5 p.m., and Sunday 12 p.m. to 6 p.m. Staff is on site prior to and after these hours but phone support is available during these hours.

Desktop Support Services core hours are 8 a.m. - 4:30 p.m. but staff are onsite as early as 6 a.m. and as late as 5:30 p.m., Monday through Friday.

Locations and Clientele: 200 plus locations across the County.

Methods of support: Onsite, telephone, e-mail, remote support, consulting are all used by User Support Services staff. A variety of technologies and other tools are used to automate the work of reduce the amount of direct staff touches to PCs.

## ► Mandate Information

There is no federal or state mandate for this LOB.

# 70-08: Asset and Policy Management

| Fund/Agency: 001/70 | Department of Information Technology |
|---|---|
| **LOB #: 70-08** | **Asset and Policy Management** |
| Personnel Services | $1,197,560 |
| Operating Expenses | $776,986 |
| Recovered Costs | ($429,304) |
| Capital Equipment | $0 |
| **Total LOB Cost:** | $1,545,242 |
| Federal Revenue | $0 |
| State Revenue | $0 |
| User Fee Revenue | $0 |
| Other Revenue | $0 |
| **Total Revenue:** | $0 |
| **Net LOB Cost:** | $1,545,242 |
| | |
| Positions/SYE involved in the delivery of this LOB | 29 / 29.0 |

## ▶ LOB Summary

This LOB provides management, policy, fiscal and administrative services for all the divisions, programs and services in the Department of Information Technology. It is the responsibility of this LOB to ensure coordination of all programs, to provide administrative support, to develop County technology standards and ensure compliance, to develop the technology architecture, to provide fiscal and human resource management, to coordinate information technology audits, and to manage the Fund 104 portfolio.

This LOB provides support oversight for countywide information technology planning, standards, and IT budgeting and fiscal management. It supports work of the Deputy County Executive for information, Chief Technology Officer/Director of DIT, the Senior IT Steering Committee, and, the Information Technology Policy Advisory Committee (ITPAC), which is appointed by the Board of Supervisors, to review and advise the Board regarding the County's information technology direction.

It also provides oversight for the planning and management of the functions, programs and services of the Department of Information Technology; execution of the Fund 104 IT investment portfolio; and strategic and tactical direction to provide information technology support Countywide. This includes:

- Executive management of the agency, including strategic planning to support the County's information technology needs, leadership and participation in senior management steering committees and boards;
- Enterprise-wide and departmental policy development;
- Executive oversight for special projects;
- Regional initiatives and programs such as COG, Commonwealth Interoperability, and others;

- Management of IT equipment replacement programs;
- Administration of DIT's budgets, procurement, and financial accounting, human resource management and workforce planning;
- Grant management for regional programs;
- Project Management oversight administration;
- Coordination of audits;
- Development of performance measurements and balanced scorecard;
- Training and business applications resources services; and
- Awards programs and marketing and acceleration of best practice implementation of IT in government.

**Fiscal Management**
The fiscal management program prepared budgets totaling $127 million in FY 2008, including the General Fund, Fund 505, Fund 104, and portions of Funds 303 (and the PSTOC IT budget of $37 million in Fund 312), and Fund 120. Expenditures are monitored and analyzed and required financial reports are completed and provided to staff. Financial staff works closely with DIT's management, and County departments such as the Department of Management and Budget (DMB), Department of Finance, Department of Human Resources, and the Facilities Management Division to develop budgets, perform financial monitoring, produce invoices and customer account statements, collect revenues, ensure compliance with federal and state requirements, and manage our physical workspace. The human resource area provides personnel administration support, including payroll and processing of all personnel actions.

The contracts management activity supports program development, performance management and monitoring activities on behalf of the Information technology programs. Staff acquires, reviews, and analyzes DIT contract information, then works with program management to keep them informed of changes and pertinent deadlines. In addition, staff prepares the necessary correspondence and documentation to ensure that viable contracts are in place and are correctly utilized to minimize delays in materials and or service availability.

**Research and Performance Management**
This activity includes monitoring programs to imbed continuous improvement and measurement into all DIT functions. A major effort is underway for developing, enhancing and maintaining a comprehensive, strategic performance measurement system. This system provides continuous feedback to managers as to the progress of their unit in meeting the Information Technology goals published in the IT Plan. In addition, work is being done with the DIT divisions on specific improvement projects. The Application Life Cycle Standards, for example, improves the development of applications by providing a consistent framework to ensure communications and high quality applications. The individual DIT branches (LOB) are provided assistance in examining their processes and helping them implement improvements.

This area also provides leadership for advanced and emerging technologies, and assesses potential application and readiness of new technologies for cost-effective deployment throughout Fairfax

County. It provides consulting support on major technology acquisitions, including formulation of requests for proposals, assessments of product and vendor viability, formulation and execution of negotiating strategies, evaluation of best-value proposals, and consultations on licensing models, pricing structures and other key terms and conditions of major contracts. It supports efforts to formulate and maintain a cost-effective technical architecture that maximizes IT infrastructure responsiveness to changing business requirements. In addition, it performs IT planning and analysis activities in support of the Director and CIO, including monitoring a myriad of sources on IT best practices and industry trends. Relevant and timely published research is disseminated to DIT senior management and operational staff.

**IT Portfolio Management**

This activity manages the County's Information Technology Fund (Fund 104) where major technology initiatives and projects with the highest priority for the County are budgeted. An IT program manager with project experience conducts these activities and monitors, and reports progress of the portfolio to the Chief Technology Officer. *(See Information Technology Fund 104 LOB 104-01).*

**Business Applications Resources (training)**

The Business Applications Resources Branch (BAR) seeks to facilitate and enable the efficient, effective and responsible development and use of business information systems and desktop applications by Fairfax County employees. This will be achieved through BAR's participation in the Department of Information Technology Systems Development Life Cycle Standards (SCLCS) processes and by providing direct customer service to sponsoring agencies and end-users through:

- Business process analysis for continuous work process improvement;
- Systems implementation planning;
- Effective software acceptance testing;
- Comprehensive end-user documentation and training;
- A state-of-the-art learning center;
- Alternative learning strategies including online learning methodologies, and
- Support, consultation and evaluation services to the agencies and County employees for major IT projects and initiatives.

