WWW.FAIRFAXCOUNTY.GOV/DIT

Fairfax County
VIRGINIA

Fairfax County, Virginia Department of Information Technology

FY 2018 Adopted Information Technology Plan

Fairfax County
Board of Supervisors

Sharon Bulova, Chairman ..... At-Large

Penelope A. Gross, Vice-Chairman ..... Mason District

John C. Cook..... Braddock District

John W. Foust..... Dranesville District

Catherine M. Hudgins..... Hunter Mill District

Jeffrey C. McKay..... Lee District

Daniel G. Storck..... Mount Vernon District

Linda Q. Smyth ..... Providence District

Patrick Herrity..... Springfield District

Kathy L. Smith..... Sully District

Edward L. Long Jr., County Executive

Patricia Harrison, Deputy County Executive

David J. Molchany, Deputy County Executive

David M. Rohrer, Deputy County Executive

Robert A. Stalzer, Deputy County Executive

Joseph M. Mondoro, Chief Financial Officer

Wanda M. Gibson, Chief Technology Officer

Fairfax County, Virginia
Department of Information Technology

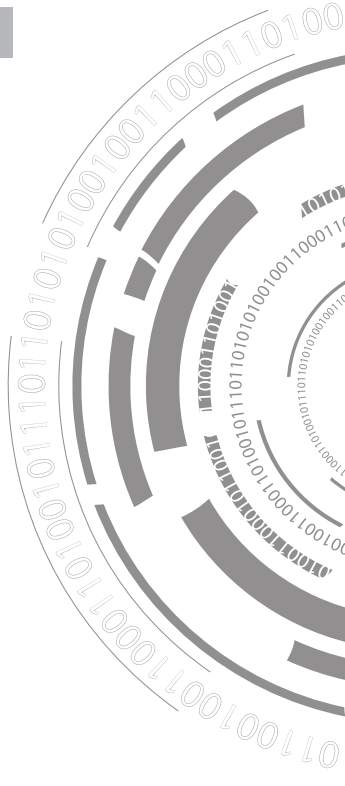
FY 2018 Adopted Information Technology Plan

TABLE OF CONTENTS

SECTION 4 MANAGEMENT CONTROL & PROCESSES

SECTION 5 ARCHITECTURE & INFRASTRUCTURE FOUNDATION

SECTION 6 DELIVERED PROJECTS HISTORY



SECTION 1
IT GOVERNANCE

IT GOVERNANCE

FEATURED IN THIS SECTION

SECTION 1 INFORMATION TECHNOLOGY GOVERNANCE

Plan Overview

Like many governments faced with growing demand for services while confronting a strained economy, the County continues to face significant challenges and new opportunities where technology innovation is essential. These challenges and opportunities are fueled by expectations from the County's highly technology savvy constituents and business community to interact and conduct business with the County via contemporary technology and web-based capabilities that enhance information, communication, and transactions in a variety of formats, and enable transparency, access, engagement and open government. An environment of rapid change and the need for responsiveness together with finite resources highlights the importance of thoughtfully considered deployment of IT trends that embrace supportable standards and agile IT enabled services, and a solid investment strategy and governance.

The County's Information Technology (IT) capabilities must remain contemporary, flexible, scalable, secure, environmentally conscious, and responsive to new goals and dynamically evolving service and operational requirements. The County's IT environment builds on an enterprise architecture that includes industry standards, open systems, the web, cyber security, and tools that support a variety of needs and a diverse portfolio of internal and external systems including 'cloud' offerings as appropriate. The supporting infrastructure foundation is designed to ensure the integrity of transactions, data, and optimum system performance. Strategic planning, governance, and program management assures collaborative decision making in the implementation of relevant products and effective solution delivery at a fully leveraged cost.

To enable Fairfax County's technology program to meet these challenges, continued emphasis is placed on determining solutions that provide enhanced web-based on-line capabilities, promote cross agency business processes, enable data mining and sharing for more effective decision making, promote greater transparency, customer service, and community engagement by making information more publicly accessible. The strategy also enables key priorities of on-line digital government, transparency, mobile applications, employee mobility and telework, shared devices, green and environmentally sustainable technologies, reporting and data analytics, as well as on-going productivity and reliability improvements for customer self-service opportunities, cyber security and privacy, and maintenance of a supportable and resilient infrastructure. Fluid Investments in technology innovation enable these strategies as well as executive leadership goals and County agencies' strategic plans. Emphasis is also placed on governance and processes to ensure that IT projects are aligned with the County's strategic goals, leveraged, and deliver a return on the investment.

This County IT Plan is focused on principles, investments and strategies, and is organized in six sections:

- Information Technology Governance (Section 1)
- Strategic Directions and Initiatives (Section 2)
- Information Technology Projects (Section 3)
- Management Controls and Processes (Section 4)
- Information Technology Architecture and Infrastructure Foundation (Section 5)
- Completed Projects (Section 6)

The plan describes funded technology projects through the annual Adopted Budget that accomplishes goals and objectives of sponsoring agencies; provides status and accomplishments of ongoing projects; identifies resources required for implementation; and states return on investment benefits projected by project sponsors. Projects are linked to the sponsoring agency's strategy, outreach and operational improvement plans, technology goals established by IT executive management, and/or the Board of Supervisors' goals, initiatives, and the County's Vision Elements.

The projects in this plan are primarily funded in the Information Technology Fund - Fund 100-C10040 (formerly Fund 104), and Fund 400-C40091 (formerly Fund 120) (E911). Some projects included in the IT Plan are funded from other sources such as the sponsoring agency's budgets, income funds, or other monies to take advantage of total available County dollars to augment investment funding capacity, and provide additional opportunities to meet innovation goals (note that initiatives funded by grants are not included in the plan).

Governance, architecture, and infrastructure supporting IT projects and services are described within this plan. However, ongoing Department of Information Technology (DIT) operating and personnel costs funded in the General Fund – Fund 100-C10001 (formerly Fund 001) and the Technology Infrastructure Fund – Fund 600-C60030 (formerly Fund 505), the routine operational activities, on-going support efforts, normal upgrades and maintenance work supported by these funds and grants are not reflected in this plan. Together, the four core funds support the comprehensive Information Technology delivery for nearly all agencies, lines of business, and services. Additional details of each fund can be found in the Fairfax County Fiscal Year 2018 Adopted Budget Plan.

INFORMATION TECHNOLOGY GOALS

In recognition of the need to link the County's Information Technology efforts to its business goals, County executive leadership established County-wide Information Technology (IT) goals and guiding principles that assist in determining priorities for investment based on government service demands and other factors including resource availability and opportunities. The IT goals are reviewed periodically for applicability and relevance against new demands on County services, IT industry trends, and fiscal year dynamics. Based on global changes in social and economic paradigm shifts, the following priorities have been validated and remain relevant as a basis for funding:

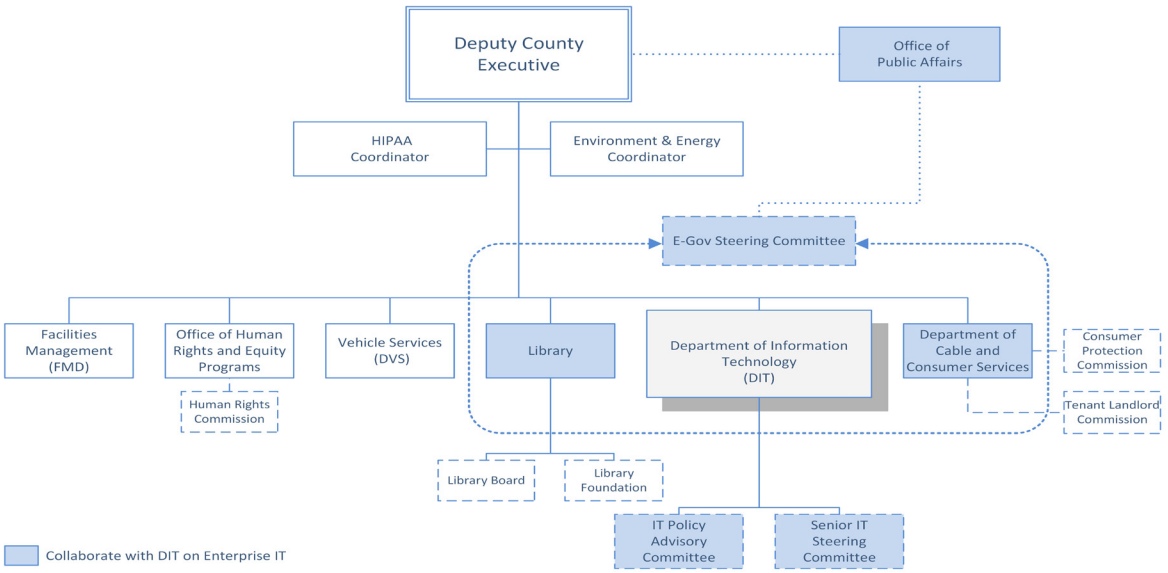
- Mandated Requirements
- Leveraging of Prior Investments
- Enhancing County Security
- Improving Service Quality and Efficiency
- Ensuring a Current and Supportable Technology Infrastructure

1.0 Technology Organization and Governance

Technology is managed as a centralized enterprise capability in Fairfax County. The Department of Information Technology (DIT) provides the full range of technology services on an enterprise-wide infrastructure, architecture framework and standards for most systems. County agencies may have a limited number of IT staff that directly support certain agency business specific 'point' solutions or industrial systems (although many of these are beginning to be incorporated on the enterprise network requiring DIT support), and/or provide localized first response desk-side user support. Agencies' IT staff matrix to DIT for standards, direction, and assistance in implementing their agency specific business systems, data strategies, and integrations. The County's Chief Technology Officer is the Director of the County's Department of Information Technology.

Executive Structure

The chief executive for Fairfax County Government is the County Executive (CEX). The CEX has four deputy County Executives and staff who assist with the management of the 50 plus departments/agencies. The Department of Information Technology (DIT) reports to one of the four Deputy County Executives (DCE) responsible for a set of departments and staff functions that either directly or indirectly participate in the overall direction of innovation and enterprise information policy, as well of other County-wide operational support agencies. The DCE directs a broad range of agencies' functions, programs, and County-wide initiatives, leading efforts that integrate with or enhance the mission of delivering strategic technology initiatives and open government. The DCE may also serve as executive sponsor for enterprise-wide initiatives that cut across multiple agencies and external partners, and coordinates with the other three DCEs on their initiatives. This model groups the County's information and technology programs and related services under a single authority to provide interagency coordination for efficient and effective IT enabled services.



Collaboration among the DCE departments that have direct roles in coordination of public facing technology delivery include the Department of Information Technology (DIT), Fairfax County Public Library (FCPL), the Department of Cable and Consumer Services (DCCS), and the Office of Public Affairs (OPA). Together these agencies deliver programs that contribute to the County's innovation in e-Gov and public access channels and capabilities, enterprise technology architecture, document management, interoperability, and County-wide communications strategy. The information and web content function in the Office of Public Affairs, and Cable Production division in DCCS work closely with the DCE and DIT to develop a comprehensive communications policy, digital capabilities, and message strategy including social and new web media. Staff functions directly reporting to the DCE that have specific roles in affecting, influencing or sponsoring aspects of technology delivery include the Health Insurance Portability and Accountability Act (HIPAA) Coordinator, and the Environmental and Energy Programs Coordinator for promoting green IT initiatives and ensuring compliance in data privacy.

The DCE group also includes the Department of Facilities Management (FMD) and the Department of Vehicle Services. Progressively more FMD utilities are integrated on the enterprise network for improved management efficiency; FMD also ensures that various County IT facilities have the necessary power, cooling, and other structural requirements for optimal IT operations. The Department of Vehicle Services serves the needs of all County agencies by providing effective delivery of vehicle fleet management services.

The DCE's broad responsibility for information spans policy, information content strategy, energy and conservation, books, visual and print media, television, enterprise technology architecture, management of documents, and compliance. The core agencies are highlighted below.

In working with the Department of Information Technology (DIT), the **Department of Cable and Consumer Services** has several major areas that fit within the overall provisioning of information services County - wide:

Communications Policy and Regulation encourages competition and innovation in County-wide deployment of cable provider services; enforces cable communications legislation and franchise agreements; works with the telecommunications industry to enable the development of cost effective network services for the public, and ensures a reliable means of mass communication of official information during public safety emergencies. This group works with DIT on a variety of initiatives and FCC regulatory activities that impact telecommunications services and broadband initiatives for County government that are managed by DIT, which includes the County's private fiber network - Institutional Network (I-Net), and community wireless and broadband initiatives.

Communications Productions provides award-winning broadcast production content for Fairfax County Government Channel 16, the public information channel, and the Fairfax County Training Network (FCTN). Channel 16 televises over 340 live programs that are also available by video stream, reaching an estimated 600,000 residents with information programming about County programs and services that serve the

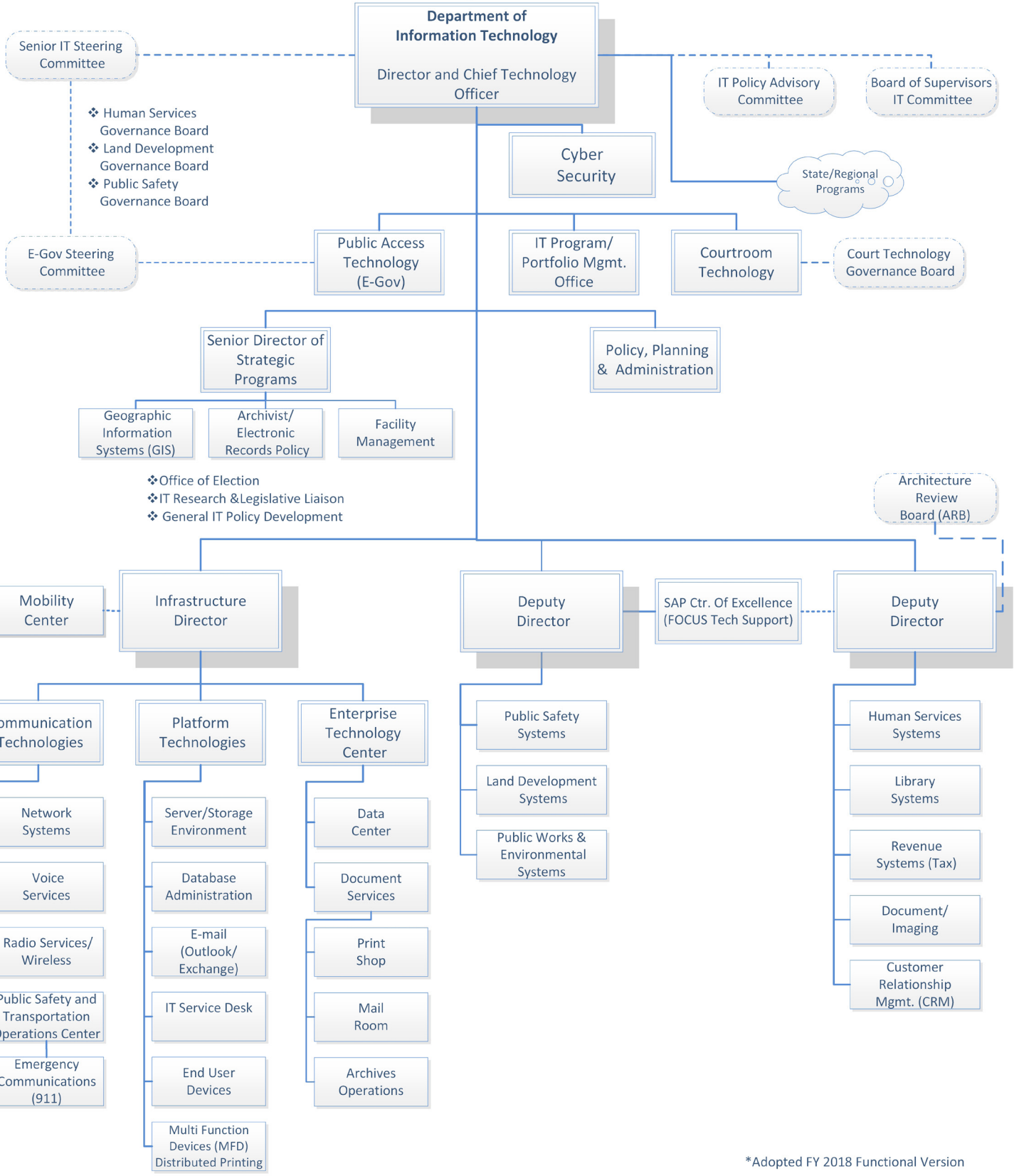
community. The division operates an emergency messaging system for residents, and is also part of the e-Government channels that work with DIT in web-based video access. Communications Productions also manages the County's audio-visual conference rooms in the government center, coordinating with DIT in integration with the County's network and security teams.

The mission of **Fairfax County Public Library** system is to provide and encourage the use of library resources and services to best meet the evolving educational, recreational, and informational needs of all Fairfax County and Fairfax City residents. The Library's Technology Vision augments traditional library services with technologies that provide Fairfax County and City residents' access to electronic information resources locally, nationally and throughout the world. Library staff keeps pace with the rapidly changing environment and uses new technologies to assist patrons and improve service delivery. FCPL's goal is to remain flexible by maximizing opportunities to improve service delivery through technology and enhance individual and community life for City and County residents. Working with DIT, FCPL provides Public Access facilities in libraries where the public can access the Internet through wired workstations and wireless services. The Library's goals for technology are:

- Provide County/City residents access to FCPL resources without constraints of time or location.
- Provide County/City residents access to worldwide electronic information sources expand access to local information through electronic means.
- Preserve and provide access to Fairfax County and Fairfax City historical documents and images.
- Ensure delivery of electronic library services to physically challenged residents.
- Manage FCPL resources to efficiently deliver library services.

The **Health Insurance Portability and Accountability Act (HIPAA)** coordinator works directly with DIT's Information Security Office to ensure that an appropriate IT security architecture, standards, and enforcement mechanism are in place to protect HIPAA and other privacy laws for covered systems and data; and the **Office of Human Rights and Equity Programs** assists with IT strategy in relation to ADA compliance and related regulatory consultations. IT strategy and support are also important in other DCE initiatives such as Continuity of Operations Planning which is aligned with IT high availability/disaster recovery programs, and Environment and Energy Efficiency and Conservation. The DCE supervises the County's Environmental Coordinator who assists with coordination and review of the County's environmental policies to ensure alignment of goals and objectives with the Board's environmental agenda, and chairs the Energy Efficiency and Conservation Coordinating Committee which was established in 2009 to advance the County's fiscal, social, and environmental stewardship goals. The committee looks for opportunities and coordinates energy efficiency and conservation planning across County agencies, disseminates information, and assists with energy related initiatives as requested by the Board of Supervisors or the County Executive.

Department of Information Technology Functional Organizational Chart



*Adopted FY 2018 Functional Version

1.1 Department of Information Technology Organization

The Department of Information Technology (DIT) provides leadership, governance, architecture, technical resources, and expertise in development and deployment of modern information technologies to improve government efficiency, effectiveness, and promote innovation. DIT is responsible for establishing technology architecture, implementing and managing systems, applications, communications, and the overall management and security of the County's information assets. DIT is further charged as the steward of County information systems and data, and agencies are responsible to adhere to IT policy and standards and coordinate their requirements with DIT.

DIT's goals promote innovation, support County services, energize overall technology investments' performance, develop and maintain information technology systems, and provide secure, agile and sustainable technology infrastructure and customer service support to County agencies. DIT's IT infrastructure and portfolio includes consideration of 'cloud' and other hosted capabilities that make sense for Fairfax County based on the architecture, cost, and risk implications.

The organizational structure of DIT has evolved over the years to align with changing priorities, trends, requirements, and leverages technology platforms and resources. It addresses the evolution and utilization of technology in support of County government business functions. This evolution has seen a tremendous growth in web based capabilities such as Social and Digital Media, 'cloud' architectures, green IT, mobile apps, and wireless 'smart' devices, as well as platforms that support cross agencies and enterprise class solutions and software applications (see Section 4).

DIT is organized into IT discipline subject matter expert groups: (Application Solutions) that support enterprise-wide systems including messaging applications (e.g. e-mail, calendaring and productivity suite applications), technical support for ERP system management, the document management platform, Customer Relationship Management (CRM) platform, WEB and GIS systems used by all agencies as well as certain agency specific business application development and support. These include applications that support County agencies' business systems including revenue systems (Tax), human/social and health services agencies, land development, public works, and zoning; public safety/criminal justice, and general County agencies including the libraries, parks and facilities maintenance. DIT also provides a multi-channel Public Access/ e-Gov program which provides architectural direction, standards, and strategies for on-line applications and technology programs including web, mobile applications, IVR, Social Media and systems and information interoperability architecture. The e-Gov team works closely with County agencies and the Office of Public Affairs in overall management and execution of web-content and social media.

A specialized Courtroom Technology group coordinates the implementation and support of modern courtroom technologies for the three Fairfax County Courts (Circuit, General District, and Juvenile and Domestic Relations), and serves as the liaison with the State Supreme Court for technical solution and data interoperability. The Courtroom Technology director also facilitates management of the Courts' IT staff who support independent court applications and case management systems, operating in a virtual

matrix management model. The Public Safety group manages programs and new initiatives that integrate systems in public safety, law enforcement, and emergency management which also addresses homeland security, and regional collaborative and interoperability initiatives and mandates.

The Technology Infrastructure divisions in DIT (Platform Technology Division and Communications Technology Division) manage server and storage hardware environments, middleware integration tools, communications and network platforms, enterprise messaging applications, desktops and end-user devices, the network based digital multi-function printing devices (MFD) that support County-wide distributed printing, print-on-demand, electronic transfer of printed information, and the IT Service Desk. In FY 2011, the County's Print Shop function was transferred to DIT from DCCS. The strategic integration of print shop functions with the County's print fleet and data center output programs have resulted in greater County wide printing efficiency and cost reductions in the related programs, and provides for other future services such as scanning for document capture.

The Information Security Office (ISO) reports directly to the Chief Technology Officer, and has authority in monitoring, investigating, and compliance activities to ensure County IT assets are safeguarded. Enforcement and compliance authority for ISO is through the County Executive.

The Policy, Planning and Administration group and the Program Management Office provides DIT with administrative and IT policy support functions as well as compliance oversight, and IT technology portfolio/project management.

As part of the FY 2017 Adopted Budget Plan, the County Archives was transferred to DIT to better align with overall electronic records management and policy development county-wide, and consolidate the internal document services fund activities under one agency. The Mail Services branch of the Department of Cable and Consumer Services which manages outgoing and incoming U.S. mail as well as inter-office mail and distribution, was also transferred to DIT in order to enhance technological integration of mail processing with county digitization goals. These functions were re-joined with the Print Shop and Multifunction Device Programs recreating the Document Services, an operating division in DIT.

As part of Fairfax County's 2016 comprehensive review of its nearly 400 Lines of Business (LOBs), DIT presented its 17 lines of business to the Board of Supervisors in July 2016. The full presentation is available on line at http://www.fairfaxcounty.gov/dmb/lob/2016/g7070-dit.pdf

Strategic Guiding Principles and Goals

Fairfax County Information Technology projects and processes are guided by **Ten Fundamental Principles** adopted by the Board of Supervisors in 1996, reviewed and updated annually as needed:

1. Our ultimate goal is to provide citizens, the business community, and County employees with timely, convenient access to appropriate information and services through the use of technology.

2. Business needs drive information technology solutions. Strategic partnerships will be established between the stakeholders and County so that the benefits of IT are leveraged to maximize the productivity of County employees and improve customer services.

3. Evaluate business processes for redesign opportunities before automating them. Use new technologies to make new business methods a reality. Exploit functional commonality across organizational boundaries.

4. Manage Information Technology as an investment.

    a. Annually allocate funds sufficient to cover depreciation to replace systems and equipment before life-cycle end. Address project and infrastructure requirements through a multi-year planning and funding strategy.

    b. Manage use of funds at the macro level in a manner that provides for optimal spending across the investment portfolio aligned to actualized project progress.

    c. Look for cost-effective approaches to improving "legacy systems". Designate systems as "classic" and plan their modernization. This approach will help extend investments and system utility.

    d. Invest in education and training to ensure that the technical staff in central IT and user agencies understand and can apply current and future technologies.

5. Implement contemporary, but proven, technologies. Fairfax County will stay abreast of emerging trends through an ongoing program of technology evaluation. New technologies will often be introduced through pilot projects where both automation and its business benefits and costs can be evaluated prior to any full-scale adoption.

6. Hardware and software shall adhere to open (vendor-independent) standards and minimize proprietary solutions. This approach will promote flexibility, interoperability, cost effectiveness, and mitigate the risk of dependence on individual vendors.

7. Provide a solid technology infrastructure as the fundamental building block of the County's IT architecture to support reliability, performance and security of the County's information assets. Manage and maintain the enterprise network as an essential communications channel connecting people to information and processes via contemporary server platforms and workstations. It will provide access for both internal and external connectivity; will be flexible, expandable, and maintainable; be fully integrated using open standards and capable of providing for the unimpeded movement of data, graphics, image, video, and voice.

8. Approach IT undertakings as partnership of central management and agencies providing for a combination of centralized and distributed implementation. Combine the responsibility and knowledge of central management, agency staff, as well as outside contract support, within a consistent framework of County IT architecture and standards. Establish strategic cooperative arrangements with public and private enterprises to extend limited resources.

9. Consider the purchase and integration of top quality, commercial-off-the-shelf (COTS) software requiring minimal customization as the first choice to speed the delivery of new business applications (this includes Software as a Service cloud solutions). This may require redesigning some existing work processes to be compatible with beneficial common practice capabilities inherent in many off-the-shelf software packages, while achieving business goals. Based on agency business requirements and/or statutory mandates, custom development remains a feasible option.
10. Capture data once in order to avoid cost, duplication of effort and potential for error and share the data whenever possible. Establish and use common data and common databases to the fullest extent. A data administration function will be responsible for establishing and enforcing data policy, data sharing and access, data standardization, data quality, identification and consistent use of key corporate identifiers.

The Department of Information Technology is charged with delivering quality and innovative information technology solutions that provide citizens, the business community and County staff solid technical capabilities that ensure the integrity of the County's information, service efficiency, and convenient access to appropriate information and services. The Department of Information Technology embraces the following goals:

Goal 1: Deliver timely and effective response to agency requirements.

Goal 2: Provide vision, leadership, and a framework for evaluating emerging technologies and implementing proven information technology solutions.