Increasing the accessibility of County government to citizens and businesses demands that we have staff that can manage both operational support and the new technologies. To accomplish this, we have to retain and train skilled staff.

This constant demand for keeping staff current in a world of constantly changing and improving technologies challenges the traditional primacy of instructor-led classroom training. Efficient, cost effective Technology-Based-Training (TBT) allows employees to learn at their own pace, at times that are convenient to them and with minimal disruption to the staffing requirements of the workplace.

## ► Method of Service Provision

Staffing for the LOB is comprised of the department director, program managers, accountants, analysts and administrative clerks, which are all full-time merit staff. The budget also includes the Deputy County Executive for information.

## ► Mandate Information

There is no federal or state mandate for this LOB.

# 70-09: Radio Communications

| *Fund/Agency: 001/70* | *Department of Information Technology* |
|---|---|
| *LOB #: 70-09* | *Radio Communications* |
| Personnel Services | $755,593 |
| Operating Expenses | $180,000 |
| Recovered Costs | $0 |
| Capital Equipment | $0 |
| **Total LOB Cost:** | $935,593 |
| Federal Revenue | $0 |
| State Revenue | $0 |
| User Fee Revenue | $621,490 |
| Other Revenue | $0 |
| **Total Revenue:** | $621,490 |
| **Net LOB Cost:** | $314,103 |
| | |
| Positions/SYE involved in the delivery of this LOB | 10 / 10.0 |

## ► LOB Summary

The Radio Communications group in DIT provides design, engineering, acquisition, deployment, system administration, maintenance, and emergency restoration services for the County's Public Safety Radio System used by the Police, Fire and Rescue, and Sheriff's Departments; for the Public Service Radio System used by general government agencies, including the Public Schools, Public Works and Environmental Services and Transportation; and for the 9-1-1 Emergency Telephone System utilized at the Public Safety Communications Center. In addition, the work program provides oversight and assistance to Information Technology projects related to Public Safety Communications applications, and further acts as the DIT liaison to the County's Emergency Management Section. This LOB is supported by Fund 505.

The Radio and Emergency Services work program provides the following functions for the County:

**Technical Program Management:** Technical staff provides work program supervision and engineering, consulting, system design, project management and logistical expertise to users of the County's radio and 9-1-1 systems. Essential tasks include overall Radio Service program management, and participation in local and regional frequency use committees; the licensing and

ownership responsibilities for the many radio frequencies assigned to the County, as dictated by the Federal Communications Commission; the management responsibilities that are associated with owning and/or leasing of radio tower and transmitter sites; frequency analysis, and the review and evaluation of other public or private sector communications systems which may impact or interfere with the County's radio communications capabilities; the administration of the County's Public Safety and Public Service radio system networks, 9-1-1 System infrastructure, and other associated components and services; and developments and issues associated with new technology which may meet County agency needs and/or have an impact on program staff. The group implemented the digital trunked simulcast radio system for over 3,000 public safety users (County Police, Fire and Rescue, and Sheriff's Departments, as well as the police departments for the City of Fairfax and the Towns of Herndon and Vienna), and is currently planning for upgrade of this system for move into the PSTOC and for interoperability with locality partners in mutual aid. In addition, this group implemented replacement of the 3,000 subscriber Public Service Radio System (Schools, Public Works, FASTRAN, Water Authority, etc.). Staff members are also managing the replacement of the "9-1-1" Call Answering System at the County's Public Safety Communications Center (PSCC).

Services also include management of the regional radio interoperability program, which includes local government s across the three states (VA, MD, and DC) in the metro area, and with the public safety agencies of the Commonwealth of Virginia. Fairfax County's Radio Services group is also leading the region in managing and implementing federally mandated re-banding of the 800 MHz frequencies used by the radio network.

Other regional activities that the group hosts and/or coordinates which are not funded through the budget include coordination of the annual radio interoperability rally which draws participation from local, state and federal agencies for demonstration of capabilities and future planning efforts for enhancements, and coordination and participation in Department of Homeland Security required Tactical Communications Interoperability Exercises, and management of the regional radio cache.

**Technician-Level Services**: Radio Services Center staff provides for the daily customer service activities of the work program, and for emergency restoration response or other after-hours support for County agencies. Center staff provides hands-on service, installation, and repair of portable (handheld), mobile (vehicle-mounted), and fixed site (some base stations and transmitters) radio equipment. Program staff maintains a mixture of old radio equipment (board-level maintenance) but have also trained and are migrating to the service and support of CPU-based programmable portable and mobile radios. Other tasks include installation and troubleshooting of mobile computer terminals (MCTs or laptop PCs) and data radios in public safety vehicles, maintenance of some audio and paging systems for fire stations and other County facilities and functions, and the certification of handheld radar units for the County and area police departments. Another service provided is radar gun calibration.

## ▶ Method of Service Provision

Until recent years, all maintenance for portable and mobile radios, and for most of the base stations and transmitters, was performed by County employed technicians. The County is finishing its migration to a new vendor-maintained Public Safety Radio System, encompassing about one-half of the "fleet" (and which allowed for the elimination of 5/5.0 SYE positions from the Radio Services Center). County technicians continue to maintain all components of the large Public Service Radio System, and will do so until its eventual replacement. Other County staff has completed the transition from "bench-tech" type work to administration and management of the integral data and

software applications in 24-hour use by the new Public Safety Radio System (most installation work and hands-on maintenance in the field are done by private contractors). A private consultant is also used for higher-level radio system engineering work.

## ► Mandate Information

This LOB is affected by the FCC mandated national 800 MHz re-banding effort, which is not included in the January 2007 Mandates Report.

# 70-10: Courtroom Technology

| *Fund/Agency: 001/70* | *Department of Information Technology* |
|---|---|
| ***LOB #: 70-10*** | ***Courtroom Technology*** |
| Personnel Services | $256,078 |
| Operating Expenses | $50,000 |
| Recovered Costs | $0 |
| Capital Equipment | $0 |
| **Total LOB Cost:** | $306,078 |
| Federal Revenue | $0 |
| State Revenue | $0 |
| User Fee Revenue | $0 |
| Other Revenue | $0 |
| **Total Revenue:** | $0 |
| **Net LOB Cost:** | $306,078 |
| | |
| Positions/SYE involved in the delivery of this LOB | 3 / 3.0 |

## ► LOB Summary

The Courtroom Technology Office (CrTO) was established to develop, coordinate, and implement courtroom technology and interface with automated information systems throughout the 19th Judicial Circuit supporting judicial proceedings and trials. Capabilities include remote testimony, video arraignment, Court "way finding" and docket displays, audio visual evidence displays, and bench computers and related equipment that gives access to Court case systems (for example). Major stakeholders include the Circuit Court, the General District Court, the Juvenile and Domestic Relations District Count, the Office of the Sheriff, the Commonwealth Attorney's Office, and the Bar Association. The CrTO provides oversight for the implementation of these specialized technologies and required infrastructure in County court rooms, and administration of the deployment and use of the specific technologies during proceedings. The CrTO ensures that judges, support staff, and administrative personnel have complete and reliable access to information and the necessary technological support for high-tech trials and proceedings. An area of high priority is the completion of 17 new courtrooms and the renovations of 26 existing courtrooms.

The Courtroom Technology Office's core functions include:

- Strategic planning for effective use of the court room technology equipment for the Circuit court, Juvenile and domestic Relations Court, and General District Court, and integration with related court information systems.

- Acting as the liaison with County Department of Information Technology, Department of Cable Communications, and Supreme Court Office of Technology for standards and architecture.

- Providing project management over the completion of Courthouse technology roll-out and implementation.

- Acting as an advisor/consultant throughout the Judiciary on computer/information systems-related matters.

- Providing oversight and facilitating improvement of operations through system enhancements or new system development.

- Developing the technical needs of the judiciary through the implementation of new technologies such as video conferencing, wireless networking, and video streaming.

- Developing, implementing, and enforcing standards and procedures related to computer/information processing.

- Recommending computer/information services related policy for senior management and/or Policy committee approval.

- Serving as support staff to the Judiciary and affiliated organizations.

- Evaluating and selecting hardware/software and serving as the primary vendor contact.
- Maintaining state-of-the-art expertise on the technology and informing user groups of how the technology can be applied to enhance operational effectiveness.

- Providing equipment set-up and operational support during proceedings.

FY 2007 funding of $1,730,000 was provided under Fund 104 to support the first phase of implementing the recommended technologies in the new wing of the expanded Courthouse. Funding will procure the necessary consulting services, hardware, and software to outfit a modern day courtroom.

Future technologies beyond what has been piloted to date will include Remote Distance Interpreting and Electronic Court Recording.

There are no performance measures for this LOB.

## ► Method of Service Provision

The Courtroom Technology Office (CrTO) is managed by a Courtroom Technology Officer in the Department of Information Technology, under the direction of the Chief Judge and the Clerk of the Court. Support staff includes one Chief Engineer and one highly-trained Courtroom Technologist. Technical staffs from the Enterprise Infrastructure group in DIT and staff in the three Courts are also available to provide assistance as needed.

## ► Mandate Information

This LOB is state mandated. The percentage of this LOB's resources utilized to satisfy the mandate is 100 percent. See the January 2007 Mandate Study, page 17 for the specific state code and a brief description.

# 70-11: HIPAA

| *Fund/Agency: 001/70* | *Department of Information Technology* |
|---|---|
| *LOB #: 70-11* | *HIPAA* |
| Personnel Services | $107,626 |
| Operating Expenses | $20,000 |
| Recovered Costs | $0 |
| Capital Equipment | $0 |
| **Total LOB Cost:** | $127,626 |
| Federal Revenue | $0 |
| State Revenue | $0 |
| User Fee Revenue | $0 |
| Other Revenue | $0 |
| **Total Revenue:** | $0 |
| **Net LOB Cost:** | $127,626 |
| | |
| Positions/SYE involved in the delivery of this LOB | 1 / 1.0 |

## ► LOB Summary

The HIPAA Compliance Program ensures that the provisions of the Health Insurance Portability and Accountability Act (HIPAA) are implemented as appropriate within the Fairfax County Government. HIPAA is a federal law enacted by Congress in 1996 to improve portability and continuity of health insurance coverage; to combat waste, fraud, and abuse in health insurance and health care delivery; to promote the use of medical savings accounts; to improve access to long term care services and coverage; and to simplify the administration of health insurance.

Compliance with the law requires ensuring the privacy and security of "protected health information" and the transition of health claims transactions from paper-based to electronic forms. Under the law, residents and employees are provided with notice of the County's privacy practices regarding the handling of their individually identifiable health information. Employees are trained on appropriate policies and procedures related to the protection of health information in written,

electronic, and oral mediums. Also required is a single entity point of contact for investigations and complaints regarding the entities' handling of HIPAA covered information.

## ► Method of Service Provision

To coordinate the County's enterprise-wide compliance with the law, the Board of Supervisors approved a HIPAA Compliance Manager position in FY 2003. The position is funded in the Department of Information Technology's general fund, reporting directly to the Deputy County Executive for information. The county implemented the program initially at a county-wide level as a focused oversight function based on this industry-wide law. Core services are for the three county HIPAA covered agencies: The Health Department, Community Services Board, and Emergency Medical Services in the County's Fire and Rescue Department, and, provides consultation to other agencies that have/use health record information. HIPAA assists covered agencies with assessments, agency specific policy development, service agreements, operational practices recommendations and awareness campaigns, and is the county's point of coordination for HIPAA related investigations. Since its inception Fairfax County Government covered agencies have incorporated HIPAA requirements in their business practices and operations.