Goal 3: Provide citizens, the business community, and County staff with convenient access to information and services through technology.

Goal 4: Work with County agencies to improve business operations by understanding business needs and by planning, implementing, and managing the best information technology solutions available.

Goal 5: Provide a reliable communication and computer infrastructure foundation on which to efficiently conduct County business operations today and in the future.

Goal 6: Effectively communicate information about plans, projects, and achievements.

Goal 7: Develop and maintain technically skilled staff competent in current and emerging information technology.

Goal 8: Ensure effective technical and fiscal management of the department's operations, resources, technology projects and contracts.

Awards

Over the years, Fairfax County Government's IT organization, the Deputy County Executive for information departments, and the Chief Technology Officer/Director of DIT, have earned numerous awards and recognitions, including:

2000

- E-Gov Award for Outstanding Service Technology – MCOG.
- Innovations in America (Semi Finalist).
- E-Gov Pioneer Award – Government Solution Center.
- Webmaster Honor Top 50 Internet/Intranet site.

2002

- Governor's Technology Award.
- Achievement Award, National Association of Counties (NACo).
- Citizens using GIS in Redistricting – NACo.
- Finalist County Portal Jurisdiction Population – Best of the Web.
- Deputy County Executive CIO named top "25 Doers, Dreamers, and Drivers of IT in US Government."
- Bertelsmann Foundation of Germany – County's e-Gov Program recognized as one of top 4 pace setters in the world.
- A+ Government Performance Project – Governing Magazine.

2003

- Achievement Award for Using Technology to Enhance Gov't – NACo.
- Special Achievements in GIS Award – NACo.
- Best of the Breed Government Sites.
- Third Pace top 10 Digital Counties.
- Center for Digital Government Best of the WEB.
- Deputy County Executive CIO named Computerworld 100 IT Leaders.
- CIO and CTO named Governing Magazine Public Officials of the Year.

2005

- First Place Digital County Survey Winner – Center for Digital Gov't & NACo.
- Second Place County Portal Jurisdiction Population – Best of Web.
- Enterprise GIS Integration – FOSE Trade Show.
- 2005 Governor's Award – E-Government Program.

2006

- Second Place Digital County Survey Winner – Center for Digital Gov't & NACo.

2007

- Wanda M. Gibson named Most Influential Female CIO – Government Technology Magazine
- First Place County Portal Jurisdiction Population – Best of Web.
- Fourth Place Digital County Survey Winner – Center for Digital Gov't and NACo.
- Computer World – Best Place to Work in IT (one of two governments out of 100 organizations).

2008

- Third Place Digital County Survey Winner – Center for Digital Gov't and NACo.
- NACo Award for Information Technology Security Awareness.
- NACo Award for Information Technology Project Management Training Program.

2009

- NACo Achievement Awards- Courtroom Technology Management System (CTMS).
- Fairfax County received Virginia Coalition for Open Government's Freedom of Information Award in the government category.
- Fairfax County's site took first place in the Best of the Web County Web portal category.
- Digital Counties Survey selected Fairfax County as the fourth place winner in the 500,000 or more population.

2010

- Wanda M. Gibson, Chief Technology Officer (CTO) was selected as one of the top 25 Doers, Dreamers and Drivers for 2010 by Government Technology Magazine.
- Achievement Awards from the National Association of Counties – Department of Information Technology (DIT) teams participated in the following programs recognized by NACo:
  - Fairfax County Budget Public Input Process - Management & Budget (DIT e-Gov participation).
  - Electronic Accounts Payable System – Finance (DIT Finance and HR Branch).
  - New CAD System – DIT/Public Safety agencies (DIT-Public Safety Branch, Technology Infrastructure Branch, and Network Services)
- Commonwealth of Virginia's Innovative Technology Symposium (COVITS) Award for Regional CAD Interoperability; and Virtual Fairfax GIS application.
- Fairfax County's IT Security Director – was one of a select group of nominees at the state and national level to receive the Cyber 7 Award at the *2010 Federal IT Security Symposium for advancing and promoting IT Security.*
- Cybertrust Certification Award by Verizon Cybertrust Enterprise Security Management Program.
- DIT's Director of Courtroom Technology was awarded the Fairfax Bar Association 2010 President's Award for leadership in implementing courtroom technology that has delivered efficiencies in court proceedings.

2011

- Wanda M. Gibson, CTO, was nominated as a finalist for 2011 prestigious Women in Technology (WIT) Leadership Award sponsored by the Women in Technology Organization.

- Public Technology Institute (PTI) Web 2.0 State and Local Government Awards for Excellence. The awards recognized innovative use of Web 2.0 applications and social media tools to engage citizens, improve efficiency and increase accountability.
- Industry Green IT Award recognized Fairfax County for successful IT Infrastructure and power management projects that decreased the County's carbon footprint, achieved enterprise wide IT efficiencies and cost savings.
- Fairfax County GIS Manager elected to Board of Directors for The Urban and Regional Information Systems Association (URISA), a premier association for GIS professionals to share ideas and solutions for using spatial information technologies to solve government challenges and improve the quality of life in urban and regional environments.
- Ranked among America's top five in the 2011 Digital Counties Survey, which recognizes leading examples of counties using information communication technology.
- The Center of Digital Government ranked Fairfax County website as one of the finalist in the Best of Web Awards.
- Intergraph ICON Award recognized Fairfax County for a multi-agency collaborative effort between the Department of Information Technology and Fairfax County public safety agencies for successful implementation of a new Computer Aided Dispatch (CAD) and related public safety systems as part of the Public Safety Architecture Modernization Project. The project was initiated and enabled through the County's IT Governance model and managed by the County's Department of Information Technology.

2012

- Wanda M. Gibson, CTO, was nominated for 13th Annual Leadership Award, a prestigious award sponsored by the Women in Technology Organization.
- National Information Exchange Model (NIEM) Award recognized the CAD 2 CAD implementation, a key initiative in Northern Virginia that enabled data sharing and views of critical screens on key resource dispatch status between the disparate Computer Aided Dispatch Systems in Fairfax County, City of Fairfax, City of Alexandria, and Arlington County.
- Received COVITS Award in the local government category for the e-Gov team's "Placing Government in the Palm of Your Hand."
- Public Technology Institute (PTI) recognized the significant achievement on Mobile Applications: Government in the Palm of Your Hands.
- VACo (Virginia Association of Counties) Achievement Awards Program recognized Fairfax County among 11 winners throughout the Commonwealth of Virginia for the 'Court Technology Model: Coordinated County and Courts'.
- MarkLogic recognized Land Development Services' (LDS) with the MarkLogic Excellence Award for the "Big Data" Initiative.
- Government Computer News (GCN) recognized LDS with an Honorable Mention Award at the GCN Awards Gala for the County's Land Use "Big Data" Initiative.
- Center for Digital Government (CDG) 1st place winner of the 2012 Digital Counties Survey recognizing leading examples of counties using information and communications technology. Fairfax County earned first place in the IT Leading Initiatives 500,000 or more population category.
- The Mid-Atlantic Association for Court Management (MAACM) awarded the Court Scheduling System its 2012 John Neufeld Award which recognizes individuals or teams for the development and implementation of significant and unique court management systems in the Mid-Atlantic region.

2013

- The Association for GIS Professionals, URISA's Exemplary Systems in Government (ESIG) recognized the National Capital Region Geospatial Data Exchange (NCRGDX) as a Distinguished System.
- Received COVITS recognition in the local government category for the Innovative Use of Technology in Local Government FINALIST: Emergency Data Gathering Repository (EDGR); Fairfax County Department of Information Technology.
- Center for Digital Government (CDG) 3rd place recognition of the 2013 Digital Counties Survey recognizing leading examples of counties using information and communications technology.

2014

- Received National Association of Counties (NACo) Achievement Award for Emergency Damages Assessment Tracking in the category of Information Technology; Fairfax County Department of Information Technology.
- Received National Association of Counties (NACo) Achievement Award for Next Generation Security Program in the category of Information Technology; Fairfax County Department of Information Technology.
- IT Security Director was honored as a top finalist in the ISE® North America Executive Award in the Academic/Public Sector category.
- Center for Digital Government (CDG) 3rd place recognition of the 2014 Digital Counties Survey recognizing leading examples of counties using information and communications technology.
- Received two COVITS recognitions in the local government category for the IT as an Efficiency Driver G2C (Government to Citizen) for Paying Taxes Using Smartphone, Mobile App and Tax Bill QR Codes and Cross-Boundary Collaboration for the National Capital Region Identity and Access Management Service.

2015

- Center for Digital Government (CDG) 1st place recognition of the 2015 Digital Counties Survey recognizing leading examples of counties using information and communications technology.

2016

- Received CS050 Award for Next Generation Security Program for Fairfax County Government and National Capital Region (NCR).
- Received Public Technology Institute (PTI) Award in recognition of the Next Generation Security Program.
- Center for Digital Government (CDG) 2nd place recognition of the 2016 Digital Counties Survey recognizing leading examples of counties using information and communications technology.
- The Virginia Association of Counties (VACo) recognized Fairfax County Courtroom Interpreting Control System with the Achievement Award recognizing model local government programs.

2017

- The Integrated Justice Information Systems (IJIS) Institute 2017 Innovation Award was presented to Fairfax County's Broadband Interoperability Team under the leadership of Mike Newburn, DIT's Communications Technology Manager. The Innovation Award recognizes technical innovation that has contributed significantly to the advancement of integration and interoperability in a justice, public safety, or homeland security project or program. Mike Newburn also received the 2017 Honorable Mention award for excellence and innovation.

- Received the National Association of Counties (NACo) 2017 Achievement Award in the category of Information Technology for Mobile Connected Courtrooms. Fairfax County Courts and DIT's Courtroom Technology Office, researched, designed and implemented a new digital courtroom platform to allow users to wirelessly connect their personal devices to the existing courtroom evidence presentation system, known as CTMS (Courtroom Technology Management System).

In promoting awareness and innovation in technology in Fairfax County Government, DIT hosts several key events each year including:

- **GIS Day** where DIT conducts competition among County agencies for new application of the use of geospatial and related technology;
- **IT Security Awareness Day**, an annual event designed to bring the latest intelligence in promoting employee awareness and knowledge about risks and responsibility in using technology at work and at home.
- **Annual Vehicle Command Rally** attended by local, state and Federal organizations to showcase and train on the latest communications and interoperability capabilities that aid in emergency incident coordination and response.

These events have received County and national organization awards and recognition over the years.

POLICY GOVERNANCE

Fairfax County's IT policy governance aligns information technology investments and programs with the County's strategic business goals in order to broaden participation related to the allocation, use and management of the County's IT resources. The senior executive committee and a citizen advisory committee provide DIT management with oversight and guidance on technology investment strategy. Various steering and governance boards provide strategy and governance focused on specific program areas and major enterprise wide projects.

1.2 Information Technology Policy Advisory Committee

The Board of Supervisors is committed to providing County government with the resources necessary to keep pace with emerging trends in information technology; providing citizens, the business community, and employees' timely and convenient access to information and services through the use of technology; and using current technologies to create new business processes and improve government efficiency. To maintain these commitments, the Board has made substantial, continuing investments in information technology. In 1997 the Board of Supervisors created a private sector citizen group called the Information Technology Policy Advisory Committee (ITPAC) to provide the Board with a source of expert citizen advice regarding information technology strategy; and assist the Chief Technology Officer (CTO) with technology direction advice and validation of applicable industry trends for government. ITPAC serves as advisor to the CTO, providing counsel, experience and support for the County's IT program.

ITPAC meets on a regular schedule to review the County's technology posture, key projects, and the annual technology investment plan. The ITPAC Committee membership includes:

- One representative appointed by each Board Member (10 in total)
- One representative appointed by the School Board
- One representative from each of the following groups:
  - Fairfax County Chamber of Commerce
  - Fairfax County Federation of Civic Associations
  - League of Women Voters
  - Northern Virginia Technology Council

The Committee's duties are:

- Stay current with information technology developments, including telecommunications, and provide recommendations to the Board of Supervisors regarding incorporation of technical improvements in the County's information and telecommunications systems.
- Review the annual Information Technology Plan and investment budget and make recommendations to the Board of Supervisors.
- Review major information technology acquisition plan and make recommendations to the Board of Supervisors.
- Present facts and issues that it deems important to the attention of the Board of Supervisors.
- Advise the CTO and DIT on trends, strategic and related issues.

1.3 Senior Information Technology Steering Committee

In FY 1999 a County executive group, the Senior IT Steering Committee, was created to advise the Chief Technology Officer and DIT Leadership, and provide policy governance oversight for the County's IT strategy. The Senior Information Technology (IT) Steering Committee was formed by the County Executive to provide oversight of IT policy and investments to ensure their alignment and support of strategic and operational business requirements. The committee monitors the IT project portfolio to continually assess

whether the investments are providing expected benefits. This monitoring process provides a broad perspective on the overall status, mission needs, and priorities for the County in making decisions, the committee reviews and provides budget recommendations for new initiatives. The committee meets on a routine basis to review on-going project status in relationship to the County's strategic business initiatives and policy.

Core members of the Senior IT Steering Committee include:

- The County Executive
- Deputy County Executives
- Chief Financial Officer
- Chief Technology Officer/Director of DIT
- Director, Office of Public Affairs
- Other County officials may be asked to participate as needed

The Committee may activate a number of sub-committees around specific issues that report their findings back to the Senior IT Steering Committee. As part of the decision making process, the Committee presents and discusses strategic policy issues on behalf of the Senior Management Team which is comprised of all County department heads.

1.4 e-Government Steering Committee

The e-Government Steering Committee is a subcommittee of the Senior IT Steering Committee, and was created to assist the Deputy County Executive for Information Technology with e-Government policy, strategy decisions, and ensure enterprise consistency and standards in regards to the County's e-Government Program. Members of the Committee include:

- Deputy County Executive – Chair
- Chief Technology Officer, Director of DIT
- DIT Deputy Director, Applications & Digital Government
- Director, Office of Public Affairs
- Office of Public Affairs – Communications Integration Director
- Director, Department of Cable and Consumer Services
- Director, Fairfax County Public Libraries
- Chief Information Security Officer
- Deputy County Attorney

The committee:

- Establishes goals and initiatives for on-line digital government
- Develops e-Government/Web policies
- Assists the Deputy County Executive in consideration of department requests for external links, exceptions to policy and the use of emerging e-Channels

- Identifies e-Government related issues and ideas
- Sponsors periodic focus groups, surveys and other public or internal outreach to ensure that the e-Government program is meeting the needs of County customers
- Investigates and adopts new e-Channels such as social media to ensure that the County's government channels and services meet the needs of the County's external and internal customers
- Initiates pilot projects and conducts after action review of the pilot projects
- Recommends changes as necessary to e-Channels or adopts new e-Channels based on customer feedback
- Sponsors projects for inclusion in the County's annual IT Plan

1.5 Planning and Land Use System (PLUS) Executive Steering Committee

- The PLUS project is a major strategic initiative to modernizing the County's Land Development systems and business processes by replace aging, disparate legacy land development systems with an integrated technology solution that enable seamless customer and staff interactions and supports land use, e-plans, and development operations. The Executive Steering Committee provides strategic oversight; evaluates policy implications; assesses business process and organizational impact, approves business solution, unified service delivery models, and provides recommendations to the project's Executive Sponsors. The Committee meets monthly or as determined by the Executive Sponsor. Principle members include:
  - Deputy County Executives
  - Director of the Department of Land Development Services
  - Director of the Department of Planning and Zoning
  - Director of the Department of Information Technology /Chief Technology Officer
  - DIT Senior Technical Director
  - DIT Technical Project Managers
  - Business Project Manager
  - Key Stakeholders (on as needed basis)

1.6 Health and Human Services IT Governance Board (HHSITGB)

The Health and Human Services IT Governance Board (HHSITGB) establishes strategic direction, policies and priorities for technology initiatives and investments across the Health and Human Service agencies and related partner organizations, promoting an enterprise-level collaborative approach, and one that leverages state, inter-jurisdictional, and Federal interoperability opportunities. The HHSITGB seeks to break information silos through the use of technology and coordinated agency practices to more efficiently and effectively provide Health and Human Services system wide with:

- Executive sponsorship and oversight for initiatives;
- Leadership and advocacy for business and operational improvement opportunities, and collaboration among stakeholders;

- Review of IT project requests; and
- Recommendations for organizational and funding structures supporting initiatives.

In its work, the HHSITGB seeks to identify and examine technology trends, programs, practices and operational requirements affecting health human services programs. The HHSITGB focuses on how the delivery of a consistent level of health and human services to the citizens of Fairfax County can be influenced and improved by deployment of specific information technologies. Goals of the Governance Board include:

- Increasing data sharing capabilities among Health and Human Services (HHS), Public Safety, and other key partnering agencies to view clients holistically, tailor services to their specific needs, and identify at-risk persons in a timely fashion;
- Creating an integrated view of client information across HHS programs and a central point to access data from relevant HHS systems;
- Removing redundancy in the client experience (e.g., eliminate the need for clients to submit basic eligibility information numerous times);
- Improving strategic planning capabilities within HHS agencies and across the system;
- Increasing accountability for client outcomes and cost of service; and
- Creating common standards across agencies for critical areas such as IT security, data confidentiality, etc.

Membership of the HHSITGB includes the Deputy County Executive for Human Services, Co- Chair; Deputy County Executive, Co-Chair; Chief Technology Officer/Director, Department of Information Technology; Director, Department of Family Services; Director, Health Department; Director, Department of Neighborhood and Community Services; Executive Director, Fairfax-Falls Church Community Services Board; Director, Juvenile and Domestic Relations District Court; Director, Department of Administration for Human Services; Director, Office to Prevent and End Homelessness; and Director, Department of Housing and Community Development.

1.7 Courtroom Technology Executive Governance Board

The Courtroom Technology Governance Board was established to provide governance and oversight for courtroom and court related technology initiatives. The Executive Board reviews and endorses policies and procedures, and provides oversight and direction. The Board is composed of the Chief Judge or Judge designee of each court, Clerk of Court or Clerk designee of each court, Agency Directors, Juvenile Court Services Director, and the County's Chief Technology Officer (CTO). The Director of the Courtroom Technology Office is the designated administrator for the board and is responsible for ensuring effective strategic as well as planning, development, and integration of courtroom technology resources and programs with the courts and other agencies and entities.

1.8 Public Safety Information Technology Committee

The Public Safety Information Technology Committee provides leadership for a cohesive public safety information technology strategy that leverages the use of information technologies for the delivery of public safety and emergency management services to the citizens of Fairfax County. Members include:

- Deputy County Executive for Public Safety
- Two Deputy County Executives
- Chief Technology Officer/Director of the Department of Information Technology
- Chief of Police
- Chief of Fire and Rescue Services
- Director of Public Safety Communications (9-1-1 Center)
- Director of Emergency Management
- County Sheriff
- General Manager of the Public Safety and Transportation Operations Center (PSTOC)

High level goals include:

- Formulate and adopt IT and communications policies and priorities that impact major public safety and emergency management initiatives
- Take advantage of opportunities presented by shared operational needs and concerns by deploying solutions that leverage resources and investments
- Improve efficiencies through reduction and elimination of redundant information technology, service and effort
- Provide an organizational framework to ensure continuous awareness of best practices in public safety technologies and emergency management
- Provide project oversight

1.9 Governance Committees for Other IT Initiatives

In carrying out its mission, the CTO, the Deputy County Executives and/or DIT senior directors participate on several key County Committees focused on major County initiatives and/or operational oversight agendas that have significant requirement for IT participation, use or impact. In addition production systems may have operating boards for shared services, common requirements, new technology capabilities, data analytics and transparency.

Also, the full Board of Supervisors may meet periodically to explore IT projects, programs and strategies at one of the **Board IT Committee Meetings.**

1.10 Regional and National Prominence in the IT Community

In addition to internal committee involvement, Fairfax County Government's Chief Technology Officer (CTO), Chief Information Security Officer (CISO) and other members of the County's IT Management team provide leadership and/or participate on several federal, state, and regional committees including:

- Council of Governments CIOs Committee, Chair 2013/2014 - current
- Council of Governments CISO Committee, Chair 2011- current
- Council of Governments Emergency Preparedness Council
- National Capital Area (NCR) Homeland Security Executive Committee Advisory Council
- Regional Working Group for interoperability (Maryland, Virginia, and DC, state and local functional and technical leadership representation)
- Council of Governments Interoperability Council
- Commonwealth of Virginia Interoperability Council
- Federal CIO Council
- FOSE Board
- National Association of CIOs
- National Association of Telecommunications Officers
- Virginia Local Government Information Technology Executives (VALGITE)
- Metropolitan Information Exchange (MIX)
- SIMS (Society for Information Management)
- Northern Virginia Regional Commission
- NoVA RPAC-I
- National Association of Counties
- Public Technologies Incorporated, 2013 Class Fellows
- Federal IT Security Symposium Advisory Board
- COVITS Board (Commonwealth of Virginia IT Symposium)

SECTION 2

STRATEGIC DIRECTIONS AND INITIATIVES

STRATEGIC DIRECTIONS AND INITIATIVES

FEATURED IN THIS SECTION

SECTION 2 STRATEGIC DIRECTION & INITIATIVES

The most critical challenge facing organizations today is the imperative to stay current with the rapid pace of change in technology, harnessing innovation that delivers return on investment effectively to realize the organization's strategic goals, optimize service efficiencies, and successfully meet end-user and public expectations in an environment of new fiscal challenges. As a strategic investment of County resources, technology facilitates the delivery of better and faster service and enables the County to effectively respond to growing demand at optimal cost and efficiency, thus critical to ensure investment strategies are in place, balanced and fluid. However, investments in technology can be significant, including capital, initial transformation and incorporation of technology into an organization's business, and sustainment. Without capital expenditures, capabilities can also be enabled through annual operational cost models, such as with technology 'clouds', subscription services, and other infrastructure or software-as-a-service business offerings. However acquired, new technology must be wisely adopted and carefully integrated into the organization's technology and business architecture for optimal impact.

Fairfax County's technology strategy incorporates a thoughtful plan for investments at optimal time and delivery. This has contributed to the County's ability to keep pace with growing demands for services and promoted agility in facilitating response to evolving new needs and opportunities. Additionally, this strategy has helped the County address new economic realities, provide improved communication, information and open government for public engagement, and leverage the overall technology portfolio and capabilities on an enterprise scale that meets the diverse needs of a wide variety of operational needs. The following key initiatives are part of the overall strategy and living portfolio of strategic opportunities and objectives on an enterprise scale designed to optimize effective, efficient customer-oriented services for internal government constituent engagement.

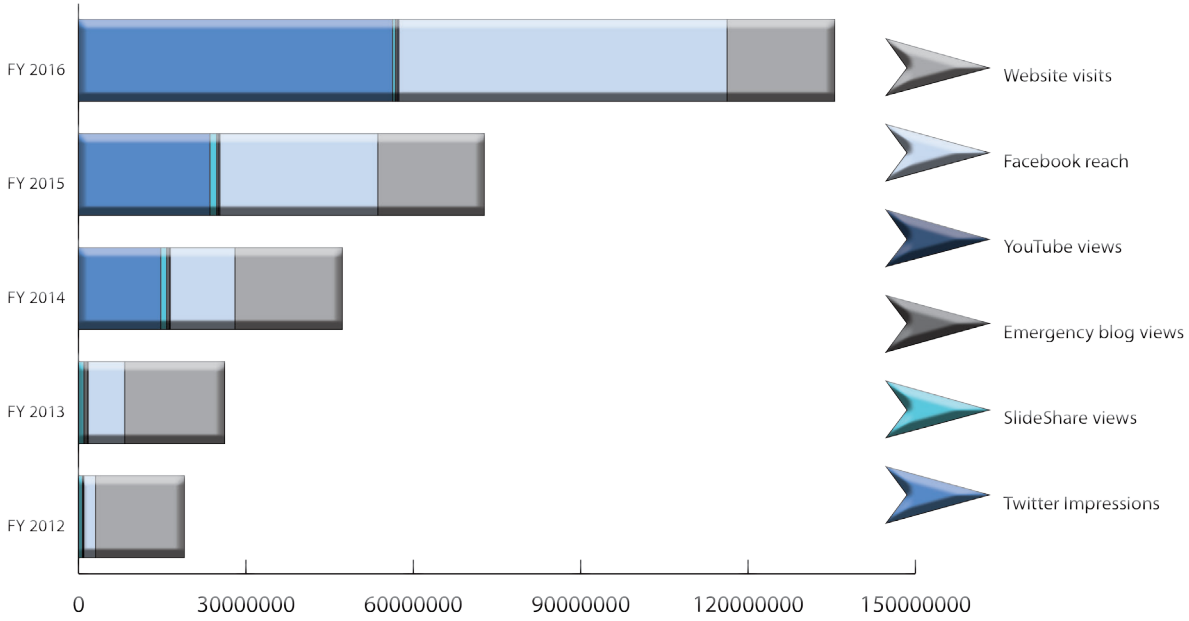
2.1 Digital Government/e-Government

The e-Government (e-Gov) initiative is a foundational program supporting the County's goal of a "government without walls, doors, or clocks", consisting of many channels, policies and processes that integrate all platforms, both for internet as well as intranet. The strategy includes initiatives for expanding channels using new media capabilities and improving mobility, and citizen engagement and experience. The comprehensive strategy includes an inclusive set of channels, using enabling technology, policy and processes and the technical foundation for the County's open government and transparency goals, as well as enabling County agencies' operational efficiency, mobile workforce, emergency management, and Continuity of Operations Plans (COOP).

The e-Gov program develops the architecture for the WEB, other public channels and internal WEB portals, and includes the website www.FairfaxCounty.gov, online services, mobile, social media, web-based applications, Interactive Voice Response (IVR), Cable TV, the County's Public Access sites in Libraries and Access Fairfax sites, and other tools across over fifty agencies to enable comprehensive and cohesive access to County information and services. In addition to efforts of on-going improvements to enhance

the look, feel, navigation, and search capabilities of the Web and deploying new services, transactions, social media and other content, the strategy also includes CRM and Content Management tools for comprehensive, integrated service options. The overall digital government strategy also supports Board priorities regarding public engagement, and other County initiatives associated with technology innovation in public service including, land use, Next Generation 9-1-1, Human Services Integration Initiatives, Customer Relationship Management (CRM), mobility, and transparency.