The Department of Information Technology provides support by implementing HIPAA compliant security requirements, ensuring the implementation of electronic data transmission (EDI) standards for health record and covered information such as reports, and ensuing modification of automated information processing systems for electronic health records compliance. The HIPAA manager works with the IT Security Office in the Department of Information Technology for implementation of technology related standards that reduces the county's risk. Over the years since inception, the program has achieved major implementation goals and now works with covered agencies to ensure proper controls are incorporated in new initiatives and systems.

## ► Mandate Information

This LOB is state mandated. The percentage of this LOB's resources utilized to satisfy the mandate is 100 percent. See the January 2007 Mandate Study, page 11 for the specific federal code and a brief description.

# 104-01: Information Technology Initiatives

| Fund/Agency: 104 | Information Technology |
|---|---|
| **LOB #: 104-01** | **Information Technology Initiatives** |
| Personnel Services | $0 |
| Operating Expenses | $13,621,454 |
| Recovered Costs | ($1,212,639) |
| Capital Equipment | $1,351,200 |
| **Total LOB Cost:** | $13,760,015 |
| Federal Revenue | $0 |
| State Revenue | $0 |
| User Fee Revenue | $0 |
| Other Revenue | $1,400,000 |
| **Total Revenue:** | $1,400,000 |
| **Net LOB Cost:** | $12,360,015 |
| | |
| Positions/SYE involved in the delivery of this LOB | 0 / 0.0 |

## ▶ LOB Summary

Fund 104, Information Technology, was established in FY 1995 to strengthen investments and centralize management of technology resources by consolidating major Information Technology (IT) projects in one fund. Based on the 1994 Information Technology Advisory Group (ITAG) study, this fund was created to account for spending by project and is managed centrally by the Department of Information Technology. Historically, a General Fund transfer, the State Technology Trust Fund, the E-911 Emergency Telephone Service Fee, and interest earnings are sources for the investment in the Information Technology projects. In FY 2001, the E-911 Emergency Telephone Service Fee revenue is restricted to funding only those projects that directly supported the Public Safety Communications Center and related project expenses, thus in FY 2001, the E-911 Emergency Telephone Service Fee revenue was moved to Fund 120, E-911 to satisfy a state legislative requirement that E-911 revenues and expenditures be accounted for separately. Fund 104 and Fund 120 IT projects are documented in the annual IT Plan.

The County's technology strategy has several key elements. These are to provide an adequate infrastructure of technology for agencies to use in making quality operational improvements; redesign existing business processes with technology to achieve large-scale improvements in service quality and achieve administrative efficiencies; and promote the use of technology in enabling government services without "doors, walls or clocks". The County's long-term commitment to provide quality customer service through the effective use of technology is manifested in service enhancements; improved means of providing access to services electronically, expedited response to citizen inquiries, improved operational efficiencies, better information for management decisions, and increased performance capabilities.

Development of the initiatives includes initial project recommendations from the County agencies as part of the annual budget process. Early in the process, Departments are requested to submit both a business and technical viability analysis for each proposed project. The business analysis, reviewed by staff in the DMB, includes such factors as business objectives, return on investment (including cost savings, cost avoidance, enhanced revenue, non-quantifiable service benefits, staff savings, and

staffing efficiencies), and indicators to be used to measure success, estimated costs, business-related risks and alternatives to the proposed project.

The technical analysis, reviewed by staff from DIT, includes such factors as proposed system architecture and its compatibility with County's Technical Architecture Standards, impact on existing systems, data conversion and electronic interface requirements, and staffing requirements for development, enhancement and maintenance of the project.

From an interview process involving user agencies, a recommendation for project funding is created. The Senior IT Steering Committee and ITPAC review the recommendations, revisions (if needed) are made, and ITPAC writes a letter endorsing the proposed projects and funding to the Board of Supervisors. The Board makes the final decision on funding based on this endorsement.

**FY 2008 Initiatives**

In FY 2008, funding of $13,760,570 is included for initiatives that meet one or multiple priorities established by the Senior Information Technology Steering Committee. These initiatives include a mix of projects that provide benefits for both citizens and employees and that adequately balance continuing initiatives with the need for maintaining and strengthening the County's technology infrastructure. Funded projects will support initiatives in the Human Services, Planning and Development, General County Services, and Public Safety program areas. Although many initiatives meet more than one of the technology priorities, for narrative purposes below, projects have been grouped into only one priority area.

In keeping with guidelines established for FY 2008, agencies were instructed that funding for new projects would be considered only if the submission met one or more of the following criteria:

- Project met one of the five strategic priorities of the Fund
- Project considered low cost, short-term and small in scope
- Contractual obligations and/or to complete a phase of the existing project
- Project must be completed and maintained without additional staff

A Project Review Team consisting of business and technical staff from the Department of Information Technology (DIT) and the Department of Management and Budget (DMB) reviewed all submissions. The project review included identification of projects that provide opportunities for improvement; those that help sustain the performance and reliability of the County technology infrastructure; and those poised to take advantage of technological advancements.

In addition, projects were reviewed from both a business and a technical perspective. On the business side, consideration included whether the implementation of the project would benefit citizens, the County or both. Benefits of the project were weighed against the cost of the project and several risk factors, including the risk of cost and scope escalation due to factors such as the type of technology chosen, organizational disruption, schedule viability and the impact of delaying the project.

On the technical side, factors examined included how closely the project matched, and its impact on, existing County IT infrastructure, and the technical uncertainty of the project as it pertained to the commercial availability of, and the organizational experience with, the proposed hardware, software and resource support. In addition, consideration was given to the availability of human resources both in DIT and the sponsoring agency to staff the project.

Funding Priorities are based on:

1. **Mandated Requirements:** (enacted by the federal government, Commonwealth of Virginia, Board of Supervisors, Court-ordered or County regulation changes).

2. **Completion of Prior Investments:** (multi-year lease purchase, implements phase or completion of planned project).

3. **Enhanced County Security:** (homeland security, physical security, and information security and privacy).

4. **Improved Service and Efficiency:** (consolidate business practices; support more efficient government; optimize management and use of county assets and data; enhance systems to meet the expectations and needs of citizens; and promote service that can be provided through the Internet-'e-government').

5. **Maintaining a Current and Supportable Technology Infrastructure:** (consistent and reliable hardware, software and communications infrastructure; ensure that citizens, businesses and County employees have appropriate access to information and services).

In FY 2008, funding of $13.8 million is provided for initiatives that meet one or multiple priorities established by the Senior Information Technology Steering Committee. These initiatives include a mix of projects that provide benefits for both citizens and employees and that adequately balance continuing initiatives with the need for maintaining and strengthening the County's technology infrastructure. Funded projects will support initiatives in the Human Services, Planning and Development, General County Services and Public Safety program areas. Although many initiatives meet more than one of the technology priorities, for narrative purposes below, projects have been grouped into only one priority area.

The five investment policy objectives relate to the County's continuing focus on making access to government services more reliable, secure, and efficient. The projects on the following pages are supported and will receive additional funding in FY2008.

The established priorities for IT projects for FY 2007 are summarized as follows:

| Priority | FY 2008 Adopted Funding |
|---|---|
| Mandated Requirements | $0.2 million |
| Completion of Prior Investments | $1.5 million |
| Enhanced County Security | $3.1 million |
| Improved Service and Efficiency | $4.3 million |
| Maintaining a Current and Supportable Technology Infrastructure | $4.7 million |
| **TOTAL** | $13.8 million |

**Mandated Requirements - $0.2 million**
The County is responsive to federal and state agencies' mandates, as well as to directives of the Board of Supervisors. Each year, agencies review mandates and directives to ensure compliance. In FY 2008, funding of $217,200 is included for the development of a project to support data conversion from the Juvenile and Domestic Relations District Courts' legacy JUVARE system. The application currently contains historical, archived data and individual records that must be expunged according to the Code of Virginia. With the system upgrade, maintenance, expungement, and purging of data will be ongoing while still allowing for historical data archiving and inquiry.

**Completion of Prior Investments - $1.5 million** The County's IT program focuses on using technology as an essential tool to enable cost-effective delivery of services, and continues to stress the need to build reliable, supportable projects for these services in a timely manner. Many projects are funded annually that can be completed within that fiscal year. Others are multi-phase projects that require more than one year of funding for completion.

FY 2008 funding of $500,000 will allow for the final build-out of the Fairfax-Falls Church Community Services Boards' (CSB) SYNAPS environment, which is a client tracking, third-party billing, and data system. The final phase of the project will enable a maximum of 800 CSB employees to use the system, which will also be upgraded to current specifications with improved security technology to ensure continued data protection.

In FY 2008, funding of $351,000 will provide for further enhancements to the Fairfax Inspections Database Online (FIDO) project, which supports commercial and residential land-use management operations, including the maintenance of permits, inspections, contractor licenses, and code enforcement information for the Department of Public Works and Environmental Services (DPWES), Fire and Rescue Department, Department of Planning and Zoning, and Health Department. Most notably, FY 2008 funding will enable the development of a Web-based portal for residents and building industry users to view the status of permits, inspections and complaints, as well as allow users to notify the County of alleged ordinance violations.

Funding of $280,785 will provide for a back-up location for components of the Health Department's AVATAR system, used as the agency's central database for collecting and maintaining patient information. Funding will help to ensure that the Health Department's central information system remains operational and confidential patient information remains secure, in the event of an unforeseen catastrophic event.

FY 2008 funding of $194,165 will allow for an upgrade to the Office for Children's Child Care Management system. This application is used to process over 2,500 home child care facility permits, connect families with child care providers in the Child Care Resource and Referral System, determine client eligibility, process provider payments, and track enrollments. The application software and supporting technology must be upgraded in order to ensure the application can maintain its operational integrity and will ensure system compliance with County IT requirements and standards.

In addition, funding of $125,000 will allow for an upgrade to the Department of Housing and Community Development's financial and property portfolio management software system. The upgrade will promote compliance with Housing and Urban Development (HUD) requirements; include additional accounting, audit tracking, and compliance tools; and enhance security features.

**Enhanced County Security - $3.1 million**

Ensuring the security of the County's IT investments and information assets is of primary importance to the Department of Information Technology. Through many projects and initiatives, efforts are focused on the security of various levels of County data, from email to homeland security measures. During FY 2008, the County will continue to implement a multi-faceted approach to securing County data and assets.

FY 2008 funding of $2,200,000 is included for the continuation of a multi-phase effort to replace the existing Police Department disparate information systems with an integrated Law Enforcement Records Management System (LERMS). The new system will improve the ability to prevent, respond to, manage, and analyze situations relating to the safety and property of County residents. Intelligence led policing, improved criminal justice, and overall strategic public safety resource deployment will be improved upon implementation. Improvement in the reliability, accuracy, and quality of data will be realized and the system will operate on the principles of "single point of data entry and query" for all functions. The system will expand the capacity of the Police Department, allowing it to better analyze -- statistically and through geographic-based means -- data on incidents and personnel. It will also aid in identifying trends, and assist in staffing decisions and monitoring departmental effectiveness. The system will integrate with the Computer Aided Dispatch (CAD) system in the Department of Public Safety Communications, ensuring a unified technology platform approach that facilitates the seamless sharing of processes and data across public safety functions and leverages available technologies.