A governance body, the e-Gov Steering Committee (see Section One) develops strategy and goals for this program. The Department of Information Technology and Office of Public Affairs jointly work on design, navigation, content management and social media integration aspects of the WEB site, and provide guidance to county Web developers and content publishers in county agencies. Popularity and use of the e-Gov capabilities continues to expand. Here's a sampling of significant stats:



	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Website Visits	15,946,100	17,911,663	19,252,748	19,105,379	19,311,840
Facebook Reach	2,088,750	6,560,341	11,603,306	28,313,758	58,827,954
YouTube Views	99,131	118,350	159,919	225,120	285,815
Emergency Blog	171,374	647,577	499,967	349,977	347,896
SlideShare Views	686,062	965,798	1,029,807	1,209,467	482,708
Twitter Impressions	n/a	n/a	14,746,461	23,550,698	56,295,975
TOTALS	18,991,417	26,203,729	47,292,208	72,754,399	135,552,188

The County has achieved much success and acclaim for its e-government focus in integrating the WEB and IVR platforms to offer a wide variety of channels for complete on-line public access to services and programs, and its success in incorporating social media capabilities in a thoughtful way that enhance service delivery. Fairfax County and the city of Alexandria shared the Virginia Coalition for Open Government's Freedom of Information Award in the government category; and Fairfax County was also recognized by Public Technology Incorporated (PTI) for engaging the public as a regular part of the budget development process using extensive outreach through social media platforms. Fairfax County has consistently received national recognition from the Center for Digital Government as one of the top ranking localities in the US, placing in the **top ten** for the past fourteen years, **top five** in thirteen of those years, and **#1** four times including 2015 and 2016.

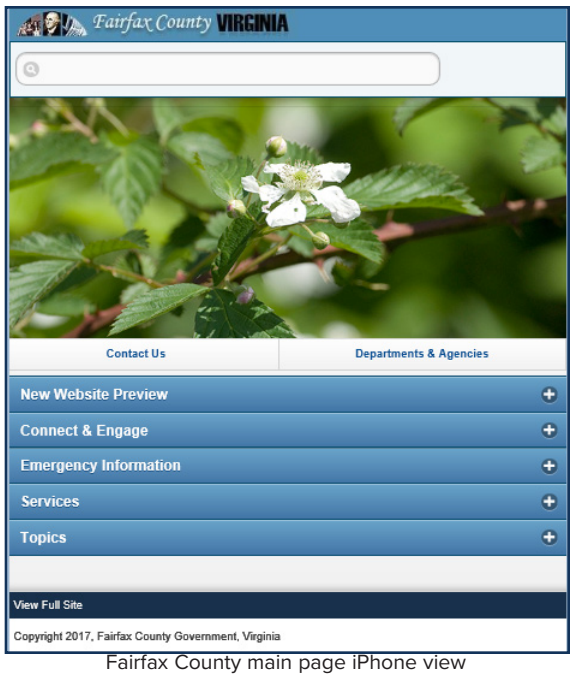
Over twenty-five County agencies have deployed a variety of Social and New Media apps to support their programs and services. In FY 2018, the County will continue to add new online services, enhance County mobile apps, increase integration with social media, and redesign and re-engineer information presentation on the public website. The e-Gov program will also continue to work with the Commonwealth of Virginia, regional partner municipalities, and federal government agencies in interoperability of common service portals and developing web service standards to enable cooperative access and seamless integration of information and services regardless of the origin or the source.

Website

The current family of homepages on the County's primary website at www.FairfaxCounty.gov uses responsive design to render seamless information across three device types: desktop, tablet and mobile. Design considerations included highlights of the key services the public is looking for online along of a pictorial representation of the County activities which was based on analysis of years of captured metrics. The most accessed services are featured prominently and easily available on the top in the "Find, Pay, Report" section of the homepage, based on the current website usage and metrics. Periodically a comprehensive review is conducted of the Website for redesign potential to update the look, navigation and over-all usability of the 34,000 page site with new functionality, content enhancements, and innovative features. The Website and CRM solutions are part of the County's overall service improvement and customer engagement enhancement initiatives and

Fairfax County Website

support the goals of cross-agencies' services integration and improvements projects such as in land development and social services.



Fairfax County main page iPhone view

As metrics show, more than half of the traffic to www.FairfaxCounty.gov comes from search, so e-Gov will continue to invest in this important aspect, both for the County's search appliance and to optimize web content so commercial search engines find County content. A highlighted news section provides easy access to information categorized by topics and brings into focus County functions, departments and agencies, County-wide initiatives and featured services. The Google Search Appliance augmented the overall search functionality of the website. The design won national recognition for being 'Best of the WEB' by the Center for Digital Communities. In addition to the benefits for on-line services efficiency, the public website is also a part of the County's "Going Green Initiatives". The County website is translated into multiple languages using machine translation powered by Google Translate. For website accessibility, website pages are tested for compliance with Section 508 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) by passing through the County's automated compliance checking tool.

While initial e-Gov efforts were largely focused on providing access to services, Fairfax County has expanded its efforts to provide citizens the necessary tools for engagement, interaction and participation with County government in order to improve communication and services (Citizen-to-Government Networking) and greater transparency. The County's website has been one of several channels used for public input into the County's budget planning process. Fairfax County's "Online Services" is a centralized location for access to over fifty online and interactive services offered to the public to complete routine transactions such as payments, applications, and reporting with ease. In FY 2014, the County augmented its online services portfolio a number of key services like the online Courtroom Reservation, enhancements to Building Permits application, and Financial Transparency – a joint initiative with Fairfax County Public Schools which provides transparency to the public for both County government and public schools on their respective websites as well as on all mobile devices to view budget & expenditure data and specific vendor payments thereby promoting open disclosure.

In an ongoing effort to create a more user centric website and to promote transparency, a major e-Gov initiative to reconstruct the County website started in FY 2017 and will continue in FY 2018. The initiative includes the replacing and implementing of a new **Enterprise Web Content Management System** which will enable better integration with new technologies such as social media, refining the current site's

information architecture to enhance usability, redesigning the entire website with a more modern look and "mobile first" approach, as well as improving search functionality. The new site will showcase a more topic oriented structure with improved business delivery model, enhance search engine optimization, generate better information indexing, and eliminate data silos, thereby promoting transparency on the County's web site. The redesign effort is based on industry best practices, metrics and public engagement. The refresh and redesign is an ongoing effort of the e-Government Program to keep pace with evolving internet technologies and improvements in use, search, engagement, and open government initiatives.

Mobile

Acknowledging the widespread growth of mobile technology which added the convenience of using mobile devices from anywhere at any time, a mobile version of the County website was launched in 2011 thereby increasing the value of Fairfax County's e-Government efforts with the add-on of mobile apps for free download on all platforms like iPhone/iPad, Android and Blackberry. Providing mobile accessibility from various devices further enhances citizens' convenience and reaches a wider user community with the ability to access services and information in the palm of their hands. The County's public website is accessible via wireless devices at www.FairfaxCounty.gov/topics/mobile, sample of the mobile apps include:

Fairfax County main page tablet view

- **Alerts -** Offers the latest updates about major incidents or weather events including text/e-mail alerts, social media, emergency RSS news feed, important phone numbers, seasonal preparedness information, recovery resources, mobile weather forecast, and links to key County, state and federal emergency agencies.
- **NewsWire -** Each business day, Fairfax County's *NewsWire* features the latest headlines from County departments.
- **Contact Us -** One-touch calling of the main 703-Fairfax phone number, critical emergency phone numbers, libraries, parks, and courts listed by department/program.
- **Calendars -** Browse upcoming public meetings, community events, tax deadlines and more.
- **Library -** Patrons can browse the online catalog, get hours, locations, check reviews, place holds for pick up, modify hold requests, check account status, and renew material. Additionally, the library also has a native iPhone application.
- **Locations -** Use the GPS features of your device to find the nearest library, park, community center, fire station, police station and government buildings.
- **Services -** Key services like Childcare Central and building permits, applications and

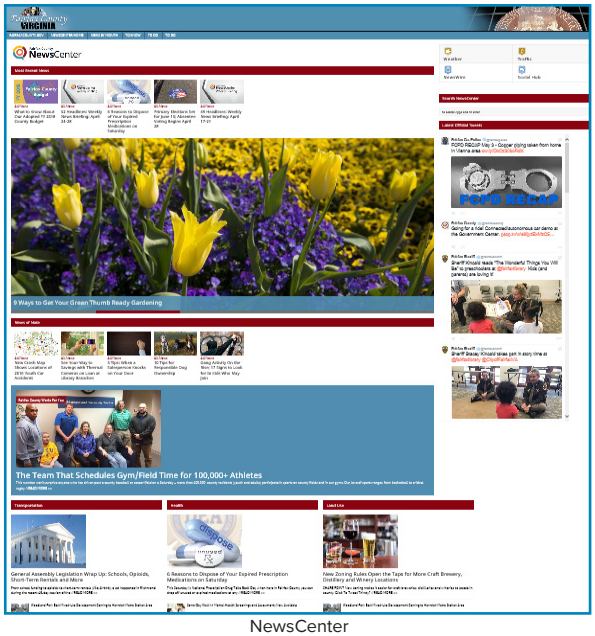
complaints applications. Additional service related applications are in development.

- **Social Media -** Links to the mobile versions of all official County government social media sites on Facebook, Twitter, YouTube, Flickr and podcasts on iTunes. Like us, follow us, watch a video, view pictures or listen to podcasts on iTunes through our coordinated social media efforts.
- **Elected Officials -** Quick access to the ten member Board of Supervisors with links to mobile versions of Board offices' web pages, meeting schedules, agendas and more.
- **Transportation -** Key links to major transportation resources such as the Connector bus, Metro, VRE, bikes, pedestrians, Virginia Department of Transportation and more.
- **VOTE -** Check voting places for the Office of the Registrar to include on-going enhancements.
- **Car-Tax -** Allows tax payments via e-checks, credit and debit transactions.
- **Tax Evaders -** Allows residents to report vehicles that may not be compliant with tax regulations.

The County's suite of mobile apps, "Government in the Palm of Your Hands", was showcased at the Metropolitan Washington Council of Governments (MWCOG), and won awards from the Commonwealth of Virginia IT Symposium (COVITS), from Public Technologies Inc., and was also recognized by the Center for Digital Government- Digital Counties Survey. Information about the County's Mobile Apps can be accessed on the County's website: http://www.FairfaxCounty.gov/topics/mobile/. The Fairfax County Mobile App has been downloaded about 24,000 times since its launch.

News

NewsCenter (http://www.FairfaxCounty.gov/news2/) is the County's one-stop news shop, which focuses on the delivery of news and information to the public: residents, businesses and other interested groups. NewsWire is a comprehensive site, that consolidates all the ways residents and employees can stay connected with the County, including: the social networking sites, information available on 703-Fairfax, E-Government services, podcasts, RSS feeds, Weekly Agenda and emergency alerts. NewsCenter is published on the website, and provides a central location for engagement and communication with the community and its residents.



NewsCenter

Ask Fairfax is an online discussion forum that has hosted hundreds of questions through the years for dozens of chat topics with County experts. This has proved to be an invaluable tool for engaging the community.

Social Media

Social media in Fairfax County has been a significant success to engage and provide services. The County currently has 15 Facebook Pages, which reached 58.8 million people in FY 2016, a 108 percent increase from FY 2014. The number of County Twitter followers has more than doubled in the last 15 months across 10 County accounts from 23,550,698 in FY 2015 to 56,295,975 in FY 2016 with an increase of 139% in Twitter impressions. The use of these tools is critical to providing two-way information with the County community. A centralized social media content management system is in place, along with a comprehensive social media policy that can be found at:

Twitter

https://www.fairfaxcounty.gov/publicaffairs/sites/publicaffairs/files/assets/documents/fairfax-county-social-media-policy.pdf.

The social media management system's user interface takes the form of a dashboard, and supports social network integrations for various social networks like Facebook, Twitter and You Tube etc. This system has helped build an engaging presence on social media with the ability to manage all our social networks and schedule messages for future publishing. Additionally, the real time analytics provided by this tool gives an in-depth view on the dashboard of how well the County's social media efforts are being received by the public with the ability to visualize the metrics in one easy place. The tool also helps monitor social media conversations that matter to the County, identify its influences and observe emerging trends.

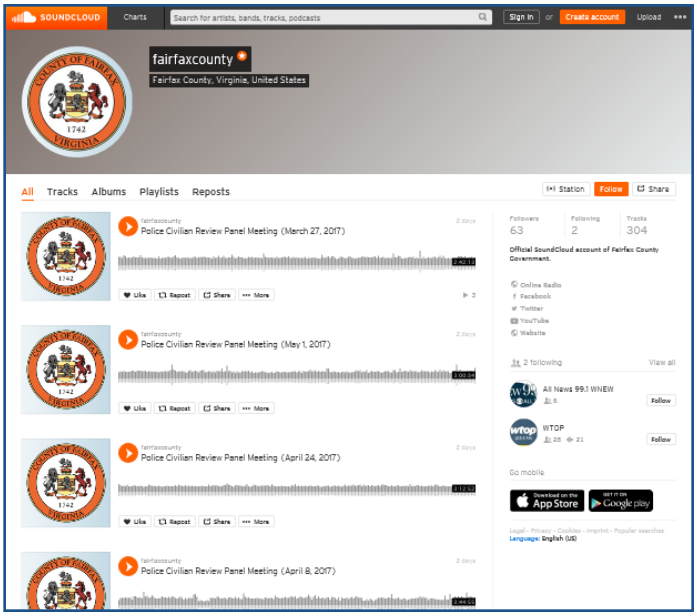
In coming fiscal years, the use of social media beyond communications will be important. The e-Gov plan will further integrate social media into operational aspects of agency lines of business to ensure cross-platform sharing as needed. Social media tools will continue to evolve as the leading e-Gov tools of choice in the years to come.

Audio and Video

In FY 2014, Fairfax County launched an Internet streaming radio station simply named Fairfax County Government Radio. The County owns and produces large amounts of audio content for the County's SoundCloud social media account. The public can listen online (http://www.FairfaxCounty.gov/radio/) as well as on mobile devices providing additional avenues for across to County information 24 hours a day,

seven days a week. During emergencies, the station is used to share important emergency information in an audio format, similar to the way the County currently uses other platforms such as the emergency alert system (https://www.FairfaxCounty.gov/alerts/) where residents can sign up to receive emergency alerts by both text and e-mail.

The use of videos has continued to expand beyond the County's existing cable TV channel. Fairfax County YouTube channel views grew by 27% in FY 2016 and videos for the intranet have led to greater engagement among employees.



SoundCloud

The e Gov program will continue to affirm the County's strategic vision and goals, with continual enhancement of services and focus on improving online service delivery along with a coordinated process for implementation and to keep in alignment with the Customer Service and Engagement efforts. Focused efforts on re-architecting information, modifying layout and presentation of content on the County website will continue to be of prominence. Emphasis will be placed on providing information based on topics key to the public, which will be based on metrics and usage patterns of the website. The following tables provide a snap shot of some key metrics and agency specific services available via various e-Gov channels:

Customers Served	
IVR:	**13 million since FY 2004**
Web:	**34,000 pages – 19,311,840 visitors which equates to 61,095,040 page views**
Unique visits:	**10,847,162 i.e. user access multiple pages or conduct business**
E-services:	**125**

Information and Services Available	
Adult education classes	Web
Ask Fairfax - Online Chat with Fairfax Government	Web
Becoming a child-care provider	Web
Board Meeting minutes (searchable)	Web
Budget information and approved budget	Web
Bus tour schedule	Web
Child-care provider list	Web
Collection of household trash & recyclables	IVR
County Code – full text	Web
County demographics	Web
County maps, scrollable, printable	Web
Courts – Circuit, General District, and Juvenile	Web, IVR
Crime statistics, Wanted List, Neighborhood Watch	Web
DTA EPay	Web, IVR
Financial Transparency	Web
iCARE DTA Real Estate Assessment and Information Query	Web
Library Picture Books	Web
Public Meeting Calendar	Web
Frequently Asked Questions	Web
Health Information	Web, IVR
Inspection scheduling	Web
Information for victims of crime	IVR
Job opportunities	Web
Library information line	IVR
Multi-jurisdictional information	Web
My Neighborhood	Web
Newcomer information	Web
NewsCenter	Web
Parks/Recreation information	Web
Public safety information	Web
Podcasting	Web
Real estate property assessment & tax information	Web, IVR
RSS Feeds	Web
Seniors information and programs	Web
Voting	Web

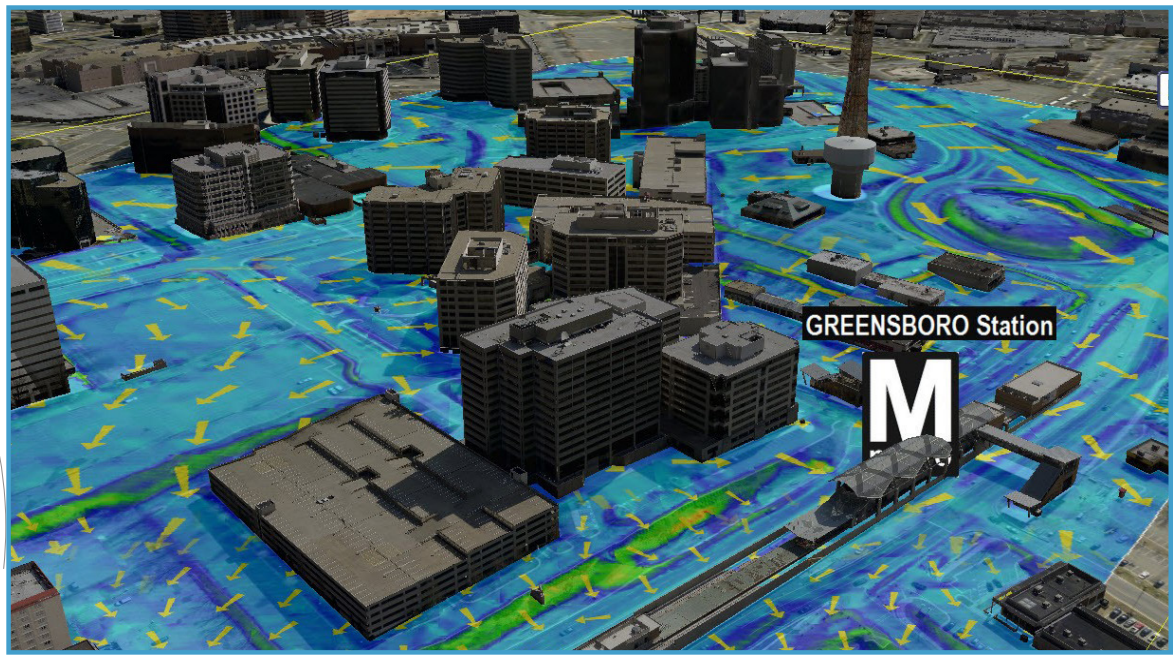
Doing Business with the County	
Access Health Department food inspections database	Web
Access GIS aerial photography with pan and zoom	Web
Apply for building permit (pay and print	Web
Apply for County jobs	Web
Apply for a library card	Web
Athletic Facilities Application Request (AFAR)	Web
Board of Supervisors compliant forms	Web
Building Permit Fees Estimate	Web
County contract information and registration	Web
Download request for proposal/invitation for bid	Web
Electronic Mailing List	Web
Estimate Electrical Permit Fee	Web
File complaints about landlord or consumer problems	Web
Find location of closest Library by entering zip code	Web
Register & pay for Park Authority classes, camps, & tours	Web
Library Audio Books	Web
Obtain permit/plan status	Web
Pay taxes with credit card	Web, IVR
Pay taxes via eCheck	Web
Pay traffic tickets with credit card	IVR
Query current site information	Web
Query current position on the Housing Waiting Lis	IVR
Query current real estate property & tax information	Web, IVR
Query Human Services online " Resource Guide"	Web
Query specific court case information	IVR
Query status of an inspection, permit, or plan	Web
Query Victim Services data for offender release date info	IVR
Register a vehicle	Web
Renew a pool license	Web
Request faxes of court fees and procedures	IVR
Request land use code enforcement	Web
Reserve a golf tee time	Web
Reserve/renew Library books – search catalogue	Web
Reserve a picnic area	Web
Report change of address for tax purposes	Web
Report a lost pet	Web
Report a zoning or noise ordinance violation	Web
Search for information in historical newspaper	Web
Search for County agency telephone numbers by keyword	IVR
Special Needs Registry	Web
Sheriff Service Civil Process	Web
Subscribe to County publications	Web

Doing Business with the County	
Social Needs Registry	Web
Therapeutic Recreation Service Information and Registration	Web
Volunteer to help in the Library or Parks	Web
Zoning and Noise ordinance compliant form	Web

2.2 Geographic Information Systems (GIS)

GIS is a strategic foundational technology, integrated with numerous County applications and business processes. It is an essential component of county operations and is heavily used by a wide range of County agencies (some of those activities are highlighted at the end). The GIS office maintains a range of technologies, related products and data that provide the foundation for ongoing integration of GIS into county operations as well as enabling new developments.

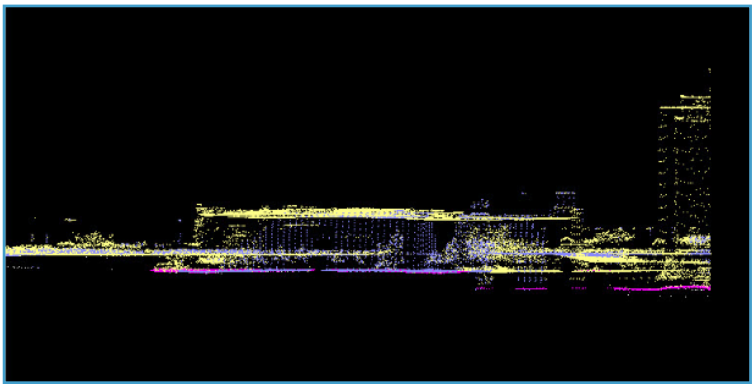
Web-based GIS applications have become more pervasive over the past several years, with a trend towards increasing utilization on the County's web site and agency field operations. One example is the election results viewer, this application has been used since its release in November of 2014 to display ongoing vote tallies throughout the evening of Election Day. A revamped Virtual Fairfax was released in 2016. The area of the County that now has 3-D building data more than doubled to a total of 58.74 sq. km (22.7 sq. miles). The imagery (from 2015) includes 3-D of Metro in Tysons. The latest version provides a range of new analytical tools, enabling users to create slope maps (slope with directional arrows) terrain profiles and 3-D view shed, as well as measure distances, areas, and elevations among other features offered. The latest version also enables users to link to the Police Crime Reports, the Land Development Information Warehouse, My Neighborhood, Property Assessment in the– iCARE- revenue system, and land development information in the County's current LDSNet. The Park Authority, Urban Forestry, and the Fire and Rescue Department use mobile applications to collect and analyze information on invasive species, trail erosion, and fire hydrant locations. Other agencies, such as the Health Department also use mobile data collection in some of their business processes.



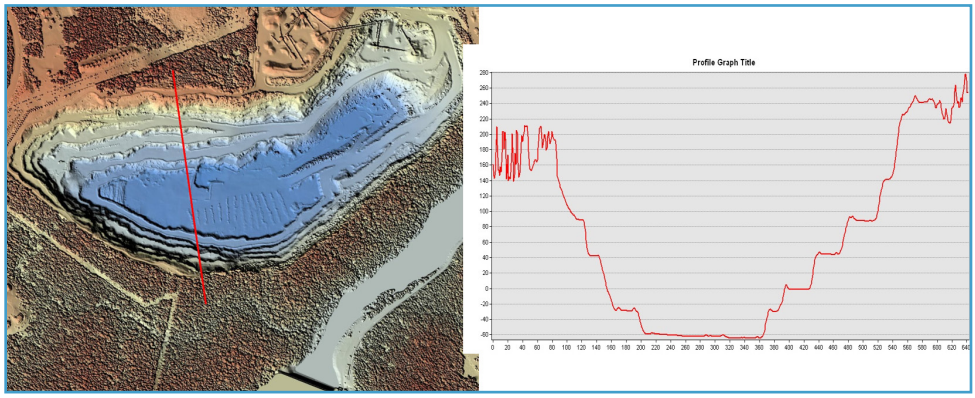
Virtual Fairfax - Tysons Slope Tool

The release of a GeoPortal (https://www.fairfaxcounty.gov/gisapps/validator/pages/validator.aspx) on the County's website provides a single location for accessing the growing number (now up to 40) of GIS enabled web-applications. Including Fairfax County Address Validator (the address/parcel/street "Validator" enables users to confirm the validity of any address/parcel number) My Neighborhood, Road Maintenance as well as many agency mobile applications available for public consumption.

In 2015 the County obtained LIDAR (Light Detection and Raging - a remote sensing method used to examine the surface of the Earth) for the entire County. Acquired in partnership with the US Geological Survey and the Department of Public Works and Environmental Services (DPWES), this immensely detailed data set contains over 9,000,000,000 data points (250 GB of data), approximately 2 per sq. meter, that provide elevation data on the entire County surface, including, trees, terrain, and the built environment. The first picture is a side view of LIDAR returns in Tysons: the second set of LIDAR images are of the Quarry next to Occoquan dam with a profile line drawn through it. The second image shows the elevation profile of the quarry across the red profile line. LIDAR will also prove useful for surface water modeling and analysis.