Funding of $632,166 is provided in FY 2008 for the fourth year of a seven year annual lease-purchase payment for the new Public Service Radio System network infrastructure. The project replaced a 20 year old Public Service Communications System, which provided two-way radio communications for all County non-public safety agencies, as well as the Fairfax County Public Schools Transportation Department (school buses), FASTRAN and Fairfax Water, with updated technology that meets the needs of user agencies. The system provides adequate call processing capacity and area coverage to more than 90 percent of the area within the jurisdictional boundaries of Fairfax County. The FY 2008 project cost is estimated to be $1,844,805 and based on a portion of project costs, derived from the number of radios users will have operating on the system as a percent of the total number of radios, $1,212,639 will be recovered from Non-General Fund Supported agencies, the Fairfax County Public Schools and Fairfax Water in FY 2008.

In addition, funding of $244,160 is provided to continue implementation of additional internal network access controls, forensics tools, other security devices designed to detect viruses and worms, as well as applications to quarantine renegade devices and prevent unauthorized use of the

County's IT systems. The County security architecture is designed to provide an appropriate level of protection for all County information processing resources regardless of technology platform. Aimed at ensuring the confidentiality of information in an evolving environment, new technologies will be employed to meet current and future security challenges.

**Improved Service and Efficiency - $4.3 million**

There are several projects funded in FY 2008 that provide for additional improvement in service and efficiency. These improvements are aimed at both external County interactions, such as with residents and the business community, as well as internal County processes, that result in improved results on the provision of direct services.

FY 2008 funding of $1,145,000 is provided to support agencies that are currently implementing a document management activity or phase, or are ready to invest in a shared services solution. Imaging and workflow initiatives provide an opportunity for agencies to increase the security and integrity of records; reduce the labor intensive record retrieval and re-filing process; expedite workflow processes through an electronic workflow management system; provide simultaneous and instant access to records; and reduce the costs associated with space and shelving for storage of paper requirements. There are two separate initiatives funded in FY 2008 in the Department of Housing and Community Development and the Department of Finance.

Funding of $800,000 is included in order to begin an assessment for the eventual replacement of the County's legacy systems used to support core business functions including budget, purchasing, finance, and human resource management. The County's human resources system is the first in a phased approach to replace all of these legacy systems. A new system will enable more advanced human resource management capabilities, including workforce planning, analyses of personnel costs, and tracking of employee data. The project will transform the management of the County's human resources activities from a cumbersome, manual system to one that is dynamic and supports the new requirements of human resources management.

In addition, funding of $450,000 is provided to modernize the capability for reporting on financial data in the County's financial systems. A Data Analysis Reporting Tool (DART) will replace existing ad-hoc, stovepipe reporting with a unified reporting methodology and capability. Financial information from the County's financial, procurement, and payroll systems will be integrated in a data warehouse, and reporting features will provide the users the capability to generate on-demand charts, reports, inquiries, and analyses.

In FY 2008, funding of $392,000 is included for the further development of an Integrated Facilities and Grounds Management System used by the Facilities Management Department (FMD) and the Fairfax County Park Authority (FCPA). The system will increase the effectiveness and efficiency of staff and the utilization of capital resources required to maintain and manage County and Park facilities and properties. Funding in FY 2008 provides for integration services required for the implementation of a project management module that will help to manage the capital project process (including scheduling of labor, ordering materials, and creating reports) and the use of wireless technology on additional handheld devices.

Funding of $386,680 will continue the regular process of updating the aerial imagery and digital orthophotography for the County. The original project to develop the GIS base map for the entire County began in 1996. Annual updates of this data are needed to reflect the changes that have occurred over the years. The current program provides for the update of 25 percent of the County's

database each year and allows the County to keep up with the developmental changes and assure users that none of the imagery will be more than four years old. The funding will also continue to support viewing County land in a three-dimensional capacity at County staff desktops in agencies such as the Fire and Rescue Department, Department of Tax Administration, Police Department and Department of Planning and Zoning.

In FY 2008, funding of $300,000 is provided to further enhance ongoing Land Use Information Accessibility Initiatives and address several of the Land Use Information Accessibility Advisory Group's recommendations including: expanding the initial "Search by Address" and "Search by Magisterial District" capabilities to also access rezoning/site plan history, and multiple plan types (the current inquiry capability is for a single plan type); summarizing key site and rezoning plan data in PDF downloadable formats for citizen access; utilizing a citizen notification technology (like the Community Emergency Alert Network, Listserv or other capability) to contact interested constituents about new land use activities in their nearby community (i.e., Site and Re-zoning plan public hearings, approvals, etc.), enhancing the LDSNET and GIS integration to streamline end user navigation between the two systems, and evaluating and designing web tool capabilities that could include 3D imagery to help enable citizen analyses of proposed land use activities.

FY 2008 funding of $275,000 will continue integration of e-government architectures (Interactive Voice Response (IVR), Kiosk, Web, Infoweb, and Wireless) in order to enhance the delivery of information and services, and provide new information and services to citizens. This project will continue to generate economies of scale by providing the needed infrastructure support for the ever-increasing demand for e-commerce/e-government services. Funding will allow for additional Web capabilities to be further integrated, such as new as new electronic payment services, including e-checks and scheduled ACH payments.

Funding of $250,000 will continue efforts to establish a single access point with a common database for County government information and service requests by constituents by integrating and augmenting existing technologies (i.e., voice platform; e-government channels including IVR, Kiosk and Web; Fairfax Inspection Database Online (FIDO); GIS, Intranet Quorum (IQ); and Documentum). The project will provide a familiar, easy to remember telephone number (3-1-1), standardize call taking operations, and enable employees to answer citizen questions and log service requests through a standard interface. This will eliminate the need for citizens to navigate through hundreds of County telephone numbers to find the right one, reduce the number of transfer calls from one agency to another, and minimize the non-emergency help and assistance calls to 9-1-1.