Tysons LIDAR side view



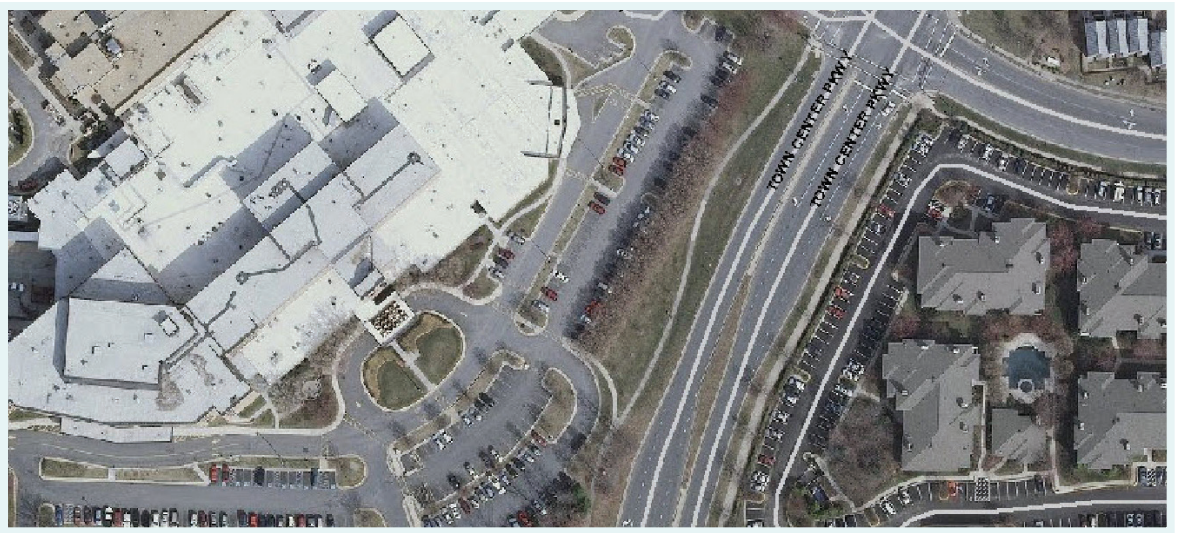
Quarry next to Occoquan Damm and elevation profile of the quarry across the red line

Oblique imagery and its related software constitute one of the County's core GIS data sets and technology. Originally implemented in 2003, it is a key tool for multiple County agencies. Oblique imagery is integrated into CAD/911 operations, Department of Tax Administration, Geographic Exploration & Mapping (GEM) serving as the source data used to derive the 3-D buildings in Virtual Fairfax, and for many other agency processes. Oblique Imagery was delivered the summer of 2015, with the next acquisition scheduled for 2017. Below is also an example of Oblique Imagery for Reston Town Center, note side view of the building. Web-based tools were implemented to simplify viewing and use of the Oblique Imagery for County staff; these tools are simpler and available on desktop and mobile devices. Plans are underway to enable public web-users to view the Oblique Imagery as well.

Oblique image of Reston Town Center

Planimetric data is also a foundational data set for almost all County applications including Police and Fire and Rescue vehicles, various desktop applications, and most County mobile applications. Accurate planimetric data depends on high resolution and high accuracy Ortho-Imagery. The County partners with the state every four years to purchase new Ortho-Imagery, this partnership significantly lowers the cost of the imagery which is used on the web and as a foundation for nearly all GIS data layers. The Planimetric Data Update was jointly funded and completed through a partnership with the DPWES. The work significantly expanded the planimetric features in the GIS data warehouse: over 13 million new planimetric features were added to the GIS planimetric data – an increase of over 400%. The County's GIS Office collaborates with DPWES to determine the optimum refresh cycle and funding approaches. Calendar year 2017 is the next acquisition year, based on the four year refresh cycle; current plans are to update of the planimetric data based on the 2017 imagery.

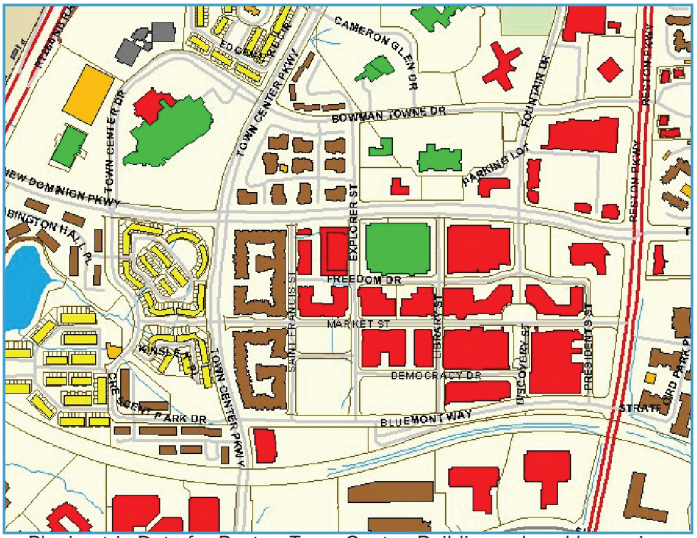
Addresses are essential to almost all County operations. The GIS office collaborated with other County agencies to bring the Master Address Repository online in 2004. GIS maintains much of the data in the system on a daily basis. The Master Address Repository (MAR) project has proved to be invaluable for the



Example of Ortho-Imagery of the Reston Hospital area. Note the straight down view.

CAD/911 system as well as other key County systems such as land development and tax administration systems. The MAR is the authoritative source of parcel (sites) addresses in the County, and is essential for effective operation of the CAD/911 system.

The availability of key County data digitally through the GIS provides a range of benefits to constituents and County staff. Digital Ortho-imagery is widely used within GIS as well as over the web. With the parcel and zoning data now maintained digitally, production of the County's parcel and zoning books has been greatly accelerated. Time consuming manual steps were replaced with a digital production process enabling staff to capture additional features in the GIS (e.g., more easements, particularly conservation easements). All parcel map changes are posted to the internet daily, providing web users of the Digital Map Viewer (DMV) with the latest versions of the maps. Prior to these enhancements, maps were printed for distribution annually. Digital production has enabled the use of color maps with added features such as the new symbolization of zoning patterns. The popularity of the frequently updated data is evident by the steady increase in usage of the Digital Map Viewer and reduced demand for the printed books. Currently, on average, over 10,000 DMV maps are viewed or downloaded per month.



Planimetric Data for Reston Town Center. Building colored by zoning

Interoperability is a significant and ongoing strategic activity for the GIS Office, both within Northern Virginia and regionally through the Washington Council of Governments (COG). Interoperability across National Capital Region (NCR) and with the Federal Government for emergency response purposes is also crucial. Fairfax is a member of the COG GIS Executive Committee and has helped guide the development and implementation of the National Capital Region Geospatial Data Exchange (NCR GDX) through its membership in the project's executive committee and project management. The project went live in spring 2012 and a revision of the software was released in August 2014. The system integrates with the federally funded Virtual USA network and provides a convenient tool to enable fast exchange of geospatial data to registered users of the system. It was a valuable asset for interagency collaboration for the presidential inaugurations since January 2013, allowing sharing of more spatial data among federal and local agencies than was possible in the 2008 elections. NCR GDX was successfully used in the 2015 World Police and Fire Games, which were held across the region. Plans are underway in Northern Virginia and the Washington Council of Governments to include regional data sharing (via NCR GDX) as part of emergency training and drills.

Interoperability is crucial in Northern Virginia as emergency response personnel regularly crosses jurisdictional boundaries. Access to accurate street centerline data is particularly important to the Fire and Rescue personnel who may have to cross jurisdictional boundary lines when responding to an incident. Emergency Response today regularly involves units from neighboring jurisdictions responding to each other's events. This speeds response time since there are a number of locations where the neighboring jurisdiction's fire station or equipment in route is closer to the event. The GIS office maintains Fairfax's street centerline data used in the CAD/911 system, and provides the data to the Commonwealth of VA which merges Fairfax County's data into a state wide centerline file. The Regional Routable Centerline project has been an important and ongoing project enabling centerline data sharing for the CAD/911 system. The Regional Routable Centerline project was funded by a grant from the State's Wireless 911 Board. The project enables Fairfax County and neighboring jurisdictions to share up-to-date centerline data for CAD systems, and enables member jurisdictions (Loudoun, Prince William and Arlington counties and the cities of Alexandria and Fairfax) to share routable centerline data with Fairfax County. This regional effort also supports the statewide routable centerline data set. This initiative not only benefits CAD/911 implementations state-wide, but other business processes that need routable data. GIS support for the CAD/911 system is a core GIS office responsibility, involving data maintenance requirements which continue to be a significant effort.

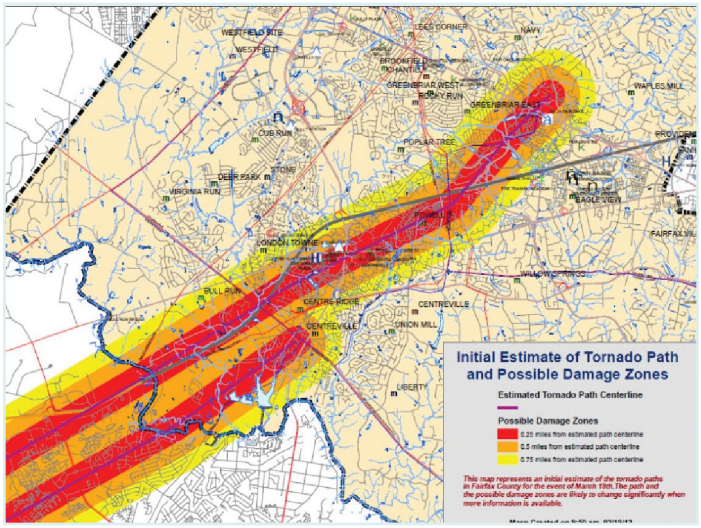
Next Gen 9-1-1 is a total re-engineering of the underlying telecommunications and operations of 9-1-1 emergency call routing by moving it to an internet based system. The National Capital Region (NCR) is rapidly moving to NextGen 9-1-1 due to its features and the impending end of life of the legacy 9-1-1 telecommunications hardware in the NCR. GIS is the foundation of Next Gen 9-1-1 call routing. The service

depends on accurate seamless road centerline and jurisdictional Public Safety Answering Point (PSAP) boundary data. Fairfax and its neighbors are in excellent position to transition to Next Gen 911 due to the regional routable centerline – which developed a seamless, dataset. Changes and updates to the data for use in NextGen 9-1-1 data model and requirements will need to be made, but the region is well down the path of having its GIS data ready when Next Gen 9-1-1 goes live in the next several years. FY 2017 GIS analysis of the legacy 9-1-1 tabular address location information enabled automatic location information from legacy 9-1-1 data to be transitioned into GIS formats that support Next Gen 9-1-1 routing of calls on the ESInet (Emergency Services Internet Protocol Network).

GIS successes also include complete revision and re-implementation of the County's Geographic Exploration & Mapping (GEM) application on to a new software platform; and release in 2012 of the completely rewritten Digital Map Viewer:

https://www.fairfaxcounty.gov/maps/interactive-map-gallery

Over the past years there have been many examples of the importance of GIS technology to County operations during emergencies and other events, for example in the Derecho, Hurricane Sandy,and Inaugurations – each required extensive GIS support. One of the better examples of what a large scale County emergency response would involve was an exercise called Operation Enduring Collaboration. The three day exercise was held from March 19-21, 2012 and was based on the scenario of an F-3 tornado striking the Sully/Springfield area of the County. The intent was to practice a total County response to such a major disaster. In planning for over a year, the exercise involved all County departments that would be involved in a disaster response. GIS played a key role throughout the three day event. The Director of the Office of Emergency Management (OEM) subsequently noted that "the work between OEM and GIS has quickly become the model in the region and state for WebEOC/GIS collaboration.



Tornado Path and Damage Analysis. Operation enduring collaboration map

The volume of GIS information continues to grow in Fairfax County. The GIS data warehouse holds over 800 layers of Fairfax County data and several hundred more of neighboring jurisdictions. The overall size of the vector data stands at over 100 GB (including business data tables), and the raster data is now over 9TB on-line with an additional 4.5TB currently archived. The LIDAR data has added over 400 GB of data. As a result of

new software tools, more imagery and historic maps will be added and available. The volume of data in the digital map viewer grows annually as new sets of property and zoning maps are added. Currently there are nearly 46,620 pre-made maps and images of historic maps available on-line. Table below lists the number of features in some of the categories and their change over time."

Data Layers	FY 2007	FY 2009	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Parcel	356,000	358,300	358,140	358,630	358,765	359,610	360,472	360,668
Addresses	368,000	365,100	365,669	366,295	366,488	367,130	369,972	368,281
Building outlines	257,000	257,300	264,361	267,729	274,078	273,960	273,817	275,547
Miles of roads (County)	4,700	4,736	4,825	4,904	4,943	4,959	4,982	4,993
Miles of roads (regional)			7,628	7,652	7,729	8,240	8,313	8,841
Number of streetlights	57,939	59,937	60,448	60,557	60,825	61,257	61,373	61,866
Linear miles of sanitary sewer lines	3,350	3,390	3,410	3,424	3,440	3,455	3,466	3,478
Miles of trails and walkways							4,800	4,804

Table 1 - Some of the significant layers in the GIS database

In addition to the GIS Office, over 25 County agencies use GIS in their operations. These include:

- **Northern Virginia Soil and Water Conservation District –** The soil maps (both the 1990 and 2011) are available with seven other digital map series on the County's web site. The 2011 soil series maps were added to the digital map viewer in FY 2010. The new soil data based on the County wide soil evaluation program conducted jointly with the federal Natural Resource Conservation Services and the Northern Virginia Soil and Water Conservation District was added to the digital map viewer. Sales of the printed property and zoning maps has fallen steadily as more users turn to the free, digital online maps. The soils data is regularly used internally for site review and is available publicly via the County's Open Data Portal.
- **Public Safety** – The centerline file was modified to reflect Northern Virginia's common centerline elements and made available to County agencies. It has been substantially enhanced with additional data needed for CAD and for regional routability of emergency response vehicles. That will continue to change as a result of the regional/ state centerline grant. Public Safety is one of the heaviest user of oblique imagery (at call taker and dispatch workstations) as well as planimetric features (in over 1,000 emergency response/public safety vehicles).
- **Department of Public Works and Environmental Services (DPWES) – Solid Waste Division –** Substantial savings are realized in the Department of Public Works and Environmental Services through the use

of GIS. The agency was recognized by the State of Virginia for integrating GIS with refuse vehicle routing for additional flexibility and cost savings.

- **DPWES Stormwater Management –** GIS technology enabled the Department of Public Works to complete the mapping involved in the Streams Characterization Project in weeks rather than months. They have been using GIS to help analyze the age of the stormwater infrastructure to identify areas where there were lengthy systems that were reaching their service lifetimes and would need replacement or maintenance. Additionally for watershed analyses, some of the analyses time has been cut in half through the use of planimetric data, LIDAR and satellite imagery. The GIS also enables the Stormwater Management Branch to track easements around storm water facilities. It also maintains maps of the stormwater features in the County and makes them available via the Digital Map Viewer. They are now using mobile GIS to document the condition of walkways they maintain and prioritize those needing repair.

- **DPWES Urban Forestry Program –** Used mobile data collection and GIS to effectively track the emerald ash borer. Directly collecting data into the GIS database which enabled more efficient and detailed data collection. Based on the analyses, new and accurate, treatment thresholds for infestations have been identified.

- **DPWES Waste Water Management** – The Department of Public Works digitized the sanitary sewer lines into the GIS and maintains them regularly. Those maps are available online for viewing and download in the Digital Map viewer. The Department also uses GIS as part of its automated sanitary sewer permit application tool which greatly speeds preparation of the permit by automating cost calculations. GIS is also used to help call takers identify problem areas and prepare work orders.

- **DPWES Stormwater Planning Division** – Used GIS to analyze flood inundation areas from possible dam breaches and to identify properties at risk of inundation.

- **The Health Department** – GIS has been a vital part in the planning and response for health issues that include: H1N1 Influenza vaccinations; childhood lead risk evaluations; Medical Reserve Corps staffing; and mapping of private drinking water supplies and sewage disposal systems. Also, GIS was used to validate a request for a Governor's Exceptional Medically Underserved Population (EMUP) designation in an area of the County where barriers to accessible primary and preventive health services adversely impact the health status of under and uninsured populations.

- **Park Authority** – Uses GIS for a wide range of planning and management activities including conducting existing site condition analysis and impact analysis; identifying environmental and cultural resource features, constraints and spatial relationships; preparing graphics, base maps, County wide park network maps; park trail maps; as well as in analyzing candidate properties for addition to the park system. Parks also released a web-based mobile application for navigating County trails. Mobile GIS is used in assessment of invasive species and carrying out trail condition assessments. GIS is an essential tool regularly used in all park planning, resource management and development projects.

- **The Department of Planning and Zoning –** Uses GIS programming and analysis to handle tasks that would have been an overwhelmingly manual effort in the past. The assignment of regional transportation analysis zone numbers to each of the County's 360,000 individual parcels has made this a routine and quick process. GIS streamlines the Area Plan Review (APR) through the use of the Comprehensive Plan Amendment Tracking System (CPATS) which uses GIS to generate notices for plan amendments applications.

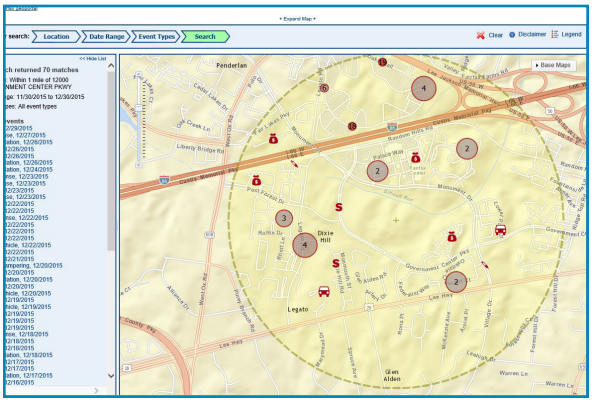
This has largely eliminated errors and provided easy access to the latest information. GIS is integrated into DPZ's Land Information Systems (DPZLIS) with a number of benefits including, easy and quick access to staff report maps, generating environmental assessments, and custom page size maps of any County location. These specialized features have been particularly beneficial in zoning enforcement issues where the public can now view maps to check permit and enforcement cases via the internet. They have been using 3-D analysis to visualize and analyze building size and impact on neighboring properties and thereby make more informed determinations about proposed construction. Most recently they implemented the Planning and Zoning Map web portal and have implemented an interactive Planning and Zoning map viewer to find the location of zoning applications and are developing an Interactive Comprehensive Plan Map as well.

- **Department of Transportation** – Utilized GIS for a variety of agency needs and projects. GIS provided tremendous insight in understanding and predicting commuter use of Park & Ride facilities and helps direct the department to locate and manage new/potential facilities. The Department of Transportation uses GIS technologies for the Fairfax Connector bus system's demographic analysis, route planning, and bus stop management. Many of these techniques are also used for the Employer Services program to best promote commute alternatives for Fairfax employers and their staff. In addition, a number of transportation features, including the Residential Permit Parking Districts (RPPD), Yield-to-Pedestrian, and No Parking inventories are managed through GIS. GIS is used to plan and analyze bus stop locations and pedestrian safety improvements. New uses of GIS include interactive mapping to better aid the public in navigation and identifying recreational features for bicycle riders.

- **Pest and Disease Management** – Rabies, West Nile virus, Tuberculosis, and Lyme disease are compiled and analyzed spatially on a continuous basis using GIS. GIS is also used extensively in the planning, routing, surveillance, and/or enforcement activities for environmental health (food, water, on-site and vector).

- **Fire and Rescue Department** – Makes substantial use of GIS and as a result is experiencing significant savings. For instance, in the process of responding to Fire Hydrant and Insurance queries, the GIS saves about 50% of staff time in determining distances. Additionally a 98% staff time savings were estimated in the County wide analysis of identifying five-minute response time areas for fire stations – a factor crucial to establishing areas within response time limits. More recently they contributed to building a routable centerline for the new CAD/911 system which will improve response times. They also used GIS to help evaluate possible alternative locations of a fire station near Herndon.

- **Fairfax County Police Department** – Has had significant success in its use of GIS for crime analysis. In multiple instances, the Department's crime analysts identified spatial patterns in crime incidents, successfully predicted subsequent crime locations, and arrested suspects (for instance, GPS larcenies, burglaries). The training of police crime analysts as criminal profilers is heavily dependent on the use of GIS. The GIS Branch



Police Incident Viewer

worked with the Department to implement a total new Police Incident viewer which will include a substantially larger map and faster response time. A mobile version is available. Police also used GIS to plan the County-wide events for the National Night Out – Community Watch Program. It highlighted all the activities and enabled efficient routing of staff to cover the large number of events in one evening.

- **Emergency Management** – GIS was used extensively in planning the response to flooding in the Huntington area. The GIS maps were helpful for both field personnel and staff in the Alternate Emergency Operations Center, and for close coordination with federal and local jurisdiction during presidential elections. GIS also supported 'snowmaggedon' in 2010, super storm Sandy and the Derecho responses in 2012, and regularly supports the Office of Emergency Management in table top exercises.
- **Department of Systems Management for Human Services** – Uses GIS regularly as part of tracking and analyzing County demographics. Their key system is the Integrated Parcel Life-cycle System (IPLS) which contains demographic information by parcel. Most recently they have used GIS to analyze and demonstrate the wide range of languages spoken in the County, broken out by language, area and are doing ongoing analyses with the 2010 census update.
- **Office of Community Revitalization** – Now has a web site with GIS maps as an integral part. The site and its maps provide a geographical context for people interested in revitalization in the County.
- **Government Partners –** The GIS now contains data from Fairfax Water and the Cities of Fairfax and Falls Church on hydrants – an important data element for the CAD/911 maps.

The breadth of GIS utilization across the County, and the extent of its integration into the overall IT architecture are reflected in the award winning plans and efforts of the preceding years. The awards recognize GIS's achievement in fostering and expanding the use of GIS applications to improve County operations:

- In CY 2015, Fairfax County was ranked #1 for jurisdictions with population over 500,000 in the Digital Counties Survey of the "Most Innovative, Pioneering Counties". The award specifically referenced a GIS application developed by the Department of Neighborhood and Community Services. That application was also a winner of one of the Counties GIS excellence award the year before.
- In FY 2014, Fairfax County was awarded a Special Achievement in GIS award by Environmental Systems Research Institute (ESRI) for its contributions to ESRI's national community mapping service. Now a highly detailed base-map is available for all users of ESRI's tools.
- In FY 2011, Fairfax County GIS, as part of the regional team carrying out the Regional Routable Centerline project, was awarded a Special Achievement in GIS award by ESRI. The award recognizes organizations that use GIS to "improve our world – and set new precedents throughout the GIS community."
- GIS was also the recipient of the 2010 VA Governor's Technology COVITS award for its 'Virtual Fairfax' web based application, also written in the Washington Post.
- County GIS programs received the VA Governor's Technology COVITS award for DPWES' use of GIS in routing refuse collection vehicles.
- In FY 2005 the County's GIS won FOSE's E-Town Award for GIS Integration.

- The County's GIS program 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.
- Fairfax County's GIS received international recognition via the ESRI Special Achievement in GIS (SAG) Awards for both the GIS Branch work and the county wide efforts in GIS.
- The National Association of Counties recognized Fairfax County for its use of GIS in the reapportionment process.

Fairfax County is a member of the Northern Virginia GIS managers group, an informal group that regularly meets to coordinate activities. The GIS Branch also works closely with the State's GIS agency (Virginia Geographic Information Network, now part of Virginia integrated Services Program), and now directly participates in the Emergency Operations Center when it is activated. The County is also a member of NACo's GIS committee which looks at key GIS issues affecting counties nationally. Additionally, each year, GIS hosts "GIS Day" which promotes the use of GIS and development of new GIS applications through county wide competition and awards.

2.3 Customer Relationship Management (CRM)

Expectations for modern access and interaction with government services continue to expand dramatically. Agencies need automated ways of capturing interactions, providing and tracking response to inquiries, requests for services and complaints, and the enterprise needs a common solution that integrates with e-government capabilities and the Web, enables improved customer experience and public engagement, and provides an enterprise-wide view of constituent needs and concerns, and County response. Fairfax County continues to respond to this growing need through Customer Relationship Management (CRM) technology applications. CRM provides agencies and their staff improved opportunities for providing citizens quick and convenient access to information about County programs and services. Current solutions in place that have served a variety of agencies' needs for tracking interactions, response to citizen inquiries and requests, as well as issues management include Internet Quorum (IQ), and Siebel commercial-off-the-shelf (COTS) products. These solutions were successfully implemented over time for a variety of applications and have resulted in significant staff productivity and efficiency improvements in supporting information exchange with citizens through multiple communication channels: in-person, telephone, e-mail, via the internet and mobile devices.

For example, the Offices of the Board of Supervisors and the Clerk to the Board provided enhanced opportunities to record, route, and manage interactions with constituents and organizations. Subsequent phases have provided expanded capability throughout the County. The web enabled system replaced several custom applications and provides functionality for the Office of Public Affairs, Consumer Protection, Office of Human Rights and Equity Programs Department of Public Works and Environmental Services, County Executive and the County's Legislative function within the County Executive's office, Department of Purchasing & Supply Management, Department of Transportation, and the Alternative Dispute Resolution Program.

The Clerk to the Board of Supervisors uses the IQ Boards and Commissions Module to track appointments and nominations to boards, committees, and councils and maintain a complete correspondence history regarding contact with these individuals. Consumer Protection Division's modules include Complaint Tracking, License Administration and Taxicab Inspections. The systems enable staff to rapidly open and begin investigating cases. By expediting the administrative components of case investigations, the initial response time is reduced, resulting in earlier detection of consumer protection violations. The historical research required to discern how past cases were resolved is now expedited; and cross-referencing cases between investigators allows department staff to share online information pertaining to the same or similar consumer protection violations. Further, the system facilitates collaboration between department investigators on complaints and resolution techniques, and also enables citizens to access complaint histories of businesses online in order to research and determine the pros and cons of doing business with those merchants. In addition, the system allows Fairfax County Police access to license information for all solicitors, peddlers, pawnbrokers, massage therapists, taxi drivers, etc.

The Office of the County Executive uses the IQ Legislative Tracking Monitor application to assist County agencies monitor, review, respond to and track state legislation when the Virginia General Assembly is in session. The system includes the automated downloading of legislative bill information from the Commonwealth's Legislative Information System, thus eliminating the need for a legislative aid to manually track constituent requests.

A project steering committee consisting of DIT and agency staff that use or have interest in call center functionality was established to manage the implementation and integration of the CRM. Initial efforts involved development of the overall framework and pilot application in the Office of Public Affairs and supports Office of Public Affairs customer center sites in several locations. Frequently requested information and telephone numbers for County services and home owner association data is available in a centrally used knowledge base to support consistent distribution of information.

The Office of Public and Private Partnership (OP3) is the clearinghouse for partnership information in Fairfax County. CRM efforts in OP3 have consolidated disperse contact lists of business partners and resources, enabling staff to utilize the system as a data depository for contacts, accounts, cases, service requests, solutions, correspondence, activities, and allocation of staff and volunteer resources. The Department of Tax Administration (DTA) Audit Division migrated from the use of multiple Microsoft Access databases and Excel spreadsheets to the CRM which offered improved accountability, increased security, and instant interactive reporting tools.

Enterprise-wide CRM supports a holistic view which aids in making well-informed decisions about service delivery to the County's diverse population and improves communication through seamless unified access to information via the County's web site, IVR systems, cable TV, in-person, live Call Center agent, mobile devices, and most importantly going forward - Social Media. Goals for the refreshed strategy include enabling screen pop interaction with case record information, contact interaction records, transparent case

escalation, and consolidation of the legacy CRM solutions. The enhancements will provide cross-browser mobility access to CRM, reduce maintenance, training, and support while increasing productivity in efficient seamless integration with the County's office products. Assessment of the next generation of CRM technology that provides improved native integration with the County's messaging environment, more agile mobile app development and viability for 'cloud' solution opportunities in alignment with County agencies' initiatives determined that Microsoft Dynamics to be the best overall fit for integration with the County's enterprise information systems environment, user friendly screens and navigation, flexibility and overall cost. Cloud version is also used for on-demand, as needed CRM requirements. In FY 2017 - FY 2018 the project will continue to migrate legacy CRM applications into the consolidated platform and coordinate business processes to align with enhanced public access and customer engagement goals.

2.4 Enterprise Content and Document Management

The County established a strategic approach to content and document management by developing an integrated solution on an enterprise platform. Content Management is the foundation for the organization and use of information from structured data (through business applications), and unstructured data in electronic or imaged documents (word processing documents, spreadsheets, e-mail, and reports).

The County's enterprise information architecture continues to be refined to provide efficiencies and enhanced capabilities to support enterprise document management. This solution enables the County to have a rich document management and business process flow for retrieval and storage of vast quantities of required paper records. The enterprise document management technology with incorporated workflow solutions improves business process efficiency and productivity by providing the capability to view hard copy records through automated applications in order to provide required services. In addition to fast and reliable business processes, the document management solution minimizes the need for storage of paper

records, reduces storage space needs, protects against mounting storage costs, and reduces human and physical plant asset risks associated with handling voluminous stacks of paper.

Content management integrates with document management. For business activities that also rely on a variety of documents, the document management initiative employs technology at the beginning of a document's life cycle (originated as hard and soft copy) using the system to catalogue and track the documents and enable automated workflow processes through the entire life cycle. This comprehensive approach and associated implementation of technology is called Integrated Document Management (IDM). In seeking enterprise technology solutions that satisfied multiple needs, the County found that the best products for content management engines also incorporated document management needs. The integrated solution is more cost-effective, and provides a seamless integration for use of information found in imaged documents and information in databases and other systems required for a complete business transaction. The integrated document and content technology provides the ability to organize electronic documents, manage content, enable secure access to documents, route documents, automate related tasks, and facilitate document distribution.

Document imaging is another component of IDM which has been embraced to provide a more efficient and effective way to store and retrieve documents for normal work productivity and to handle legal mandates for records retention and retrieval associated with case management, FOIA and e-Discovery as well as to enhance information published via the WEB in WEB searches. With the dynamically growing volumes of information, management of paper based documents which often times has extended retention time requirements is not effective and for many processes, not feasible. Consequently, many County agencies are implementing IDM with their business systems to alleviate the demand for increased storage space, improve business processes, and protect against disasters that can potentially destroy important paper documents. Integrated Document Management solutions encompass core business practices, as well as provide better archival and disaster recovery capabilities.

IDM technology has been implemented in a number of agencies over the past five years, for example, document work flow projects in the Office for Children (OFC), multiple initiatives for the Department of Family Services, the Commercial Inspections Division of Land Development Services in the Department of Public Works and Environmental Services to meet the needs of the sewer lateral section and complaints tracking, the core modules of an automated Accounts Payable System in the Department of Finance and on-going work for the Juvenile and Domestic Relations District Court. Although the individual departmental business requirements vary for the use of IDM technology, the following benefits and quality improvements have resulted from these projects:

- Increased staff productivity from employees' ability to share and act on accurate information through the delivery of the right documents at the right time
- Enhanced communication and collaboration through shared information
- Improved speed of information and transaction flow throughout County agencies

- Improved access and security through controlled access to sensitive documents
- Reduced time spent searching for critical documents
- Improved disaster recovery through electronic storage and backup of information that is far more secure than paper
- Reduced clerical, paper, printing and storage costs

Document management and imaging projects, especially when work flow automation is used, can greatly improve operational efficiency and effectiveness. In addition, these projects deliver enhanced information security. Granular control over each piece of data enables access by authorized users, and only for the specific information they need and are authorized to access. These solutions provide business units with the capability to reduce costs, accelerate business transactions, ensure regulatory compliance, and support cross-department communication.

IDM is an integral part of the County's FOCUS (ERP) project. Documentum-Captiva is the primary enterprise-wide platform, compatible for use by the SAP ERP application implemented for FOCUS. The solution is integrated with business processes supporting Accounts Payable, Contracts, and Human Resource Management. First phases went live in 2011 for the accounts payable processes with the Documentum/EMC Invoice Manager and Captiva scanning for invoice processing for the Department of Finance. The integration of the FOCUS SAP financial and procurement modules allow for automated matching of properly submitted vendor invoices against authorized encumbrances and receipts, reducing the amount of time program managers and the Department of Finance would spend approving and paying standard invoices. IDM is also an important technology for other agencies supporting major programs such as the Department of Family Services in the Self Sufficiency and Children, Youth and Family programs. The County will continue to support the current initiatives of IDM and workflow technology for projects in the Department of Family Services, Office of Children, and other agencies. The Juvenile and Domestic Relations Court and the General District Court are collaborating with the VA Supreme Court on workflows and document management for court files and possible integration with the state's case management system. Future strategy includes interfaces with Circuit Court systems.

Fairfax County continues to expand Enterprise Content Management System (ECMS). Department of Planning and Zoning determined that an ECMS and Scanning would afford the best solution for automating business processes and ending the dependence on ever-expanding physical files. DPZ ECMS will provide immediate access to Planning and Zoning related documentation, record recovery, re-filing process and minimize expenses associated with space, shelving, and storage of paper documents. DPZ will continue to develop the ECMS. The on-going strategy also includes integration with the County Archivist goals for over-all records management both in-house flow from agencies and also using cloud based solutions.

New contracts for Records and Archival Document management system, cloud, and related professional services were awarded in FY 2015. The new solutions will accelerate the ability for agencies to streamline processes across various agencies and allow the user community to retrieve and view records on demand.

Content and document management will continue to be a long-term strategy to affect the integration of structured and unstructured electronic and paper-based information and file types in optimizing and enhancing overall information management, transparency and decision processes.

2.5 Technology Infrastructure Initiatives

To ensure continuous delivery of quality services in a cost-effective and resource-efficient manner, Fairfax County's technology infrastructure is designed with the flexibility to respond to the County's evolving technology and business requirements, and to take advantage of new trends that provide improvements in operational efficiencies and cost. The County established a strategic approach to building agile enterprise infrastructure architecture by consolidating and standardizing IT resources, implementing scalable and elastic infrastructure components, moving toward service-based technologies, and automating processes while ensuring visibility, security, and accountability. This strategy has been recognized by the County's ITPAC (see Section 1), national IT research firms, and industry providers as a well-developed capability with a resulting competitive overall cost (TCO).

Virtualization and Consolidation

Virtualization and Cloud Computing technologies serve as the fundamental foundation for this strategic direction. In FY 2007 - 2008 Fairfax County established virtualization as the primary means to deliver server-based (hardware & OS) infrastructure services. The virtualization of server-based infrastructure services introduced technologies such as VMware, Symmetric/Asymmetric multiprocessing, enterprise-class server hardware, grid computing, etc. The virtualization of server-based infrastructure not only provided a means to securely and efficiently share server resources ("do more with less"), but the County utilized virtualization to consolidate and standardize the overall server landscape. By implementing virtualization for server infrastructure platform, Fairfax County eliminated and/or consolidated server hardware which not only decreased total cost of ownership (i.e. predictable costs, streamline of upgrades), but also reduced power, cooling, and physical server hardware footprint in the data center, thereby contributing to County wide "Going Green Initiative". These resource efficiencies also allowed Fairfax County to optimize management of resources, maximize data throughput, increase control over delivery of IT services, simplify administration, and ultimately has established a foundation for the virtualization and standardization of other infrastructure components and cloud technology.

In FY 2008 - 2009 Fairfax County continued the move toward virtualization/ consolidation of infrastructure architecture by implementing storage virtualization (SAN, NAS, Grid storage), application virtualization (Terminal Services, Citrix), virtual desktop infrastructure (VDI), and network virtualization (VLAN, Load balancers) technologies. Virtualization of the infrastructure architecture has not only improved overall physical and operational efficiencies, but also provided better resource/ capacity planning and provisioning of resources. This scalable, resource-efficient, and standardized architecture has become the base for Fairfax County to build out the "dynamic" data center. The dynamic data center provides the

enabling infrastructure to move Fairfax County to the next phase of the strategic goal for the infrastructure architecture which is providing infrastructure as a service or the establishing of an internal private cloud. In FY 2010 Fairfax County received federal stimulus funding for energy consolidation projects of which a portion is dedicated to initiatives related to desktop power management, enterprise server consolidation and telework initiatives designed to lower power consumption, decrease greenhouse gases and reduce the County's carbon footprint. The virtualization/ consolidation effort has reduced servers on an average ratio of 60:1.

In FY 2011 IT enterprise platform and infrastructure projects received national recognition for reducing the County's carbon footprint as well as providing operational efficiencies. The 1E PC power management deployment automatically shut down 14,000 - plus end-user PCs across 55 offices when not in operation resulting in energy and cost savings. The County also deployed Nomad Enterprise to deliver operating system upgrades, software deployments, and patches to PCs, servers, and sites without disruption. Additionally with implementation of a self-service software deployment portal, users can locate and install software without requiring IT staff to leave their office.

The virtual infrastructure environment has been further improved with the ultimate goals of reducing cost and providing highly available infrastructure without compromising the quality of services. Several key examples include:

- **Self-Service Virtual Resources -** With an automated workflow, platforms and associated resources (OS, Storage, Network, Virtual Service Machines, etc.) will be pre-allocated for users to choose from service catalogues. With the design and deployment of self-service provisioning resources, the County and agencies will gain great efficiency, visibility and flexibility into supporting business needs through the use of IT.
- H**ighly Available/DR Ready Virtual Infrastructure -** Started in FY 2013, critical services and systems were identified for high availability and for the ability to sustain unplanned events such as data center outage. Such services are designed to serve customers in a distributed/load-balanced mechanism, rather than standby/failover. The completion of production failover, in the event of an unplanned outage, for the County's ERP system (i.e. FOCUS) was completed successfully. DIT is continuing to expand this HA/DR capability for County mission critical systems and agency applications to be able to failover to an off-site data center.
- V**erisign Identity Protection (VIP) -** Application installed on County-owned or employee-owned desktops and mobile devices provides two-factor authentication for remote connection to County computer resources. VIP improves convenient and safe remote accessibility for employees.
- **Microsoft Skype for Business -** A collaborative tool that has the ability to improve efficiencies and communications. This best-in-class communications application is an instant messaging client with video conference capabilities, online meeting, and telephony that enables real-time unified communication and resource sharing between employees at work and from remote locations. Along with PC's, Skype for Business can also be accessed from smart phones and tablets for increase mobility, allowing for increased productivity and support for agencies delivering services to its citizens. The implementation of

Skype for Business' enterprise-wide Unified Communications (UC) platform for IM, conferencing, video, and Enterprise Voice will give the County a feasible future transition from the current voice platform, allowing for a reduced Total Cost of Ownership of IT communications. Primary business drivers for the deployment of Skype for Business included improved communications; increased collaboration; Enterprise Voice (EV) and Unified Communications (UC); reduced TCO of IT; increased mobility and; improved business integration.

Cloud Computing

In FY 2010, the County considered the potential benefits of an internal private cloud infrastructure by leveraging features from virtualization/consolidation base and other enterprise infrastructure initiatives (i.e. County institutional network, PSTOC, e-Gov enhancements, etc.). Complimentary technologies such as enterprise data backup/recovery, mirroring, clustering, data de-duplication, replication, centralized infrastructure management tools, enable the County's private cloud capability. In addition to server provisioning services, with the advancement of the enterprise dynamic data center, the County provided additional cloud-based infrastructure services such as storage provisioning, password management, application provisioning, and business continuity. By using virtualization as the base technology, the County's dynamic data center/private cloud is able to have internal and external components that provide different services based on costs, capabilities, needs, and SLAs. This is being aligned with the requirements of agencies and delivers value by enabling improved and incremental solutions, products and services that can be more effectively deployed. With this strategy, County agencies do not need to implement independent infrastructures for most services, and can minimize costs associated with common applications that are not needed by all employees at all times.

The County will continue to build on the internal private cloud by standardizing and enhancing the dynamic data center infrastructure (i.e. unified network/server/storage infrastructure, more efficient business continuity technologies, enhanced security infrastructure, etc.). The remote access portal that went live in 2014 enhanced employee access to the County's ERP system FOCUS (based on their security profile) from anywhere over any device securely. The data renders itself to the appropriate form factor.

The County also integrated selected Public Cloud services as part of the effort to increase the quality of service, security and reduce cost; for example, Symantec VIP is a cloud based service that has replaced hardware token and serves as a second factor of authentication. With these enhancements, the County will meet its strategic goal for an agile infrastructure architecture meeting technical and business demands by providing a platform to not only deliver infrastructure services via Internet in a shared, measured, secure, service-based, scalable, and elastic means; but also applications, business processes, and security services.

Microsoft Office 365- Cloud Collaboration and Productivity Services

In order to provide business productivity solutions to County users and agencies, DIT deployed a solution which allows users to write documents, create spreadsheets, develop presentations, and transparently collaborate to carry out agency business functions, as well as cross-agency business functions.

In FY 2015, DIT began deploying Microsoft Office 365, a cloud-based suite of business productivity and collaboration services which the County has adopted to help meet its needs for robust security, reliability, and user productivity. Office 365 combines the familiar Microsoft Office desktop suite with cloud-based versions of Microsoft's next-generation communications and collaboration services—including Microsoft Exchange Online, Microsoft SharePoint Online, Office Online, and Microsoft Skype for Business Online—to help users be productive from virtually anywhere through the internet.

The deployment of this cloud-based business productivity technology solution will allow for integrated document collaboration, Skype for Business Messaging, e-mail, content storage, and online learning for County personnel to expand their skills to stay competitive in an increasingly technology-based environment. Most importantly, Office 365 has enabled the County to deliver increased redundancy of services to agencies and end users, as well as cloud-based storage, providing significant cost-savings for IT storage of County data.

Enterprise Communications Integration

Contemporary voice communications integrated with data, video, presence and messaging is an organizational requirement in today's technological landscape. As government agencies are asked to do more with less, they rely heavily on a variety of communications technologies to improve effectiveness in meeting the growing needs of constituents. Integrating voice, video, data and presence information onto a common broadband infrastructure is the new reality. This convergence brings tremendous benefits to

geographically dispersed enterprises such as Fairfax County. The near-term strategy implemented Session Initiation Protocol (SIP) provider network trunking services replacing legacy carrier circuits, and implementation of pure IP connections to the carrier cloud. These will yield a communications architecture that is secure, robust and scalable at a lower cost than traditional Public Switched Telephone Network (PSTN) connections and enable advantages in functionality and features this leading-edge technology provides.

The County's strategy for the next generation voice architecture takes into account complex technical requirements for an integrated network strategy. The solution supports a range of configurable telecommunication instruments and communications technologies and also provides a single logical architecture for addressing the business and operational needs of agencies located in multiple locations throughout Fairfax County. Integration of the voice and office productivity platforms, often referred to as Unified Communications, was implemented as a pilot in selected County facilities, with wide-scale implementation imminent. The integration of the Avaya platform with Microsoft Skype for Business creates a seamless work environment where information and communications share common attributes and interwoven capabilities. The integration of voice and the Enterprise Microsoft messaging platforms will result in a Unified Communications (UC) capability, enabling agency end users to make phone calls from Microsoft Skype for Business on mobile devices, to ultimately reduce traditional desk telephones. Additional benefits include opportunities to deploy and integrate with commercial wireless platforms for smart-phone Windows Surface and iPads.

The County is also embarking on a strategy that enhances its wireless communications and broadband capabilities designed for integration with the County's robust, secure fiber infrastructure. This initiative will leverage the County's private voice wireless (radio), network and telecommunications programs for a unified architecture and support scenario. This strategy, designed to leverage federal broadband grant opportunities and public-private partnerships, will provide improved services and better cost efficiency than similar commercially available broadband solutions, especially supporting public safety response operations and regional interoperability.

Mobility

To enhance the County's goals for mobility, telework, operational cost efficiency, Continuity of Operations Planning, and environmental stewardship and 'green' IT, a major component of the enterprise technology infrastructure initiatives includes technology that enables secure use of hand-held wireless mobile devices for data and business transactions, to include County issued and as appropriate employee personally owned devices. Due to dynamic change in the marketplace in end-user devices, the strategy focus has shifted from the device to data. Enterprise Mobile Device Management (MDM) solutions are policy and configuration management tools that can be incorporated into an organization's enterprise network and platform enabling infrastructure; today's solutions allow smart-phones, and tablets to include Apple, Blackberry, and Android (for example). The primary solution delivery model is on-premise, but it can also be offered as a service (SaaS), or through a cloud. With the County's mature 'private' enterprise Cloud,

this technology was adopted and is being implemented and integrated with the enterprise network (see Section 5). In assessing the most optimal tools, the County considered lower cost options for casual users of their own devices for enterprise applications such as e-mail and calendaring, and a more robust solution for employees whose daily work is mobile in nature and conduct transactions crossing internal business systems and secure data. AirWatch Enterprise Mobility Management (EMM) enables balance for overall security, flexibility, device support and cost containment needs.

"Big Data"

Given the interdependencies and shared business drivers of the cross agency applications and information, DIT resources were leveraged during FY 2012 to maximize benefit-received opportunities for the primary land use audience - citizens, the land development industry, and County agencies. DIT's "Big Data" initiative focused on the consolidation of structured and unstructured land use data from several disparate land use systems in a GIS & web based data warehouse/business intelligence product. The consolidated data provides land use customers with property development history profiles, and "free style" search capabilities of past, present and future land use activities that drive economic growth. A plethora of data from Oracle and SQL databases, GIS, the WEB, and documents that included building permits, site development plans, code enforcement investigations, and inspections, were centralized in the data warehouse to provide agencies with a single point of reference to streamline government services, and to meet Board of Supervisor Land Information Accessibility goals.

Citizen/industry accessibility options to the GIS based warehouse and transaction-specific systems include, smart phone resident applications that allow citizens to apply for permits, schedule inspections, report alleged land use code violations, and assess prospective property procurements for compliance with County codes. The Department of Code Compliance and other agency staff can access the warehouse from the field (via VPN & wireless technologies) to enhance "mobile office" capabilities with a streamlined business architecture that includes real time customer property inspection, and construction assessment updates that contribute to sustaining safe and healthy neighborhoods.

FY 2017 - FY 2018 data initiatives include digital dash boards for agencies' Senior Management to assess agency operational efficiency, and augmenting the warehouse with land use infrastructure metrics.

The initiatives will also involve a pilot program to allow selected industry participants to electronically submit commercial development rezoning plans to the County via the web. As part of a strategic project to enhance cross-agency business processes, the County will continue to evaluate and plan for the next generation of web-based public sector permitting and inspections technologies that use more contemporary technical architecture and viable SaaS offerings. This strategy includes GIS and WEB capabilities and reporting through data analytics tools such as (current) Business Objects, SAS, MarkLogic, and Microsoft Power BI. Thus an overall integrated approach continues to evolve with more sophisticated data analytics products on the market, fueling the opportunity for streamlined business processes, service delivery, transparency and citizen engagement.

2.6 Integrative Health and Human Services Model and Information Technology

The field of health and human services (HHS) is rapidly evolving. Changes to demographics, economies, practices, and technologies are creating a demand and an opportunity for a new model of health and human service design, delivery and management. Individuals and families served by the HHS system often have multiple needs addressed by multiple programs and services. For instance, an older adult, experiencing health and mobility limitations who wants to remain in his home may need at least seven services that currently span four Fairfax County HHS agencies – medication management, nutrition guidance, "meals on wheels", home based support services, senior housing, transportation support, and adult day care.

With this example and other complex scenarios including youth, families, health care and mental health services in mind including state and community based organization providers and, the massive amounts of data in numerous individual supporting IT systems the County has been engaged in efforts over the last several years to develop a conceptual foundation and business model which tie together the work of various health, housing and human services agencies in efforts to achieve specific outcomes related to the health and well-being of the County's clients and community. A holistic approach to addressing needs along the spectrum of crisis to self-sufficiency to sustainability, as well as strong communication, coordination and collaboration across programs and agencies are key factors in successfully addressing their needs. The leadership of the **Fairfax County Health and Human Services System (FCHHSS), hence referred to as 'the System'** recognizes that the System needs to update its approach to service delivery and managed. There is an imperative and an opportunity to move forward with a new model that:

- Strives for integrated delivery, management and evaluation of health and human services,
- Is built around a shared vision that focuses on people and their strengths and needs, rather than individual programs, and

- Increases the County's ability to assess program performance, identify long-term trends, and create efficiencies.

The ultimate outcome requires shared planning, robust data, and information exchange in order to shape policies and future actions focused on improved outcomes and shared accountability. The new model that also increases the County's ability to assess program performance, identify long-term trends, and create efficiencies. The **Health and Human Services Integrative System ("Integrative System")** initiative has the ultimate goal of delivering person-centered services to County residents which enables a cross-sectoral exchange of process and data that better leverages resources and supports the County's overall goals for individuals and families to be safe, be healthy and realize their potential.

Information technology (IT) is an essential tool to attain a comprehensive view of a client's comprehensive need and greater efficiency to comprehensively address those needs. IT will also be a critical enabler of improved collaboration across agencies and external providers and between Fairfax County, the Commonwealth of Virginia and other localities and associated programs. Finally, IT will enable Fairfax County to fully leverage the power of analytics to inform performance evaluation, policy analysis, program planning and budgeting activities. Currently, there are over 70 information systems used to support the many programs and functions across the eight agencies including approximately 20 distinct information systems used for client intake spanning the eight health and human services agencies. Very few of these information systems are currently set up to exchange information, and many of the information sharing processes remain fragmented. All of this creates increased challenges for clients navigating the current collection of programs and services and for staff coordinating services within and across those programs. The components in the IT Roadmap serve as an enabler of reengineered, optimized, client-centered Integrative System processes.

Through the effective use of information technology, the County has the opportunity to deliver a scalable set of coordinated services, improve service quality with more accurate and timely data, bridge service "silos" while increasing administrative flexibility and sustain cost-effective IT assets and services. The Integrative System initiative began moving forward with the establishment of the **Fairfax County Health and Human Services IT Governance Board (HHS ITGB)** in 2014. In its work, the HHS ITGB convenes County executive staff, information technology senior leadership, and human service department heads to identify and examine technology trends, programs, practices and operational requirements affecting human services programs. It establishes strategic direction, policy and priorities for technology initiatives and investments across the Human Service agencies and related partner organizations, promotes an enterprise-level approach and collaboration, and state, inter-jurisdictional, and Federal interoperability opportunities. The HHS ITGB focuses on how the delivery of a consistent level of human services to the citizens of Fairfax County can be influenced and improved by deployment of specific information technologies and data governance. The HSITGB seeks to break information silos through the use of

technology and coordinated agency practices to more efficiently and effectively provide human services system wide.

In 2015, the HHS ITGB approved a 5 Year IT Strategic Plan, and in 2016 approved an **Integrative System Information Technology Roadmap ("IT Roadmap")** that outlines the prioritized, deliberately sequenced series of IT projects that will enable the County to build out the proposed IT foundation. The Roadmap projects are described as "components": groupings of functionality designed to address a particular Integrative System data management, transaction management, communications or analytics need. Key components of the Roadmap prioritized for implementation in the first wave of functionality are:

- Document Management
- System-Level Analytics
- Client Register/Master Client Index
- Service Information Exchange, and
- Security and Access Management.

Acknowledging that this is a complex venture, the goal is **not** to build or buy a single, all-encompassing, monolithic IT solution that will address the functionality needs of multiple agencies and the programs they manage. Instead, the aim is to be strategic about County IT investments, planning, and commitment to IT resources. Establishing the foundation for how information technology will be used across the health and human services system is the first step towards a multi-year effort enabling the programmatic innovation envisioned for the system.

Developing and Implementing the IT Roadmap: Progress to Date

The Roadmap reflects an agreement in principle on how the agencies that make up the FCHHSS will operate as an Integrative System and how IT will serve as an enabler of optimized, client-centered processes. Furthermore, the Roadmap is based on business-driven functional capability expectations and best practices for IT architecture, acquisition and management; as such it neither prescribes specific IT products or solutions, nor does it advocate for products or solutions from specific vendors. Those details will be fleshed out prior to engaging in specific IT solution acquisitions or build projects. As such, the Roadmap is purposely designed to communicate future IT capabilities and needs in a compelling manner to a wide variety of stakeholders.

The IT Roadmap represents the viewpoints and captures the input of multiple stakeholders including but not limited to:

- Seven Capability Expectation Teams (CETs), comprised of program management staff from all eight FCHHSS agencies, that met over the course of three months to formulate capability expectations across seven functional areas that future IT solutions would need to meet in support of the Integrative System.
- A Process and Data Optimization (PDO) Workgroup, comprised primarily of deputy directors of the eight FCHHSS agencies that met over the course of five months to examine various issues around implementing an IT roadmap including information access, use

and sharing; and critical factors for successful implementation of Roadmap projects.

- The Department of Information Technology (DIT), which is responsible for county-wide shared platforms and technology infrastructure and developed IT architecture and management expectations for future FCHHSS IT solutions and conducted reviews of existing information systems.

The IT Roadmap incorporates key takeaways from the Health and Human Services IT Showcase, an event held in November 2015 and January 2016. During the Showcase, several jurisdictions spread geographically across the U.S. – New York City, Allegheny County (Pennsylvania) and Pima County (Arizona) – shared IT initiatives they undertook to achieve greater integration across their respective health and human services agencies and, in the case of Pima County, beyond those agencies by also achieving greater connectivity with law enforcement and criminal justice agencies. The Showcase also featured presentations from information exchange organizations and IT vendors that offer solutions that have been instrumental in the implementation of health and human service integration initiatives in states and counties.