Funding of $150,000 is provided in FY 2008 to support various technology improvements that originated from the Land Development Process Improvement Initiative, a partnership among Fairfax County government, the Northern Virginia Building Industry Association, the National Association of Industrial and Office Properties, and the Engineers and Surveyors Institute. Some of these recommendations include the implementation of queuing management system and customer flow software that can better manage the flow of transactions, maximizing efficiency and increasing throughput. The queuing system would not only be automated and provide a numbering system, but also would be linked to the Fairfax Inspections Database On-Line (FIDO) and would identify bottlenecks in the intake, site permit, zoning review, and plan review walk-through processes, enabling a redirection of staff and/or customers for faster service.

FY 2008 funding of $96,648 provides for tactical initiatives which focus on immediate improvements to information technology functions performed in a limited capacity across the County. Efforts in FY 2008 include the implementation of a legislative tracking module which will allow for an automated way to track federal legislative issues and specific legislation of interest to the County.

In addition, funding of $75,000 will be used to develop an interface between the Department of Community and Recreation Services' and the Fairfax County Public Schools' (FCPS) scheduling systems, used to schedule community use of public athletic facilities at both County and FCPS sites. The interface will enable the County and FCPS to share specialized data that are common between the two systems and increase scheduling efficiencies, eliminate duplication of data entry, and reduce scheduling conflicts that can sometimes occur. FY 2008 funding provides for the County's share of this joint County-FCPS project.

**Maintain a Current and Supportable Technology Infrastructure - $4.7 million**

In an ever changing technical environment, maintaining a current and supportable technology environment is a challenge that must be addressed. The County's technological improvement strategy strives to balance the need to pursue existing initiatives with the desire to adopt new industry technology, and previous infrastructure investments with the need to take advantage of newer features and functionality. Various projects are funded in FY 2008 supporting the goal of having consistent, reliable hardware and software, and ensuring that residents, the business community and County staff have appropriate access to information and services via technology.

In FY 2008, funding of $2,687,750 supports an initiative to create the underlying architecture for the operational components of an integrated Computer Aided Dispatch (CAD) and Public Safety Records Management Systems (RMS), including public safety communications and Police, Fire and Rescue, and Emergency Medical Services records management. This initiative includes network development, augmentation of the enterprise GIS to meet public safety requirements, and provision of an interim commercial broadband wireless services pending completion of the regional broadband wireless network under development by the National Capital Region (NCR) Urban Areas Security Initiatives (UASI).

Funding of $1,757,461 will support the modernization of the County's telecommunications infrastructure which will integrate voice, video and data communications onto a common structure. The multi-year project focuses on replacing the County's network of disparate voice technologies with an infrastructure platform based on current technology and integration into the Institutional Network (I-Net). This will ensure the County's voice, data and video network will meet future needs. This new network architecture will accommodate the projected growth in business applications requirements, and will allow cost savings through standardization and alignment with industry trends.

Information regarding technology initiatives can also be found in the FY 2008 Information Technology Plan prepared by the Department of Information Technology.

## ► Method of Service Provision

The Department of Information Technology manages the Fund 104 investment portfolio and administration of project execution processes. Agencies that have projects in the portfolio are required to appoint a dedicated Project Manager, with DIT appointing a Technical Project Manager. All project solution designs are vetted through the DIT Technology Architectural Review Board. All Project Managers are required to develop and submit a project plan and expenditure plan. DIT has a dedicated position, IT Portfolio Manager, who is the steward of the portfolio and administrator of the fund processes. A fund manager supports the IT Portfolio Manager. The IT Portfolio Manager also staffs the Senior IT Steering Committee and Board Appointed Information Technology Policy Advisory Committee (ITPAC). DIT offers an annual IT Project Management Certification Course, which is required to be completed by appointed project managers. DIT also hosts a Project Managers Forum for sharing of new information, services, trends and experiences. DIT also provides business analyst services to assist agencies in documenting requirements and workflow requirements.

## ► Mandate Information

There is no federal or state mandate for this LOB.

# ***AGENCY PERFORMANCE MEASURES***

**Objectives**

- To produce an IT security risk percentage trend showing the risk of unauthorized access and incidents happening through the network perimeter being identified, stopped and unsuccessful decreasing to less than 1 percent in FY 2008, toward a target of 0 percent.

- To increase the use of GIS data and services by 5 percent per year by making additional layers of data available.

- To maintain IT application projects that have complete documentation in accordance with County standards at 75 percent or greater.

- To increase the convenience to residents to access information and services through the E-Government platforms of Interactive Voice Response (IVR), Kiosk, and the Web by increasing revenue collection on E-Government platforms from 3.00 percent to 3.50 percent toward a goal of 5.00 percent.

- To achieve a cost savings of 60 percent by delivering basic and enhanced technical training to Fairfax County employees, versus contracting out training.

- To achieve a cost savings of 85 percent by delivering training to Fairfax County IT Project Managers to increase the number of successful IT projects implemented, versus contracting out training.

- 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 from at a standard of next business day; and c) emergency requests the same day.

- To maintain the percentage of LAN/PC workstation calls to Technical Support Services closed within 72 hours at 75 percent.
- To maintain the resolution rate for the average first-call problem for the Technical Support Center (TSC), DIT Help Desk at 80 percent.