The IT Roadmap is inherently iterative: it will evolve and become more detailed and prescriptive based on solution acquisition strategies that explore various options that include leveraging existing County enterprise-wide platforms, build vs buy decisions, and open source arrangements for capabilities for other jurisdictions. It is predicated on the need to increase agility in the implementation, management and use of IT; specifically:

- Create a more nimble, responsive approach to IT implementation and provide for a gradual/ progressive approach to IT innovation;
- Incorporate "component based" and "service oriented" IT solutions that are designed to interoperate and support various programs/ lines of business: wherever feasible, work off common IT components that can interoperate and be replaced or upgraded over time without compromising the functionality and performance of other components;
- Ensure IT supports more rapid, timely changes to policies, business rules and processes;
- Enable greater workforce mobility, user access and self-service where allowable; and
- Enable more significant, ideally real-time interaction across the FCHHSS agencies and programs and with FCHHSS external stakeholders.

Commonwealth of Virginia (CoVA) engagement is also an important part of inter-jurisdictional collaboration and is on-going. The outcome of these discussions will determine the extent to which the FCHHSS will be able to consolidate certain functionality and how to both feed and take feeds from Commonwealth systems as opposed to the less attractive and efficient approach of entering data separately into Commonwealth systems.

During FY 2017, the following Roadmap implementation activities have been completed:

- ✔ Development of a Conceptual Data Model and Data Matrix – these artifacts were designed to establish the use of key terms, definitions for those terms (e.g. client, provider, program, fund source), and the relationships between those terms that would support configuration, implementation and use of all Roadmap components, and develop the Data Matrix which outlines all of the major types of data captured and managed across the many information systems used by the HHS agencies that sets the stage for discussions around information governance and inform the configuration of the Security and Access Management component.
- ✔ Development of implementation plans for several high-priority components of Document Management and System-Level Analytics, and formal kickoff of the Document Management component which will use the County's enterprise-wide document management platform.

2.7 Planning and Land Use System Modernization

The departments supporting Fairfax County's land planning and development processes have initiated a major strategic initiative to improve the speed, consistency, and predictability of the development review processes, and improved access to data and reporting. The initiative supports County plans to advance economic development and competitiveness, enhance business processes, provide better customer service, and achieve increased reliability in plan review, approval, permitting, and inspections. This project will be a catalyst for enhanced service efficiency. The Planning and Land Use System (PLUS) Modernization initiative and associated projects seek to implement the best fit IT solution to meet the overall objectives for business functionality, customer service, and technology capability needs of

County departments involved in the regulatory land use and development processes, and modernize and enhance the County's land use business architecture and its underlying technologies.

This initiative also supports Fairfax First and Economic Success strategies, and aligns with the Board of Supervisor Public Engagement and County Web-site redesign goals. Fairfax First, will transform the findings of the strategic assessment into tactical recommendations to improve the speed, consistency and predictability of Fairfax County's Land Use processes, and serve as the primary business driver of the Land Use System Modernization initiative.

Executive sponsorship for the initiative and governance for associated projects is the Deputy County Executives for Land Development and Information, and a Senior Executive Steering Committee comprised of the Chief Technology Officer, IT Program Directors for Solutions and Land Development, GIS and Web Competency Centers DIT, and agency heads of the five major agencies associated with the land use process. This group provides leadership and strategic direction for the project including goals, timeframes, and priorities. Key leadership for the business scope and process improvement opportunities and goals is provided by the Department of Planning and Zoning (DPZ) and Land Development Services (LDS). Other core stakeholder departments include Fire and Rescue – Fire Prevention (FRD), the Health Department – Environmental Health (HD), Department of Code Compliance (DCC), and Department of Transportation. During FY 2017 County staff conducted an independent assessment of current procedures and processes, benchmarking the County against other best practices, identifying opportunities for improvement, obtaining input from the development community, developing recommendations to improve services and operational execution; and an in depth market scan for solutions.

The Department of Information Technology provides the technological leadership and works closely with the above core departments to modernize and replace most of the legacy systems and supporting system silos that support land planning and development, inspections, and code compliance processes, and provides contemporary capabilities for Web, mobility, and data analytics.

Current Systems

Fairfax County's land use agencies rely on the legacy custom developed Land Development System (LDS) and the Fairfax County Inspections Database On-line (FIDO) system (an older generation Commercial-off-the-Shelf (COTS) applications), and an assortment of independent sub-systems and interfaces to support Fairfax County residential and commercial development activities since 1996 and 2003, respectively. Both systems are based on old land use services business process models that will be updated as a result of alignment of projects related to Fairfax First, and aligned with new technology solution opportunities in the IT system replacement project, named **PLUS (Planning and Land Use System)**. The current systems operate on obsolete technology architectures no longer supported by the COTS vendor, and numerous complimentary systems with custom interfaces had been developed to meet evolving business requirements over the past two decades.

The Planning and Land Use Systems Modernization IT project will replace and consolidate these aging systems with a modern technology platform that is driven by re-engineered, streamlined and integrated business processes across the five major land use stakeholder agencies. This project will work in tandem with the ongoing DPWES and DPZ Electronic Plan Submission Projects (ePlans) to ultimately deliver seamless technical integration and functional interoperability. Since 1996, LDS and its subsystems have supported commercial and residential plan review and approval activities at DPWES and DPZ for dozens of plan and application types. Subsystems include ZAPS (zoning applications), PAWS (plans and waivers), and LDSNet (porting the original application to operate on the Internet and FairfaxNet intranet). All zoning, site, building plans, and applications are reviewed at the five core agencies to help ensure compliance with the Zoning Ordinance, the state building code, and the state and local fire and health codes.

Internal agency staff reviews and other plan status information are available for public access 24 x 7 via LDSNet's web portal, which includes magisterial district-specific plan aggregates and DPWES building permit issuance reports.

The FIDO system supports the issuance of building permits, licenses, and field inspections for DPWES -LDS, DPZ, HD, FRD and DCC. FIDO's web portal also provides the public with 24 x 7 public access to a variety of land use services and information such as online building permit applications, inspection scheduling, and land use code complaint submissions.

FIDO and LDS have been expanded to interface with the new DPWES and DPZ ePlans systems that provide digital plan submission, review and approval capabilities for the land development industry. The new ePlans systems have completed their pilot phase in 2016, and DIT will continue to expand ePlans capabilities as part of the Land Use System Modernization initiative.

Looking Forward

Although the FIDO and LDS systems have provided a set of technology programs customized for County land use agencies, they are very old, have obsolete technical architectures, and can no longer be modified to holistically accommodate the rapidly increasing changes in land planning and development business processes. All together, these are no longer technologically sustainable and inhibit efficient implementation of new business models and best practices opportunities. Whereas; new technology offers numerous additional capabilities and flexibility for today's required innovations and the ability to meet the County's changing demands.

The project is to replace the old systems with an integrated enterprise platform that will:

- Modernize the land use technology system to enhance customer service and improve operational execution, as identified in the ongoing Land Use and Development Services Strategic Assessment;
- Support a service delivery model focused on customer outcomes and more consistent, transparent service delivery to streamline plan, permit and inspection time frames and outcomes;

- Replace and consolidate the county's aging land use systems with a modern technology platform that meets business and customer needs, is maintainable and robust, and is adaptable to changing business needs.
- Consolidate and provide modern WEB and mobile portals for business and citizen use.

In addition to replacing LDS and FIDO, the new system will also replace over a dozen complementary systems that have been developed over the years to meet business requirements for new capability. Initial review of the modernized platforms offered by software vendors have shown very robust and feature-rich product offerings that will help the County achieve the recommended improvements in the Strategic Assessment. An iterative configuration approach phased over two years is anticipated to begin in FY2018 for the core systems transition. IT solutions for this initiative will leverage county platforms, standards, cooperative contracts, and associated applications such as document management, GIS, WEB and Mobility capabilities that will be used by staff and the development community.

A Future Vision deliverable from the Land Use and Development Services Strategic Assessment underway, will codify the project goals for organization, business process integration and technology, providing critical input to the definition of requirements, business use cases, and the service delivery model for Land Use System,. This initiative will enable improved data analytics and new data types, and iterative organizational changes and process enhancements into the future.

SECTION 3

INFORMATION TECHNOLOGY PROJECTS

INFORMATION TECHNOLOGY PROJECTS

FEATURED IN THIS SECTION

SECTION 3 INFORMATION TECHNOLOGY PROJECTS

3.1 Technology Overview

The Information Technology investment fund (Fund 100-C10040 – formerly Fund 104), was established in FY 1995 to optimize centralized management of available 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. The E-911 Emergency Telephone Service Fee, a General Fund transfer, other revenue funds, the State Technology Trust Fund, and interest earnings are sources for investment in eligible Information Technology projects. However, in FY 2001, the E-911 Emergency Telephone Service Fee revenue and related project expenses were moved to Fund 400-C40091 (formerly Fund 120 E-911), to satisfy a state legislative requirement that E-911 revenues and expenditures be accounted for separately.

The County's technology improvement strategy has two key elements: redesign business processes and apply technology to achieve improvements in service quality and efficiencies for agencies, and provide an adequate technology infrastructure that supports County technology solutions. The County's long-term commitment to provide quality customer service through the effective use of technology is manifested in service enhancements, expeditious response to citizen inquiries, round the clock on-line service opportunities, improved operational efficiencies, and increased productivity and performance capabilities resulting in better information for management decisions and transparency.

FY 2018 Project Funding

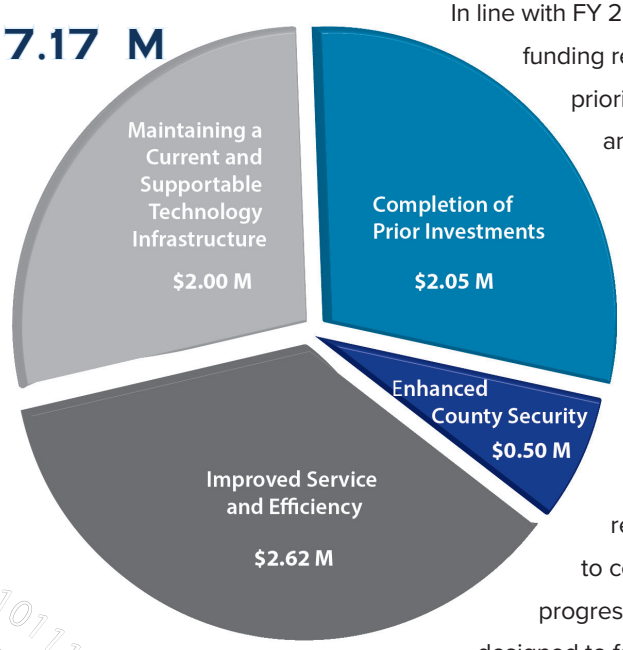
In FY 2018 investment of $7.17 million in IT projects is supported by multiple funding sources (General Fund transfer, interest income, and Cable Communication revenues). These initiatives meet one or multiple priorities established by the Senior Information Technology Steering Committee and include a mix of projects that benefit both citizens and employees, and the need for securing and strengthening the County's technology infrastructure. Funded projects support initiatives for general County services, public safety, human services, and enterprise technology security and infrastructure. Although many initiatives meet more than one of the technology priorities, for narrative purposes below, projects have been grouped into only one priority area.

Funding Priorities

The Senior IT Steering Committee, which is comprised of the County Executive, Deputy County Executives, the Chief Financial Officer, the Chief Technology Officer, and other senior County managers, adopted five strategic priorities that guide the direction of IT investments. These long-standing priorities include:

- **Mandated Requirements -** Provide support for requirements enacted by the Federal Government, Commonwealth of Virginia, Board of Supervisors, and those that are Court ordered or result from changes to County regulations.
- **Completion of Prior Investments -** Provide support for multi-year lease purchases and to implement a project phase, and/or to complete a planned project.

- **Enhanced County Security -** Provide support for homeland security, physical security, information security, and privacy requirements.
- **Improved Service and Efficiency -** Promote consolidated 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 on-line through the Internet/e-Government. This includes corporate and strategic initiatives that add demonstrable value to a broad sector of government or to the County as a whole, which also provide productivity benefits and/or effectively manage the County's information and knowledge assets.
- **Maintaining a Current and Supportable Technology Infrastructure -** Focus on technology infrastructure modernization which upgrade, extend or enhance the overall architecture or major County infrastructure components, including hardware, software, and its environment. Ensure that citizens, businesses and County employees have appropriate access to information and services. This also includes cyber security protective solutions.



In line with FY 2018 Budget Guidelines, agencies were advised to submit new project funding requests that met one or more of the five above Senior IT strategic priorities; as well as specify tangible project outcomes; clear project start and completion dates; anticipated implementation and budget plans over the next five years, including subsequent fiscal year(s) impact on enterprise wide infrastructure, maintenance and support; linkage to agency strategic and business goals; and that the project would be completed and maintained without additional staff resources. Agencies were further instructed to carefully evaluate urgency, feasibility, readiness, and the strategic business value of initiatives for which an IT Project funding request would be submitted. FY 2018 funding requests for existing projects were limited to projects requiring additional support to meet existing contractual obligations, to complete a planned phase of the project and where appropriate progress against existing project plans had occurred. The process is designed to facilitate the development of a solid business and technical case for IT project requests, and to update the business and technical status for continuing projects.

Completion of Prior Investments – $2.05 M

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. While some projects can be completed within the fiscal year, most are multi-phase projects requiring more than one year of funding.

In FY 2018 funding of $130,740 is provided to continue support for the County's planned maintenance of essential Geographic Information System (GIS) data. Planimetric data layers make up many key GIS

layers used in most of County maps including: the Police Department, Fire and Rescue Department, the Departments of Transportation, Housing and Community Development, Public Works and Environmental Services, Planning and Zoning, and Tax Administration. Oblique imagery is also essential for many of key critical County functions including public safety, zoning, tax administration, and 3D Virtual Fairfax. These key datasets are used in all of the County's web applications that incorporate maps, and in nearly all public safety vehicles through the Computer Aided Design (CAD)/911 system. ***In FY 2018 Oblique Imagery and Planimetric Update projects will be consolidated and will remain in the County's IT Investment Portfolio in one program entitled Geospatial Initiatives.***

FY 2018 funding of $428,500 supports continued development and implementation of the Customer Relationship Management (CRM) solution in County agencies. This initiative provides a unified user approach for handling citizens' service requests, case management, and issue tracking. CRM is a foundational technology that supports the County's strategic goal of improving the quality and efficiency of responses to citizen requests/issues by integrating stovepipe applications, implementing on-line 24x7 access strategies, integrating social media tools and techniques to enhance the overall customer experience, and manage service requests via a single user enterprise-wide interface tool.

Funding of $300,000 in FY 2018 provides for the next phases of the Interactive Voice Response (IVR) Project. This multiphase initiative will migrate agencies that use IVR systems to a more modern platform enabling interactive text to speech applications that can build voice/phone applications for self service automation. The new IVR platform facilitates more efficient payment, information processing, management of citizen requests and inquiries, and provides opportunities for business process improvements.

FY 2018 funding of $690,000 continues support for upgrading the high technology courtrooms in Fairfax County's Courthouse to a new digital platform necessary to meet current industry standards. In 2008, the Courtroom Technology project deployed Courtroom Technology Management System (CTMS) which is operational in courtrooms at the Fairfax County Courthouse. The system enables evidence presentation in courtrooms through a centralized, integrated audio/video network of microphones, monitors, assistive listening devices, and flat screen displays. With significant changes in technology, a multiphase plan is underway to replace outdated analog hardware with digital components and retrofit CTMS in the courtrooms.

FY 2018 funding of $500,000 is included to complete the final phase of the Facilities Maintenance Management System for implementation of an integrated facilities and grounds management system serving as a single facilities management system for Fairfax County Facilities Management Department (FMD) and Fairfax County Park Authority (FCPA). The project is in the final phase to fully leverage the latest software functionality and implement a mobile application that will provide field staff real time work order processing and access to the system from anywhere in the County.

Enhanced County Security – $0.50 M

Support for cybersecurity initiatives and critical security requirements for enterprise-wide IT systems is a long-standing cornerstone of the County's strategic IT policy.

FY 2018 funding of $500,000 supports Cyber Security Enhancement Initiatives which protect the County's IT assets from evolving cyber threats and provide for mandated regulatory compliance requirements. IT security continues to be a fundamental component of the County's enterprise architecture and strategy. The IT security architecture and practices fuse best practice principles with a hardware and software infrastructure supported by policies, plans and procedures. This project provides for IT security system requirements, replacements and upgrades, consulting expenses, and future security product and service acquisitions to protect the confidentiality, integrity and availability of County systems and information.

Improved Service and Efficiency – $2.62 M

Projects funded in FY 2018 provide improved service and efficiency in the provision of services to the residents and the business community of Fairfax County. Many of these projects are multi-year initiatives and include projects supporting the County's e-government and public access programs, transparency efforts, strategic human services initiatives, and efforts to improve County processes in order to enhance efficiencies and service delivery.

FY 2018 funding of $300,000 is provided for the Tactical Initiatives Project. The County's technology strategy is designed to stay responsive in an environment of rapid change with finite resources. This funding addresses unforeseen IT demands due to changes to agencies business processes, non-IT initiatives which have an unexpected IT impact, state/federal mandates, new regulations, and other system upgrades and/or integration priorities.

In FY 2018, funding of $725,000 supports the County's e-Government Program to meet the high demand for multiple e-government channels, e-transactions services, and accessibility to government information and services. A key initiative of the e-Gov program, is the County's Website Reconstruction Project; a strategic effort that includes the implementation of a new enterprise Web Content Management System, refining the current site's information architecture, redesigning the website with a more modern design, and providing improved search functionality. The goal is to create more topic oriented web presence with improved business delivery model, enhance search engine optimization, generate better information indexing, and eliminate data silos. In addition, this annual funding increment supports improved navigation, web content synchronization, mobile applications, social media integration, transparency, Web 3.0, support of the County's intranet (FairfaxNet), and sustained compliance with Department of Justice (DOJ) Americans with Disabilities Act (ADA).

FY 2018 funding of $1,000,000 continues support for the Integrated Human Services Technology Project. This is a multi-year strategic initiative for the deployment a unified Human Services IT

architecture supporting the Human Services Integrative Model; a system-wide vision, shared commitment, differences accounted for, shared decision-making, and accountability for outcomes across all Fairfax County Human Services agencies. A holistic approach to addressing needs along the spectrum of crisis to self-sufficiency to sustainability, as well as strong communication, coordination and collaboration components are key factors. The data collected within the human services system helps shape policy within the County and those policies shape future action. The use of technology is important to ensure these policies and actions are based on robust, meaningful data. A Human Services IT Roadmap was developed through a collaborative effort and approved in FY 2017.

FY 2018 funding of $600,000 continues support for the Consolidated Health Care Services Information Systems (Integrated Electronic Health Record System Project). The goal of this multi-phase project is the acquisition and deployment of an electronic health record system for the Health Department, Department of Family Services, and the Community Services Board. Each of these agencies provides distinct health care services and has unique documentation needs. This project will optimize the potential value of leveraging a common information technology solution with the requisite configuration flexibility to enable these agencies and other health care providers to more effectively collaborate and coordinate the management of health care services for residents.

In lieu of funding in the FY 2018 Budget, funding of $1,400,000 is anticipated as part of FY 2017 Carryover to continue support for the Planning Land Use System (PLUS) Project. This initiative is a significant strategic investment for replacement and consolidation of a number of legacy and disparate land use systems supporting zoning and development plan review, building permit/license issuance, code enforcement, inspection, and cashiering activities, with an integrated adaptable enterprise solution, and on-going implementation and integration of electronic (e) Plans review capabilities. The legacy systems lack the native agility of modern technologies that can provide a flexible enterprise platform for evolving business process and architecture requirements. The PLUS project will directly support and advance the County's Strategic Plan to Facilitate the Economic Success of Fairfax County, specifically Goal 3: Improve the Speed, Consistency, and Predictability of the Development Review Process; and also support the goals of Fairfax First, a strategic initiative to implement tactical recommendations to improve the speed, consistency, and predictability of the County's development review process and to enhance customer service.

Maintain a Current and Supportable Technology Infrastructure – $2.00 M

In an ever evolving technology and communications environment, maintaining current and supportable technology architecture is a challenge that must be continually addressed to ensure performance, operability, security and integrity of business operations and information. The County's technological improvement strategy strives to balance business needs that require technology investments with the

desire to adopt contemporary but relevant and supportable technology industry trends, as well as the ability to leverage existing infrastructure. Projects funded in FY 2018 will support the goal of updating and strengthening the technology foundation where practical, and ensure that residents, the business community and County staff have appropriate and reliable access to information and services.

Funding of $1,696,000 is provided in FY 2018 for the Enterprise Architecture and Support Project supporting strategic infrastructure and expert services for complex multi-phase enterprise-wide business transformation IT systems for County general services, enterprise technology, security and infrastructure, and corporate systems including the County's Enterprise Resource Planning (ERP) and related business systems. This funding supports necessary software upgrades and integration of business application and infrastructure system components to meet both the County's IT architecture and interoperability goals.

FY 2018 funding of $100,000 supports the Remote Access Project which provides secure remote access to County networks and systems, and delivers improved security, reporting, and data analysis. This project supports telework capabilities, disaster recovery operations, and recognizes the increasing reliance of agency mobile workers on wireless solutions. Enterprise wide standardized access control methodology enables secure identity authentication for authorized access to County networks, data, and systems. Currently over 4000+ users can access County systems remotely, with 3000 able to do so simultaneously.

Funding of $200,000 in FY 2018 provides for on-going information technology training and certification in recognition of the challenges associated with maintaining skills as technological changes are realized and to ensure that the rate of change in information technology does not out-pace the County's ability to maintain proficiency. As the County's workforce becomes increasingly dependent on information technology, training support is even more essential.

Budget ID Number	PROJECT TILE	FY 2014 ADOPTED	FY 2015 ADOPTED	FY 2016 ADOPTED	FY 2017 ADOPTED	FY 2018 ADOPTED*
FUND 40091						
2G70-056-000	Public Safety Subscriber Radio Replacement	2,314,500	3,531,352	3,531,352	3,531,352	3,531,352
2G70-059-000	Mobile Computer Terminal	2,314,500	1,616,200	1,616,200	1,616,200	1,616,200
3G70-078-000	E911 Telephony Platform Replacement		2,100,000	2,180,000	2,180,000	2,180,000
3G70-079-000	Public Safety CAD System Infrastructure		1,260,000	1,180,000	1,180,000	1,180,000
	TOTAL FUND 40091	**4,629,000**	**8,507,552**	**8,507,552**	**8,507,552**	**8,507,552**
FUND 10040						
2G70-003-000	Oblique Imagery – GIS	146,280		136,000	136,000	
2G70-004-000	Planimetric Data Acquisition – GIS	92,000	162,000	90,000		
2G70-006-000	Information Technology Training	75,000	200,000	100,000	200,000	200,000
2G70-011-000	Automated Board Meeting Records				75,000	
2G70-015-000	DIT Tactical Initiatives					300,000
2G70-018-000	Enterprise IT Architecture and Support	2,500,000	2,900,000	1,800,000	1,800,000	1,696,000
2G70-019-000	Interactive Voice Response (IVR)					300,000
2G70-020-000	Internet/ Intranet Initiatives – e-Government	200,000	675,000	528,000	528,000	725,000
2G70-034-000	Courtroom Technology Management System - Digital Refresh				596,500	690,000
2G70-036-000	Remote Access	100,000	200,000	100,000	200,000	100,000
2G70-040-000	Facilities Maintenance Management					500,000
2G70-041-000	Customer Relationship Management		200,000	400,000	428,500	428,500
2G70-052-000	IT Cyber Security				500,000	500,000
2G70-053-000	Retirement of Legacy Systems	400,000				
2G70-055-000	Volunteer Management System	175,000				
2G70-067-000	e-Summons	175,000				
2G70-069-000	Tax System Modernization – Tax/ Revenue Administration	800,000		450,000		
IT-000003	Data Loss Prevention Project	500,000				
IT-000004	Emergency Management Portal	200,000				
IT-000005	GRC Auditing	750,000				

Budget ID Number	PROJECT TILE	FY 2014 ADOPTED	FY 2015 ADOPTED	FY 2016 ADOPTED	FY 2017 ADOPTED	FY 2018 ADOPTED*
IT-000007	Enterprise Project Management		200,000			
IT-000009	Participant Registration System		300,000			
IT-000010	Electronic Plan Submission and Review - LDS		600,000			
IT-000011	ePlans - DPZ		400,000			
IT-000012	ParkNet Replacement		600,000			
IT-000014	Sheriff Civil Enforcement System		315,000		200,000	
IT-000017	Enterprise Document Management			450,000		
IT-000018	Enterprise Identity Management			800,000		
IT-000019	PLUS project			1,000,000	1,400,000	[1]
IT-000020	Tele-Psychiatry			300,000		
IT-000021	Fire and Rescue and Police Stations Telephone Replacement			270,000		
IT-000024	Integrated Library System				300,000	
IT-000025	Integrated HS Technology[1]				150,000	1,000,000
IT-000026	Diversion First Interoperability[2]				150,000	
IT-000027	Integrated Electronic Health Record System[3]				150,000	600,000
IT-000028	Geospatial Initiatives					130,740
	TOTAL FUND 10040	**6,113,280**	**6,752,000**	**6,424,000**	**6,814,000**	**7,170,240**
	GRAND TOTAL: IT PROJECTS	**10,742,280**	**15,259,552**	**14,931,552**	**15,321,552**	**15,677,792**

[1] It is anticipated that in lieu of the FY 2018 budget, FY 2017 Carryover funding of $1,400,000 will continue support for the PLUS Project.

*Adopted Budget funding reflects new investment for each fiscal year and **does not include** incremental investments made during annual Carryover or Third Quarter Budget Cycles.

3.2 Public Safety

2G70-056-000 Public Safety Subscriber Radio Replacement Project (E-911 - Fund)

Project Description

This project is a technology refresh/life-cycle replacement program for all MHz digital two-way radios (portable and mobile) in use by the Fairfax County Police Department, Fire and Rescue Department, and the Sheriff's Office. The radios replaced were physically 7-9 years old, over 12 years old in terms of current technology, had reached end of life, and no longer met Public Safety needs or critical interoperability with National Capital Region (NCR) neighbors. The new public safety radios have the necessary feature set for encryption of voice traffic, thereby limiting outside scanning and interception of the radio traffic, are compatible with other NCR jurisdictions, and were deployed throughout Fairfax County's Public Safety agencies to maintain operational performance, employee safety, and effective operations in a regional emergency event. Failure to have radio compatibility would compromise mutual aid situations, result in failed response, and increased risk of injury or death to public safety personnel and the public.