| Indicator | Prior Year Actuals FY 2006 Actual | Prior Year Actuals FY 2007 Estimate/Actual | Current Estimate FY 2008 | Future Estimate FY 2009 | LOB Reference Number |
|---|---|---|---|---|---|
| **Output:** | | | | | |
| Events requiring incident response / investigation per day | 125,000 | 140,000 / 110,000 | 160,000 | 160,000 | 70-05 |
| Events reported by each component at the perimeter per day | 11,334,361 | 12,000,000 / 12,678,452 | 13,000,000 | 13,000,000 | 70-05 |
| Service encounters (GIS) (1) | 274,032 | 279,000 / 1,175,362 | 1,234,130 | 1,295,837 | 70-02 |
| Major application development projects completed in fiscal year | 35 | 40 / 42 | 40 | 40 | 70-03 |
| Requests for production systems support | 2,105 | 1,900 / 2,250 | 1,900 | 1,900 | 70-03 |
| Minor projects and system enhancements | 152 | 100 / 178 | 100 | 100 | 70-08 |
| IT project managers trained each year | NA | NA | 20 | 20 | 70-08 |
| County employees trained on desktop application use | NA | NA | 2,910 | 3,500 | 70-03 |
| New applications to allow residents to conduct business via E-Government platforms | 12 | 12 / 8 | 12 | 10 | 70-01 |
| Responses to call for repairs on voice devices | 4,351 | 4,500 / 1,487 | 1,500 | 1,500 | 70-04 |
| Moves, adds or changes for voice and data | 2,919 | 2,300 / 8,614 | 8,600 | 8,600 | 70-04 |
| Calls resolved | 24,610 | 24,800 / 23,964 | 24,800 | 24,800 | 70-07 |
| Customer requests for service fulfilled by Technical Support Center (TSC) | 75,649 | 79,431 / 65,367 | 79,431 | 79,431 | 70-07 |
| **Efficiency:** | | | | | |
| Staff Year Equivalents required for daily investigations | 1.7 | 2.0 / 2.6 | 2.3 | 2.3 | 70-05 |
| Cost per client served (GIS) | $3.08 | $3.02 / $1.64 | $1.59 | $1.52 | 70-02 |
| Cost savings per employee for IT project management training | NA | NA | $2,500 | $3,000 | 70-08 |
| Cost savings per employee for technical training versus using a private vendor | NA | NA | $139 | $150 | 70-08 |
| Staff per application | 0.9 | 1.2 / 0.7 | 1.2 | 1.2 | 70-03 |
| Cost per call | $98 | $105 / $109 | $109 | $109 | 70-07 |
| Hours per staff member to resolve calls | 1,034 | 1,042 / 1,042 | 1,078 | 1,078 | 70-07 |
| Customer requests for service per TSC staff member | 6,304 | 6,619 / 5,447 | 6,619 | 6,619 | 70-07 |

# Department of Information Technology

| Indicator | Prior Year Actuals FY 2006 Actual | Prior Year Actuals FY 2007 Estimate/Actual | Current Estimate FY 2008 | Future Estimate FY 2009 | LOB Reference Number |
|---|---|---|---|---|---|
| **Service Quality:** | | | | | |
| Percent of events identified as attacks and stopped | 99.99% | 99.99% / 99.99% | 99.99% | 99.99% | 70-05 |
| Percent change in cost per client served (GIS) | (35.27%) | (1.78%) / (51.90%) | (2.86%) | (5.00%) | 70-02 |
| Customer satisfaction with application development projects | 91% | 90% / 90% | 90% | 90% | 70-03 |
| Percent of projects meeting schedule described in statement of work or contract | 70% | 85% / 56% | 85% | 85% | 70-08 |
| Percent of IT Project Managers who are certified as County IT project managers | NA | NA | 95% | 95% | 70-08 |
| Employees satisfied with training | NA | NA | 99% | 99% | 70-08 |
| Percent change in constituents utilizing E-Government platforms | 15% | 10% / 10% | 10% | 10% | 70-01 |
| Customer satisfaction with telecommunication services | 93.5% | 95.0% / 95.0% | 95.0% | 95.0% | 70-04 |
| Percent of customers reporting satisfaction with resolution of LAN/PC workstation calls | 79% | 82% / 80% | 80% | 80% | 70-07 |
| Percent satisfaction of County employees with support from the TSC | 85% | 89% / 81% | 89% | 89% | 70-07 |

# Department of Information Technology

| Indicator | Prior Year Actuals FY 2006 Actual | Prior Year Actuals FY 2007 Estimate/Actual | Current Estimate FY 2008 | Future Estimate FY 2009 | LOB Reference Number |
|---|---|---|---|---|---|
| **Outcome:** | | | | | |
| Percent risk of unauthorized network perimeter access and incidents that are identified, stopped and unsuccessful | 0.61% | 0.99% / 0.99% | 0.99% | 0.99% | 70-05 |
| Percent of GIS users/"constituency" (2) | 18.36% | 26.93% / 112.62% | NA | NA | 70-02 |
| Percent of IT application projects that have complete documentation in accordance with County standards | 77% | 75% / 80% | 75% | 75% | 70-03 |
| Percent of revenue collected on applicable E-Government platforms | 1.98% | 2.00% / 3.10% | 3.00% | 3.50% | 70-01 |
| Percent cost savings for delivering basic and enhanced technical training | NA | NA | 56% | 60% | 70-08 |
| Percent cost savings of internal Project Management training | NA | NA | 85% | 85% | 70-08 |
| Percent change in GIS users | NA | NA / 375.79% | 5.00% | 5.00% | 70-02 |
| Business days to fulfill service requests from initial call to completion of request for: Non-critical requests | 4 | 4 / 4 | 4 | 4 | 70-04 |
| Business days to fulfill service requests from initial call to completion of request for: Critical requests | 2 | 2 / 2 | 2 | 2 | 70-04 |
| Business days to fulfill service requests from initial call to completion of request for: Emergency requests | 1 | 1 / 1 | 1 | 1 | 70-04 |
| Percent of calls closed within 72 hours | 95% | 92% / 75% | 75% | 75% | 70-07 |
| Percent of first-contact problem resolution | 76% | 80% / 75% | 80% | 80% | 70-07 |
| Percent change in GIS users | NA | NA / 375.79% | 5.00% | 5.00% | 70-02 |

(1) This includes counter sales, internal work requests, zoning cases, right-of-way projects, DTA abstracts, GIS server connections, Spatial Database Engine, GIS related help calls, and GIS projects.

(2) "Constituency" extrapolated from the Federal Census 2000 counts for Fairfax City, Fairfax County, and the City of Falls Church.