Project Goals

This project provided for the replacement of all public safety voice subscriber portable and mobile radios. Successful deployment of the new radios enhances communications security, ensures that public safety users are on the same platform to provide immediate and systematic response to emergencies, maintains performance, availability, reliability, and provides capacity for growth due to the increase in County population and public safety services demands.

Progress to Date

This project was completed with final system acceptance in December 2012. An additional antenna site (Bailey's Crossroads) was added to the System and both the Primary Antenna Control Site and System Master Site were moved from their previous unprotected sites to the Public Safety and Transportation Operations Center (PSTOC).

With the completion of the Radio Upgrade Project, Fairfax County completed the next logical step in the modernization process, which was the replacement of its Public Safety Subscriber Radios. Over 6,000 portable and mobile radios were procured in September 2013. All radios were programmed to proper frequencies and talk groups, tested, and deployed. This project was completed in the fall of 2014.

Project Budget

FY 2018 funding of $3,531,352 is included for annual increment of a lease payment schedule.

Return on Investment

Keeping the technology current for essential public safety systems is critical to first responder operations, community security and protection of public safety personnel. The new subscriber radios provide end

users with updated equipment with increased functionality and serve as a basis for future growth. Nearly all new infrastructures now support multiple non-proprietary protocols, IP and digital technology, and various types/mixes of mobile radio equipment using fast data transmission speeds. This replacement provides the County with a radio capability that will allow incremental migration to newer technologies in the future. The return on investment is realized by the performance, productivity, and effectiveness of public safety services, with seconds enhancing life/safety results.

2G70-059-000 Mobile Computer Terminal Project (E-911 - Fund)

Project Description

Fairfax County public safety communications relies heavily on mobile data communications for the dispatch of equipment and personnel to emergencies and other non-emergency requests for public safety services. Digital communications are used to allow field units (e.g., police, fire and rescue, and sheriffs) to receive dispatch messages, event notifications, to self-initiate events, make traffic stops, check on licenses and registrations, maintain status for response, and communicate with one another and the Department of Public Safety Communications (DPSC) without the use of voice radio or intervention of a dispatcher at the DPSC. The entire structure of the County's public safety response system, including staffing at the DPSC, is based on the heavy utilization of mobile data communications for critical public safety activities.

Project Goals

This project supports the recurring life cycle replacement of Mobile Computer Terminals (MCT) to ensure this critical equipment is kept contemporary and functional for public safety personnel who respond to emergency and non-emergency requests for services.

Progress to Date

This project supports an on-going program for the replacement of Mobile Computer Technology used by Public Safety personnel. A 5 years replacement cycle was determined to be a reasonable replacement term for the mobile computer fleet. FY 2018 is the 1st year of the fifth round of replacements for the MCT equipment replacement program. The County currently has approximately 1500 MCTs in the public safety fleet, one fifth, or about 300 units are scheduled to be replaced in FY 2018.

Project Budget

FY 2018 funding of $1,616,200 supports the first year of the fifth round of a replacement cycle established for MCT equipment; or replacement of 1/5 of the mobile fleet.

Return on Investment

In excess of 150,000,000 transactions are currently processed each year via MCTs through the mobile data communications infrastructure and therefore, it is critical to keep this equipment contemporary and available for the many operations utilized by the field personnel. The current fleet has approximately 1500

units including spares. It is anticipated that this number will continue to grow throughout the life cycle replacement of computer equipment as additional functionality is added that can be made available to additional users in the mobile environment.

MCTs keep officers on the street versus behind a desk as they provide an efficient, quick method where the officer can complete reports and perform routine queries from a mobile device in their vehicle. In addition to the many functions currently performed on the MCT units, police officers use the MCT for mobile field reporting. The County has incorporated a field reporting system into records management and integrated it with the CAD system allowing officers to complete investigative reports online from their vehicle with most of the preliminary information downloadable from the event history reports in the CAD system. This enhancement saves countless hours previously expended writing field investigation reports longhand by patrol personnel.

3G70-078-000 E 9-1-1 Telephony Platform Replacement Project (E-911 - Fund)

Project Description

This project supports replacement of hardware and software for the 9-1-1 call processing environment that enables Fairfax County's Public Safety Answering Point (PSAP) to receive and process emergency calls within the boundaries of the PSAP calling area. Due to the life cycle end of the current hardware/ software and termination of maintenance support as declared by the 9-1-1 telecommunications service provider, this project is a required update of the PSAP communications technology environment to continue 9-1-1 call processing functions. Widespread adoption of rapidly advancing technologies like text, video, Voice over Internet Protocol (VoIP), and the saturation of high speed broadband has raised the expectation of 9-1-1 services for the citizens of Fairfax County. Improvements are needed to support new requirements and expectations. Fairfax County's 9-1-1 call processing phone platform currently operates on the traditional vendor telephony supplied platform and equipment that is based on a major change in telephony platforms reaching end-of-life.

Project Goals

This project will support a multi-phase effort to transition the County's core 9-1-1 system architecture to a new supportable platform that is technologically up to date and has more robust functionality to facilitate future requirements and capabilities.

Progress to Date

Phase 1 – In September of 2015, the project implemented the interim Text-to-9-1-1 capabilities in Fairfax County, the first jurisdiction in Virginia, Maryland and the District of Columbia to provide this much needed access to 9-1-1 for individuals who are deaf and hard of hearing.

Phase 2 – The selection of a new vendor for the replacement of 9-1-1 call taking equipment and voice recording equipment in all Fairfax County 9-1-1 centers and associated secondary locations was completed. Project design and implementation began in 2016 and cutover to the new NG9-1-1 equipment at the Fairfax County Alternate Center occurred on January 11, 2017. Implementation of the system in the Towns of Herndon and Vienna and the City of Fairfax has also been completed. Final installation of the equipment at the Fairfax County primary 9-1-1 Center (MPSTOC) was complete in February 2017; transition to integrated Text-to-9-1-1 in the NG9-1-1 platform was completed in March 2017; and incorporation of radio recording within the NG9-1-1 system is planned for the third quarter of 2017.

Phase 3 – Fairfax County was awarded grant funds from the Department of Homeland Security (DHS) to plan and develop the technical specifications for transition to a new NG9-1-1 ESInet (Emergency Services Internet Protocol Network) for 9-1-1 call routing. The County was also awarded VITA grant funds to assist in the implementation and initial transition to the ESInet. An evaluation of vendor proposals for the ESInet is in progress with an award and contract expected by the 3rd quarter of 2017. The new ESInet service will replace the Verizon provided 9-1-1 call routing network in mid to late 2018. Fairfax County will be the first jurisdiction to transition off the legacy Verizon 9-1-1 network; other Northern Virginia jurisdictions plan to use the Fairfax County Contract to also switch. The region's voice 9-1-1 traffic transition is planned for the 2018-2020 period.

During Phase 3, grant funds supported analysis of the legacy 9-1-1 tabular address location information by Fairfax County GIS staff to enable automatic location information from legacy 9-1-1 data to be transitioned into GIS formats that support NG9-1-1 routing of calls on the ESInet.

Project Budget

In FY 2018 funding of $2,180,000 continues support for the required hardware and software upgrades associated with this strategic initiatives.

Return on Investment

The improved systems for 9-1-1 services will provide enhanced services and capabilities to the citizens of Fairfax County at a high degree of functionality and in a technologically appropriate manner. These technology upgrades strengthen system resiliency and reliability, and establish a technology foundation for implementation of Next Generation 9-1-1 multimedia capabilities such as text, video and photographs. This project will improve system interoperability with other jurisdictions, call overflow with other Public Safety Answering Points, and location accuracy. The introduction of the new 9-1-1 call processing technology platforms will result in cost savings for Fairfax County as specialized proprietary systems are replaced with commercial off the shelf components that will reduce maintenance costs.

3G70-079-000 Public Safety CAD System Infrastructure Project (E-911 - Fund)

Project Description

The Public Safety Computer Aided Dispatch System (CAD), requires a hardware and software replacement life cycle to keep the functionality and capabilities of the system current with updated technology, hardware, improved software and additional required security and functionality. The CAD System is the core technology supporting the intake and dispatch response functions for all Fairfax County public safety agencies including Police, Fire and Rescue, Sheriff, and the Department of Public Safety Communications (DPSC 9-1-1 Center) in their core mission of keeping Fairfax County and its citizens safe. It is used by the call takers and dispatchers to process all calls for service received on 9-1-1 and other requests for emergency and non-emergency services in Fairfax County, as well as for mutual aid interoperability. This project supports replacement of the supporting hardware infrastructure and required supporting software licenses, workstations and associated licenses, and the CAD system.

Project Goal

This project's goal is to refresh/update the current Public Safety 9-1-1 CAD system and components: equipment (hardware) and applications (software) over a five year plan, and baseline a rationalized replacement structure for the future. The Fairfax standard for IT foundational and workstation equipment is five years, keeping in mind usability, maintenance and supportability. This also facilitates planning as software solutions evolve in the marketplace. Keeping the infrastructure current allows the system to sustain better performance, reduce risks for equipment failures, keep pace with changing technology capabilities, and increasing security requirements.

Progress to Date

Staff from the Department of Public Safety Communications, public safety agency stakeholders, Department of Information Technology and advisory experts have researched the issues associated with sustaining 9-1-1 Center performance, best practices for hardware replacements, security and resilience, state of the industry and readiness to operationalize and integrate next generation 9-1-1 needs.

Each phase of the proposed project plan addresses the replacement for the components and related software versioning processes with activities including identification, purchase, installation, software license obligations, and ultimate transition to a new CAD solution. The hardware replacement schedule will be coordinated with the partner agencies to ensure minimal impact with other Public Safety projects that may be occurring at the same or similar times.

Project Budget

In FY 2018 $1,180,000 supports the fourth year of the five year replacement plan established for this project.

Return on Investment

Public Safety agencies rely on the CAD System to provide mission critical lifesaving and property protecting services to Fairfax County and the surrounding areas. By replacing hardware in a timely fashion, the County safeguards against equipment failure and legacy vendor abandonment of aging technology that could potentially result in service interruptions with grievous consequences. This project incorporates the requirements needed to upgrade and replace all CAD system components, including software versioning, over a five year period to keep the system contemporary and upgraded and to allow for continued use by the Public Safety user community. The need for improved CAD system capacity and functionality will continue into the future as a necessary funding requirement. Using a phased, life cycle approach insures that required funding is spread out over a five year period and thus relieves the County of the impact of a major system overhaul in any one fiscal year.

2G70-007-000 Electronic Records Management System Project- Juvenile and Domestic Relations District Court (JDRDC)

Project Description

Fairfax County's Juvenile & Domestic Relations District Court (JDRDC) and DIT have partnered with the Supreme Court of Virginia's (SCV), Office of the Executive Secretary, to implement a Case Imaging System for the scanning, retention, electronic viewing and submission of court documents. The Juvenile and Domestic Imaging System (JDIS) is a custom built SCV solution utilizing off-the-shelf software, modified by SCV that interfaces with and exchanges data between the newly implemented Juvenile Secure Viewing System (JSVS) and the existing Juvenile Case Management System (JCMS). JSVS provides remote access to JDIS cases containing scanned documents to remote court services locations throughout the County. This shared initiative will ultimately benefit all courts, related agencies and jurisdictions throughout the Commonwealth of Virginia.

Project Goals

The JDIS project seeks to reduce or eliminate labor intensive and time consuming hard copy record searches, retrieval and re-filing processes, and provides simultaneous and instant access to court records with improved security. The JDRDC will realize improved efficiencies and reduced costs associated with storage of paper documents, and safeguards documents with electronic backup capabilities.

Progress to Date

Phases 1, 2, and 3A of the project are in production; and a large portion of Phase 3B is also complete. The application captures juvenile and adult criminal case types through the scanning and assignment of case file documents. Once the scanned documents are assigned to the appropriate case, the documents can be distributed through a number of queues to both the JDRC Clerk's Office and multiple Court Service Units (CSU). Additional functionality also includes enhanced expungement processing.

The remaining portion of Phase 3B includes Juvenile Secure Viewing System remote secure submission of documents from all CSU locations to the Clerk's office and the relocation of the queues, report logs and notifications from JDIS to JSVS. The Final phase will offer public viewing of case documents, automated quality assurance processes and reporting, and interfaces with the future Sheriff's Advanced Civil Enforcement System (ACES).

Project Budget

Additional funding is not required in FY 2018.

Return on Investment

This project improves public access to court records, enhances data security, and significantly reduces staff time dedicated to locating missing files, retrieving and re-filing court records. The system also shrinks the physical storage space required for court files, improves response time for customers and court staff at the Records, Fines and Costs counters, and reduces the incidence of misplaced court files and documents necessary for the continuity of courtroom proceedings. The Supreme Court of Virginia is in the process of rolling out this system to other Juvenile Courts throughout the state.

2G70-021-000 and 2G70-022-000 Circuit Court Technology Project

The Fairfax Circuit Court is nationally-recognized for its delivery of public service, and continues to actively pursue state-of-the-art technology solutions to improve both court efficiency and the court-customers' experience. This project covers multiple facets of Circuit Court operations and receives funding through the Commonwealth of Virginia's Technology Trust Fund.

Project Description

Court Automated Recording System (CARS) / Court Public Access Network (CPAN) – The Clerk of the Fairfax County Circuit Court is responsible for providing citizens with reliable, timely, and accessible public records. More than 49 million court records have been digitized into the Court's Public Access Network (CPAN) which is a web-based, online digital image retrieval system. CPAN offers subscribers 24 hours a day, 7 days a week online access to land records, judgments, marriage licenses, trade names and probate record images, dating from as early as 1742 to the present. CPAN has over 2,000 subscribers who are located domestically in over thirty states and internationally. Subscribers include citizens, real estate title examiners, law firms, mortgage companies, banks, media outlets, and federal, state, and local governmental agencies.

Case Management System (CMS) – The Clerk of the Fairfax Circuit Court is responsible for receiving and maintaining all court records for felony prosecutions and civil litigations in Fairfax. The Clerk files, indexes, and manages the complete life-cycle of a court case and its pleadings, from case-initiation (Search Warrants/Indictments in criminal prosecutions and Petitions/Complaints in civil actions) to the compilation of the appellate record for submission up to the Court of Appeals and the Supreme Court of Virginia.

All pleadings, criminal discovery, trial evidence and post-trial motions, as well as Orders of the Court, are kept in perpetual record by the Clerk's Office. This kind of dynamic public-record keeping, held in perpetuity, is a ripe environment for the efficiencies today's digital technology has to offer. The Clerk's current Case Managements System (CMS) automates case -processing through the Circuit Court, allowing for real-time case indexing, docketing, trial calendaring, data-integrated document - generation and processing, trial/hearing calendaring, disposition-entry, account ledgering and the running of statistical reports.

Project Goals

Circuit Court modernization initiatives aim to make the Clerk's over 800-Virginia Code-mandated duties more efficient and cogent, using software programs and integrated systems, that ultimately better-serve Fairfax court-customers, protect important Constitutional protections, like due process and speedy trial rights. As the Court of Record for Fairfax, technology will continue to help the Clerk's Office preserve Fairfax's public history.

Progress to Date

- Deployment of Phase 1 of a collaborative project with the Commissioner of Accounts of the 19th Judicial Circuit and the Circuit Court's Probate Division, to electronically exchange, maintain and record administration of estate documents and relevant data.
- Replacement of the 10 -year old, Microsoft Windows-based case management system, with a fully - integrated web browser -based Case Management System, which supports civil and criminal case processing.
- Deployment of the Court Document Recording System to replace the existing product that has been used to manage the document processing for over 15 years. This application incorporates scanning, indexing, image -enhancement and verification for various court documents, such as deeds, deeds of trust, mortgages, marriage licenses, wills and judgments. This system is designed to maintain and streamline current recordation of documents received, both electronic and in paper.

Other accomplishments include development and deployment of the Circuit Court's Land Records Recording System, including document imaging; (with comprehensive redaction capabilities); implementation of the CPAN retrieval system, use of an automated jury management system (which serves as a system clearinghouse for the 60,000 Fairfax citizens who make-up the Court's annual jury pool); deployment of a Case Management System which actively manages the Court's civil and criminal dockets; development and implementation of the Clerk's "Paperless Probate" process, which makes a difficult time in a family's life, swifter and more efficient; development and implementation of a streamlined Marriage License Application, which utilizes scanners to import data from customers' operator licenses; and implementation of electronic docketing display, which serves as directional signage for the public, as they navigate the large courthouse, to find their courtroom. These systems provide a platform and foundation for additional capabilities, as the Court's business requirements evolve. Technological system updates, which are critical to platform vitality and customer-service delivery, are also addressed through this fund.

CARS

- Digitized back-file images with associated indices and implemented web-based CPAN, 1999
- Scanned, indexed, and stored all land record documents for electronic processing, 2000; redesigned processes to include automated cashiering and scanning capabilities, to update the public record in a more efficient manner 2001; electronic filing prototype for mortgage releases using the ACH transfer of funds, 2002; implemented Public Services cashiering system, 2005; automated the Administration of Estates System, 2006; incorporated the use of commercial credit cards for payment of fees and taxes, 2007; land records Electronic Filing System (EFS) made available to the public, 2010; integration of automated scanning in Virginia's Marriage License Application process, 2010; integration of redacted data and processes mandated by Virginia's General Assembly, 2012; development of the Online Marriage Pre-Application, an online resource used by 50% of all marriage license applicants in Fairfax (use of the application has significantly reduced customer wait -times;); implementation of the Electronic Filing System which now accounts for 60% of all land transactions recorded in Land Records, thus reducing staff workload; and the automated document recording system which provided the needed scalability to handle the peaks and valleys of the real-estate "seasonal" workload, which is driven by Fairfax's dynamic and fluctuating, housing market

CMS

Provided web-based availability of court information on CPAN in 2005; implemented electronic docket displays in 2006; Circuit Court successfully migrated to a web-based enterprise case management system in 2012, implemented the Clerk's "E-Decree" program, which e-notifies attorneys of record, and litigants when final Orders are entered. The CMS migration to web-based management also offered the following enhancements:

- Deployed court-wide scanning of all case documents with on-going day forward redaction capability.
- Initiated the use of Work Queues to streamline work processes and work assignments, within Case Processing and Courtroom Operations Divisions and incorporated e-transfer of final Orders of the Court to Counsel of Record, litigants, and sister-agencies of the Commonwealth.
- Developed a Protective Order Interface with the Supreme Court of Virginia: Office of the Executive Secretary, to communicate injunctions in real-time.
- Established a Report Service Library, where custom-built SQL-reports are kept for both on-going and ad-hoc statistical Report-Requests.

Planned Project Schedule

- Requirements gathering and development to modernize the Land Records Electronic Filing System.
- A Request for Proposal (RFP) has been issued by the Circuit Court for a fully-integrated Court Management System, which will include: a case management system, document management system, financial management

system, electronic filing portal and electronic filing fee payment system, a digital trial practice system, and a judicial dashboard. The RFP was issued on March 17, 2017 and is scheduled to close on June 1, 2017. Proposals will be evaluated by a Selection Advisory Team (SAC) and a Technical Advisory Team (TAC) and demonstrations may be scheduled. Upon contract-award, negotiations will be led by the County's Department of Procurement and Material Management and the Fairfax County Attorney.

Project Budget

Annual funding from Virginia State Technology Trust Fund revenue (mandated by the Code of Virginia specifically for Circuit Court Technology and which cannot be used for any other purpose), CPAN subscription revenue, Administration of Justice revenue, and agency funds support technology initiatives in the Circuit Court.

Return on Investment

CARS provides immediate electronic access to CPAN for over 2,000 commercial customers, making all land records, deeds, deeds of trust, liens and judgments on every parcel of land in Fairfax. In addition to citizen-customers, CARS serves federal, state and local agencies, particularly sister-agencies such as the Fairfax County Department of Tax Administration (DTA), the City of Fairfax Tax Assessor's Office, The Fairfax County Geographic Information Systems (GIS) and the Fairfax County Department of Public Works and Environmental Services (DPWES).

When awarded, the Court Management System's imaging, electronic filing, electronic-certifying and payment system portal, digital trial practice and judicial dashboard capabilities will provide increased efficiencies in the processing and trial management of the Court's 25,000 new cases each year. Multiple parties will be able to access electronic case files simultaneously, and e-file pleadings and other documents from their firms, at any hour of the day or night, reducing road- travel to the courthouse. Potential interfaces with other jurisdictions will allow the exchange of electronic documents and/or data and eliminate existing manual processes between jurisdictions.

2G70-034-000 Courtroom Technology Management Systems - Digital Upgrade

Project Description

Fairfax County's Court Technology Office (CrTO) has completed research and designs for the "next generation" digital courtrooms necessary to upgrade the existing Courtroom Technology Management System (CTMS) launched in 2008 to provide electronic evidence presentation, video conferencing and systems management for all three Fairfax County Courts. In less than 10 years, technology has changed significantly; new digital design is necessary to replace obsolete analog hardware, include newer, digital components for courtrooms undergoing renovation; and the retrofitting of CTMS in 18 existing courtrooms. Analog equipment and repair parts are being discontinued, and existing hardware components require

replacement with digital hardware. Upgrading to digital hardware is not a "plug and play" fix, and requires new cabling, connections and new software code.

Project Goals

The primary goal of this project (CTMS2) is to upgrade the high-tech courtrooms in Fairfax County Courthouse to an all new digital platform necessary to meet industry standards. The digital upgrades will support Bring Your Own Devices (BYOD), upgraded digital connections for HDMI and DisplayPort connector types, annotation enhancements, upgraded touch panel displays, and network-managed video services, while retaining existing CTMS functionality. CTMS2 will continue to improve citizens' access to the Courts, facilitate trials and hearings in the most effective and efficient means possible, allow for all three Courts to share common resources, and provide for the flexibility and adaptability required to incorporate future changes in technology and court proceedings.

Progress to Date

In September 2016, the Court Technology Office (CrTO) successfully implemented an upgraded Courtroom Technology Management System digital solution, CTMS2, in four newly renovated courtrooms. The CTMS2 digital blueprint will be deployed to future renovated courtrooms and to upgrade existing CTMS1 courtrooms. A multiphase deployment to upgrade 18 existing CTMS1 courtrooms to the digital platform is necessary, commencing during FY2017 and is planned to continue through FY 2020. The digital migration requires careful planning and scheduling as only a limited number of courtrooms can be "out of commission" at one time. The digital retrofit is anticipated to take eight to twelve weeks per courtroom, planned over multiple fiscal years.

Milestones and planned implementation are:

- Courtroom construction renovations and digital technology infrastructure design with the Department of Public Works and Environmental Services and contracted architect – Completed January 2015
- Courtroom renovations – Commenced September 2015
- CTMS 2 digital design – Completed January 2016
- FY 2017 to FY 2018 - Upgrade 5th Floor Circuit Courtrooms
- FY 2018 - Upgrade 4th Floor Circuit Courtrooms
- FY 2018 - Upgrade 2nd Floor GDC Courtrooms
- FY 2018 to FY 2019 - Upgrade 3rd Floor JDRDC Courtroom
- FY 2019 to FY2020 - Upgrade 1st Floor GDC Courtrooms

Project Budget

FY 2018 funding of $690,000 will continue support for this initiative.

users with updated equipment with increased functionality and serve as a basis for future growth. Nearly all new infrastructures now support multiple non-proprietary protocols, IP and digital technology, and various types/mixes of mobile radio equipment using fast data transmission speeds. This replacement provides the County with a radio capability that will allow incremental migration to newer technologies in the future. The return on investment is realized by the performance, productivity, and effectiveness of public safety services, with seconds enhancing life/safety results.

2G70-059-000 Mobile Computer Terminal Project (E-911 - Fund)

Project Description

Fairfax County public safety communications relies heavily on mobile data communications for the dispatch of equipment and personnel to emergencies and other non-emergency requests for public safety services. Digital communications are used to allow field units (e.g., police, fire and rescue, and sheriffs) to receive dispatch messages, event notifications, to self-initiate events, make traffic stops, check on licenses and registrations, maintain status for response, and communicate with one another and the Department of Public Safety Communications (DPSC) without the use of voice radio or intervention of a dispatcher at the DPSC. The entire structure of the County's public safety response system, including staffing at the DPSC, is based on the heavy utilization of mobile data communications for critical public safety activities.

Project Goals

This project supports the recurring life cycle replacement of Mobile Computer Terminals (MCT) to ensure this critical equipment is kept contemporary and functional for public safety personnel who respond to emergency and non-emergency requests for services.

Progress to Date

This project supports an on-going program for the replacement of Mobile Computer Technology used by Public Safety personnel. A 5 years replacement cycle was determined to be a reasonable replacement term for the mobile computer fleet. FY 2018 is the 1st year of the fifth round of replacements for the MCT equipment replacement program. The County currently has approximately 1500 MCTs in the public safety fleet, one fifth, or about 300 units are scheduled to be replaced in FY 2018.

Project Budget

FY 2018 funding of $1,616,200 supports the first year of the fifth round of a replacement cycle established for MCT equipment; or replacement of 1/5 of the mobile fleet.

Return on Investment

In excess of 150,000,000 transactions are currently processed each year via MCTs through the mobile data communications infrastructure and therefore, it is critical to keep this equipment contemporary and available for the many operations utilized by the field personnel. The current fleet has approximately 1500

Project Budget

FY 2018 funding is not required; anticipated revenues from the mandated court fees (details below) will directly support e-Summons implementation in Fairfax County.

(In July 1, 2014 the Virginia General Assembly added new provisions to VA state law (Virginia Code § 17.1-279.1) which permits the assessment of an additional $5 as part of the cost of each criminal and traffic court in each localities district and circuit courts. The Fairfax County Board of Supervisors approved an amendment to Fairfax County Code to adopt the state law. Effective on August 1, 2014 as specified by the legislation all funds generated from the new fees are to be used solely to fund software, hardware, and associated equipment costs for the implementation and maintenance of an electronic summons system in Fairfax County. Funding from the ordinance will also support the purchase of new peripheral equipment such as handheld devices, portable printers, driver's license scanners, and barcode readers. All funds received will be posted to the e-Summons project as part of regularly scheduled budget reviews.)

Return on Investment

E-Summons is an automated solution that enables police officers to issue traffic tickets safely and more efficiently with greater accuracy, reducing manual processes, and eliminating data entry errors that can have potentially serious repercussions for the public, courts and the police department. A fully integrated e-Summons solution eliminates redundant data entry, reduces duplication of effort between agencies, and streamlines court scheduling and docketing processes creating multiple opportunities to improve existing operations. Additional benefits include near real time electronic access to traffic case information for payment of traffic fines.

IT-000013 Police Records Management Refresh Project

Project Description

This project supports replacement of the current Police Department Records Management System (RMS) as the existing software has reached its end-of-life and is no longer supported by the vendor. This project will impact nearly all aspects of police work and police information collection.

Project Goal

This project aims to replace the current Police Records Management system (ILEADS) with the next generation case management solution that fully utilizes and supports the present and future police department needs and business processes, maintains close integration with the current 9-1-1 Dispatch (Computer Aided Dispatch – CAD) system, and eliminates existing system limitations including persistent deficiencies in connectivity with mobile units. The lack of a persistent connection between the police vehicles and the database caused performance issues when officers interact with citizens and transmit reports.

Progress to Date

A substantial upgrade to the current I/LEADS Records Management System (RMS) was accomplished in December of 2015. The Development Team focused on business process analysis and application configuration following which the team will transition to the development of a training program to train over 2500 end users. The project will move into the implementation phase following end user training, with cutover scheduled for early FY 2018.

Configuration and implementation planning also continues with the next generation report management system, replacing the legacy application. This includes implementation of Field Based Reporting (FBR) system, utilized by officers in the field to enable fast and convenient data entry and report submission, which integrates with Police RMS and CAD, thereby eliminating duplicate data entry and decreasing reporting turnaround times. Improvements to the FBR system are underway in anticipation of deploying a more robust solution in early FY 2018.

Project Budget

Additional funding is not required in FY 2018. As part of FY 2014 Carryover, funding of $1,000,000 was provided for replacement of the Police Department's current Records Management system.

Return on Investment

A modern Records Management System (RSM) is a critical necessity in large police departments across the country. A new RMS system will allow Fairfax County police officers to more efficiently respond to incidents, issue electronic summons and complete reports on the scene of incidents rather than waiting to enter case information at a field office, station, or other locations. A modern system also assures more accurate, timely, reliable and accessible information on events, and enables the Police Department to more efficiently act upon incidents, from initial response through tracking, investigation and reporting.

IT-000014 Sheriff Civil Enforcement System Project

Project Description

The Office of the Sheriff, in collaboration with the three Fairfax County Courts (Circuit Court, General District Court, and Juvenile and Domestic Relations District Court) and the DIT Court Technology Office is implementing an Advanced Civil Enforcement System (ACES) to automate existing civil enforcement business processes and replace the current module in the Police RMS system slated to be decommissioned in early FY 2018. The new system will include interfaces between the Sheriff's Office and the Courts to meet the demands of processing large volumes of service documents on a daily basis, provide for enhanced security, reporting, statistics, and a civil records repository with automated backup features. The system will introduce a mobile solution and interfaces with other County agencies including DIT/GIS, Department of Tax Administration, and the Commonwealth Attorneys' Office.

Project Goal

The Sheriff's Office is required by Virginia Code 8.01-293 to execute civil processes within their jurisdiction. The goal of this project is to replace the current civil enforcement module in the Police Records Management system with a comprehensive electronic civil enforcement solution.

Progress to Date

The ACES project scope was defined and approved; Phase 1 requirements are complete, and following extensive research and analysis, a final scope of work and contract were finalized and project kick off occurred in third quarter of FY 2017. Phase 1 includes automation of the core civil enforcement processes, barcoding, electronic signatures, reporting, statistics, GIS and mapping, and basic mobile functionality. Phase 2A includes public/private web access, and a robust mobile solution utilizing the existing infrastructure. Phase 2B includes bi-directional interfaces between ACES and the three Courts' case management and imaging systems.

Project Budget

FY 2018 funding is not required.

Return on Investment

A core function of the Sheriff's Office is to ensure timely service execution for the Courts. When fully implemented, the new Advanced Civil Enforcement System (ACES) will automate civil enforcement processes, provide timely and efficient processing and viewing of civil records, bi-directional interfaces with the Courts and other agencies, reduced manual processing and delivery of service documents, and enhanced efficiencies by electronically processing, distributing, and tracking service documents. The system will also incorporate electronic signatures, barcoding, and implement a mobile solution using existing infrastructure. ACES will minimize risk of misplaced or damaged files, provide reliable back up, and consistent retention and secure file storage. Planned interfaces with the Courts will promote consistency and standardization between the Sheriff's Office and the Courts.

IT-000015 Commonwealth's Attorney Case Management System Project

Project Description

This project will replace an end of life legacy case management platform in Fairfax County's Commonwealth's Attorney's Office with a modern software application and provide for supportable technology hardware, software and infrastructure to improve operational efficiency and streamline business processes.

Project Goal

The goal is to replace the current legacy case management system in the Commonwealth's Attorney Office with a modern comprehensive case management software system that will provide improved

workflow tools, streamline processes, provide enhanced accountability, and improve office efficiency. Other components include conversion of all legacy data, the ability to scan arrest warrants, and interfaces to other County departments such as the Police Department.

Progress to Date

Following procurement processes, a contract was awarded to the selected vendor, project kick off occurred in the second quarter of FY 2017; system implementation will continue in FY 2018.

Project Budget

This project was funded at FY 2014 Carryover. Additional funding is not required in FY 2018.

Return on Investment

An updated case management system will significantly improve management and tracking of a large volume of criminal cases handled by the Fairfax County Commonwealth's Attorney's Office. Improvements such as barcode scanning of arrest warrants, auto-generated legal documents, and the automated syncing of attorney calendars will dramatically reduce data entry by office personnel. Generating real-time case assignment reports showing the number of cases assigned, types of cases, and where cases fall into the case life cycle will streamline the current task of case assignment.

IT-000021 Fire and Rescue and Police Stations Telephone Replacement Project

Project Description

This project supports replacement of legacy telephone systems in all Fairfax County Fire and Police Stations. The telephone systems were installed in 2001, have reached end of life, and are no longer supportable. The project will transition all Fire and Rescue and Police stations phone systems to the County's current enterprise voice platform. The stations will benefit from all common enterprise telephone features such as extension to cellular phones, recording calls, and detailed automated number and locator information, station information to public safety answering points (PSAP), forwarding of voice mail, integration of individual direct inward dial numbers assigned, desk phones, and cell phones. Once integrated into the enterprise voice system, a police officer or fire fighter can be reassigned to a different station without changing phone numbers. All public safety sites will be linked together through the enterprise voice platform. Additionally, the planned transition to the County's enterprise telecommunication platform will meet state the mandated requirement that all emergency calls from a phone station provide PSAP with sufficient location identification information to ensure emergency response.

Project Goal

The goal of this multi-phase project is to provide better internal communications by placing all public safety stations on the enterprise voice platform utilizing the County's I-NET and streamlining public safety

stations voice communications by using common technology tools such as computers, telephones and wireless integration.

Progress to Date

This is a multi-year project planned for FY 2016 - FY 2018. To date, the transition of all Police Stations and six Fire Stations have been accomplished, with the stations operational on the County's enterprise voice platform. Stations are able to perform internal dialing across the County-owned INET infrastructure, use common features and functionality of the voice network and reduce recurring cost by eliminating high cost legacy telephone company circuits. FY 2018 plans are to complete the project with transition of the remaining 13 fire stations to the enterprise platform.

Project Budget

FY 2018 funding is not included.

Return on Investment

In addition to communications efficiencies and compliance with state mandates, transitioning the current legacy phone systems in Fire and Police stations to the County's enterprise platform with contemporary voice and phone technologies will provide the County substantial savings in recurring maintenance and operational expenses. Once fully transitioned to the enterprise platform, the County will realize an estimated $35,000 savings in annual maintenance, and $107,000 in annual operating expenditures. Also station equipment will fall under the terms and conditions of the enterprise contract which provides for a two hour response time for voice service calls. Streamlining the voice architecture, improving internal communications, increasing staff productivity, reducing recurring costs, and maintaining serviceability of equipment are all priorities of this project and will provide significant return on investment to Fairfax County.

3.3 Corporate Enterprise

2G70-011-000 Automated Board Meeting Records Project

Project Description

This project streamlines, automates, and supports mobile-enabled submission, preparation, and delivery of the Board of Supervisors Meeting Agenda and Board Book Package by converting a manual paper-exclusive process to an electronic format.

Project Goals

This initiative is sponsored by the Board of Supervisors and the County Executive to enable the Office of the County Executive and the Clerk to the Board to electronically create the agenda, supporting documentation, record Board of Supervisor meeting matters and post documents on-line for accessibility. This project will significantly improve the quality and efficiency of producing the board packages for the Board of Supervisors and associated committees and subcommittees.

Progress to Date

Easy to use and secure Board meeting management software has successfully been deployed to support the Board of Supervisors meetings, subcommittee meetings, and other County Boards, Authorities and Committees (BACs) such as Retirement Board, Board of Equalization of Real Estate Assessments, and Water Authority.

In FY 2018 this project will continue deployment to additional Board subcommittees and BACs. To date, this project has eliminated printing, assembly, and transportation costs, increased accessibility via PC, laptop, iPad, and provided better management and distribution of board book revisions.

Project Budget

FY 2018 funding is not required.

Return on Investment

This project increases efficiency and streamlines the production of the Board of Supervisors' package by providing the information and supporting materials on-line, offering Board members an efficient way to review meeting material electronically, increases accessibility, and provides for better management and distribution. Additional benefits are improved productivity in preparing and submission of agenda items, reduction in manual paper intensive processes, as well as reduced space requirements for maintaining large paper copies for Board offices and the Clerks' Office. Cost savings are achieved from implementing electronic board-books by eliminating the print, labor, and transportation costs that were required to produce, assemble, and physically deliver the large multi-volume board books. In addition, revisions to board book content can be updated easily and made available instantly so that a reprint and redistribution of hard copy is not necessary.

2G70-019-000 Public Access Technologies – Interactive Voice Response Project

Project Description

The Interactive Voice Response (IVR) technology program develops custom interactive telephone applications that can access and update data in a variety of County databases, in addition to providing static information in a timely and convenient manner. This project was established at the request of the Board of Supervisors "to enable the County's customers to conduct business with the County wherever and whenever it is convenient for the customer", in particular for citizens without internet access. IVR is one of the foundational programs for enhancing public access to government information and business transactions.

Project Goals

The primary goal is to continue the application of text-to-speech technology for certain applications aligned with e-Government goals. Interactive Voice Response enhancements include the continued integration of Web and IVR via XML technology for public use.

Progress to Date

The IVR team developed and distributed a Request for Proposal (RFP) for a new Interactive Voice Response system, a contract was awarded in FY 2016. To date the project successfully migrated the General District Court's IVR application for traffic payments. In FY 2017 phased implementation continued for the Department of Tax Administration (Personal Property, Real Estate, and Real Estate Information lines), and Circuit Court Juror Information lines; FY 2018 plans include Fairfax County Electoral Board Information Line; migration of additional agencies is planned through FY 2020.

The following County agencies are primary users of the IVR system:

County Executive, Office of	County Services Information Line
	Medical Registry – Special Needs
	OPA Survey Line (Seasonal)
Courts	Courts Information Line
	Traffic or Criminal Violation Prepayment
	Juror Information
Fairfax-Falls Church Community Services Board	Community Service Board Survey
Family Services	Coordinated Services Planning Survey
	Register for Institute For Early Learning
Health Department	Health Department Information Line
Housing and Community Development	Inquire Affordable Housing Waiting List
Human Resources	County Job Line
Information Technology	IT Service Desk Information Line
Library, Fairfax County Public	Library Information Line

Police Department	Victims of Crime Information Line
Public Works and Environmental Services	Building Plan Review Information Line
	Inquire Building Permit/Plan/Inspection Status
	Schedule/Cancel Building Inspection Requests
	Schedule/Cancel Special Collections (Trash Pickup)
Tax Administration	Real Estate Information & Tax Payment

Project Budget

FY 2018 funding of $300,000 provides for continued support of the IVR program. This initiative requires on-going support from e-Gov and Telecommunications staff to support and expand the IVR application capabilities in additional business areas and implement enhancements.

Return on Investment

Public access technologies such as the IVR expand citizen access to County information and services; minimize staff resources needed to provide basic information, and allow staff deployment to more complex and specialized tasks. The County's IVR system currently answers more than a million calls annually. The system is available approximately 24 hours a day to interact with citizens, providing an additional option for conducting business with the County after regular business hours. By handling the more routine calls, the IVR allows staff to concentrate on those calls that are most in need of personal attention. It also allows access to a great deal of information after regular business hours.

2G70-020-000 Internet/Intranet Initiatives Project – e-Government

Project Description

This project supports initiatives that improve public accessibility to government information and services. A comprehensive approach is employed to ensure efficient infrastructure capable of supporting multiple business solutions. In addition to enhancing customer service for availability anywhere, anytime, public access technologies reduce staff involvement in providing basic information and transactions, thereby allowing personnel to perform more complex tasks and respond to requests for more detailed or specialized information. Internet/intranet initiatives provide significant and wide-ranging opportunities to use technology as a means of making information more readily available to the public. Initiatives include research and development of emerging technologies, expansion of Web applications, improvements in search and navigation, integration with internal systems and other public access channels, and sustaining infrastructure.

Project Goals

The project's vision is to provide new information and services on all platforms, while continuing to build on existing information architecture. The planned functionality is delivered in support of the County's taxonomy of information and services, using a single supporting infrastructure. The solution is based

upon a single content repository for all platform and agencies. The repository enables various features of content management to provide accurate and reliable information, provides additional search capabilities on the public web site, and enables information sharing. The project includes implementing standards and processes for information engineering so that the same application and data is used County-wide in the development of Web content and applications.

Progress to Date

The County's Public Web site has been an extraordinary success and has received national recognition. The site receives approximately 19,311,840 visitors, which equates to about 61,095,040 page views for FY 2016. Approximately 55 County agencies have a presence on the site. The functionality of the site has expanded significantly with the addition of an online discussion tool (Ask Fairfax!) to enable citizen interaction with government on various topics, mobile version of the County website with mobile and iPhone applications to list a few. The County website is also translated into 12 languages using machine translation powered by Google. In order to empower public services and affirm County's strategic vision and goals, the website has been enhanced with new and updated interactive features and online applications. In an effort to improve website accessibility, all pages on the public website are tested for compliance with Section 508 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act by passing through the County's automated compliance checking tool.

Implementation of a new enterprise **Web Content Management System** currently underway, is a major initiative of the e-Gov program. This effort includes refining the current site's information architecture, redesigning the entire website with a more modern design ensuring seamless accessibility in mobile devices, and improving search functionality. In addition to installing and configuring the new system to meet requirements, this major effort involves a complete review of the current web content for 55 agencies and reorganizing information to make it a more user centric site that promotes ease of use and delivers more online services for public consumption. The goal is to create more topic oriented web presence with improved business delivery model, enhance search engine optimization, generate better information indexing, and eliminate data silos thereby promoting transparency on the County's web site.

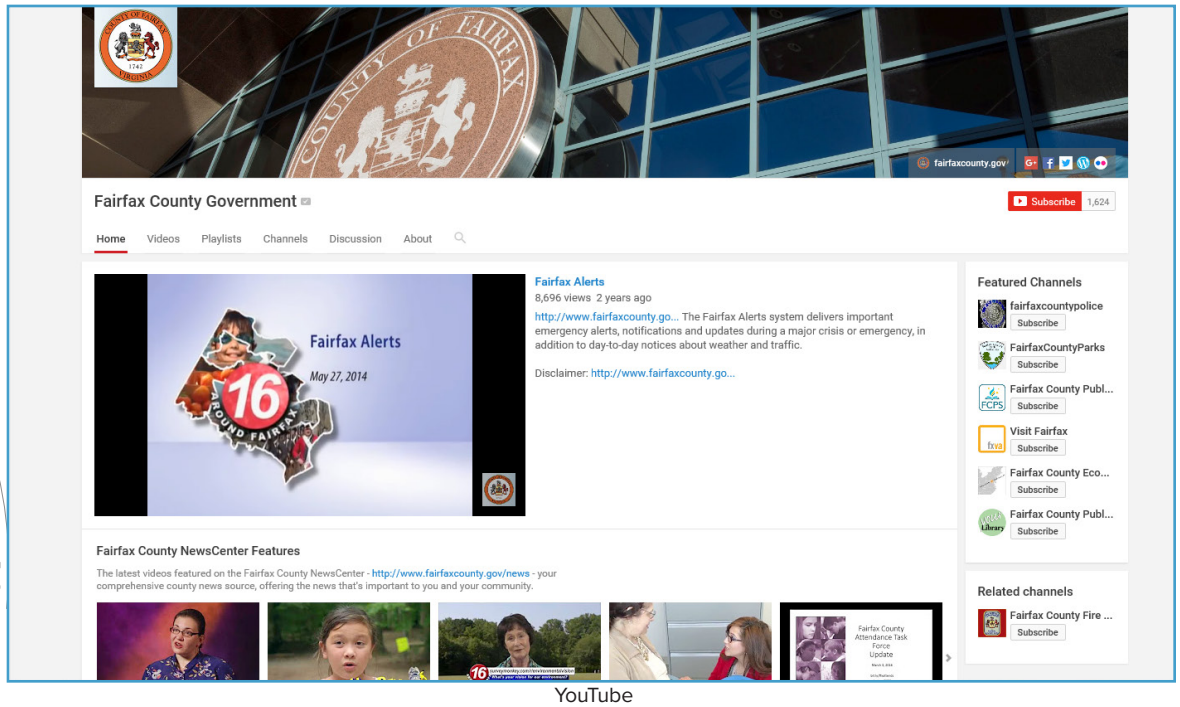
In order to continue to empower public access to service while affirming the County's strategic vision, Fairfax County has pioneered the implementation of governmental services through various mobile devices like iPhone/iPad, Android and Blackberry. In enhancing the County's long standing goal that our community should access their government 24/7 without walls, doors or clocks, Fairfax County now places government in the palm of their hands with the introduction of efficient and cost effective mobile apps and services.

Fairfax County Government's mobile app:

- Enable citizens instant connectivity to their government
- Provide the benefit of getting services and information from anywhere at any time by delivering information in a more conveniently accessible platform
- Enhance the adoption of online governmental services by reaching a larger and wider user base

In addition to a mobile website, the public can download the official Fairfax County application on their smartphones and tablets for emergency information, news headlines, one-touch calling through a contact directory, GPS maps, social media links, transportation resources and more at http://www.FairfaxCounty.gov/topics/mobile.

The ongoing strategy includes 'transparency' and 'sharing' which has become an integral part of the Web experience. Recognizing that online collaboration and social media are essential business function in today's rapidly changing world and key to improving citizen-to-government networking, Fairfax County offers multiple channels such as Facebook, Twitter, YouTube, Instagram, SoundCloud and Flickr for public engagement with County government on various topics during emergencies and otherwise. It also advances the County goal of creating a culture of engagement, boosts County operations and furthers our business mission with residents. Using social media tools is a proven and acceptable way to enhance government transparency and encourages a two-way dialogue with the public which augments the standard website.



YouTube

In addition to the use of numerous County-developed cross-agency applications like RSS (Really Simple Syndication feeds), Ask Fairfax!, e-mail subscriptions to improve citizen-to-government networking, open source tools like Slideshare (presentation sharing), Google maps (event maps), and Ideascale (social voting) have been leveraged. These are integrated together and come under the umbrella of NewsCenter which is the County's one-stop news shop.

The County has about 27 official social media sites/accounts on Facebook, Twitter and YouTube:

Facebook – http://www.facebook.com/FairfaxCounty

Twitter – http://twitter.com/FairfaxCounty

YouTube – https://www.youtube.com/user/fairfaxcountygov

Flickr – http://www.flickr.com/photos/FairfaxCounty

Instagram – https://www.instagram.com/FairfaxCounty/

SoundCloud - https://soundcloud.com/FairfaxCounty

1 – Public Web Site, Mobile App, Search and Navigation

Fairfax County's innovative use of technology combined with user-friendly web site design has streamlined the interaction between citizens and the government to provide the necessary tools for interaction and participation with County government. To improve citizen service delivery and provide effective e-Government services, the County website continues to be redesigned with improved functionality and accessibility features since its inception in early 2000. These efforts are achieved with various forms of outreach such as focus groups, online surveys, and usability tests with constituents. Various social media platforms are employed to expand and redefine communication efforts beyond traditional news releases. To continue empowering citizen access to public services, Fairfax County's Mobile App (available on various mobile devices) provides citizens the added convenience and flexibility of interacting with their government on the go from anywhere at any time.

In FY 2011 - FY 2013, acknowledging trends in high adoption rates of mobile devices, Fairfax County increased the value of its e-government efforts with the add-on of mobile apps for all platforms like iPhone/iPad, Android and Blackberry for free downloads. Our attention to stewardship of scarce resources was achieved by complete in-house development and repurposing of existing technologies. Mobile accessibility further enhances citizen's convenience and reaches a wider user community with the ability to access services and information in the palm of their hands.

In FY 2014, the County launched a family of new homepages for our primary website at www.FairfaxCounty.gov. The new County homepage uses responsive design to render seamless

information across three device types: desktop, tablet and mobile. The search engine was refined in FY 2014 to improve the accuracy and refinement of results and integrate select social media results.

In FY 2015-2016, the County started outlining plans to upgrade the current web content management system and reviewing the current information architecture to identify steps and gather requirements to improve, restructure and re-engineer the County's website. The goal of this initiative is to create a Web presence that is more topic oriented rather than an organization focused site. To date over 28,700 copies of the official Fairfax County Mobile App have been downloaded since its launch in June of 2011 with numbers increasing every day. Both the County's website and it's mobile version provide residents of Fairfax County with a wealth of information, online services and connectivity with their government, mobile browsing is undeniably on the ascendancy – it is expected that more people will be using mobile devices to access the web than traditional laptops and PCs.

In FY 2017 - FY 2018, the program will continue its focus on more citizen/community engagement, providing multiple communication channels for access to County government 24/7 and on the go. The County's website and the County's mobile applications will be re-engineered to deliver more visual, intuitive, citizen-centric, and topic driven content. Enhanced search functionality and more native mobile applications will be deployed for public consumption. To further facilitate government transparency, enhanced access to County datasets will be provided. Open data broadens public transparency about government, improves responsiveness to community needs, and permits efficient data-driven decision-making through an engaged community.

Implementation of a new Enterprise Web Content Management System which started in FY 2017 will continue in FY 2018. This major initiative is replacing the web content management system, refining the current site's information architecture, redesigning the entire website with a more modern design and "mobile first" approach, as well as improving search functionality. The goal is to create more topic oriented web presence with improved business delivery model, enhance search engine optimization, generate better information indexing, and eliminate data silos thereby promoting transparency on the County's web site. The redesign effort is based on industry best practices, metrics and public engagement. The refresh and redesign is an ongoing effort of the e-Government Program to keep pace with evolving internet technologies and improvements in use, search, engagement, and open government initiatives.

2 – WEB Farm Infrastructure Architecture and Management

The following Internet/Intranet Infrastructure initiatives are on-going:

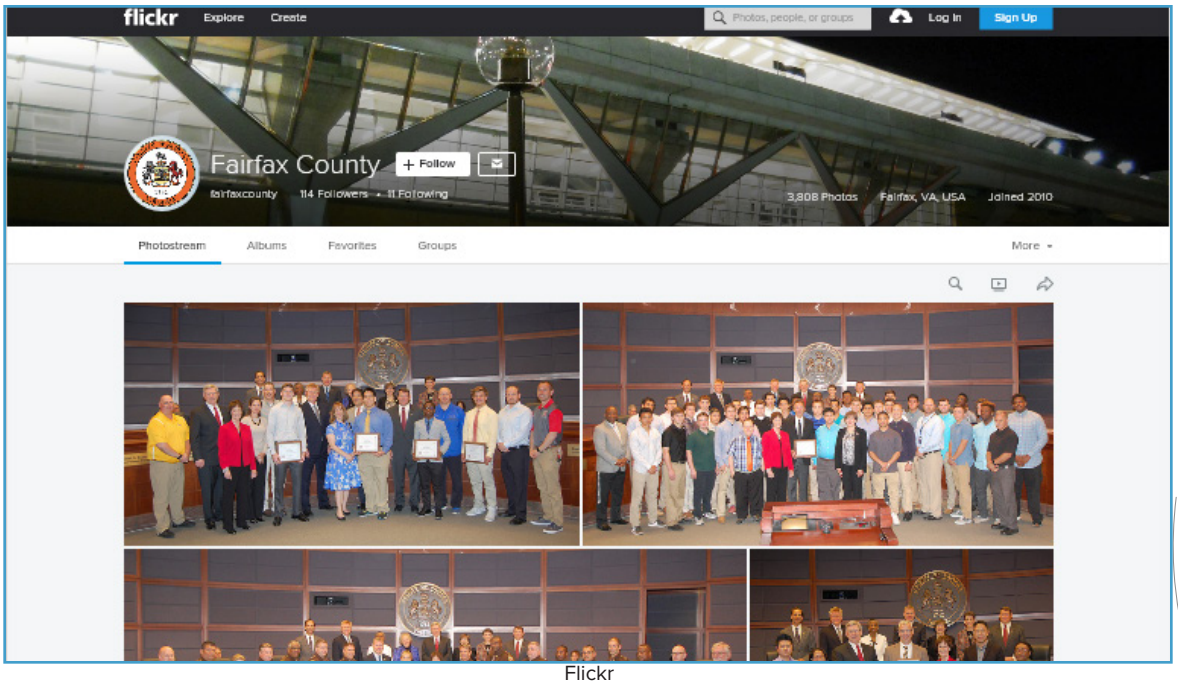
- Secured network settings on all 34 servers to minimize risk of intrusion
- Implement a statistical reporting system for both Internet and intranet servers
- Refined the server monitoring system

3 – Interoperability

The Fairfax County CAD2CAD Exchange between the 9-1-1 CAD systems of Alexandria, Arlington, Fairfax and the Metropolitan Washington Airports Authority provides the ability for these systems to exchange real-time fire and rescue unit status and incident data and allows dispatchers to request resources during mutual aid events from within their respective CAD systems. This collaboration is both a technology integration success and a long sought-after milestone in operations of 9-1-1 dispatch that reduces response times and improves service to citizens. Expansion of the CAD2CAD service regionally to Prince William, Loudoun, Montgomery and Prince George's counties is underway. The unit and incident information from CAD2CAD is also available via web services that can be consumed as XML feeds by the Fairfax County Geospatial Data Exchange. This interoperability initiative, known as CAD2GIS, delivers map ready data services that can be consumed in agency dashboards for fire operations staff or in common map viewers in emergency operations centers for situational awareness.

4 – Intranet/Infoweb

"**FairfaxNET**", the County's intranet, which is an employee focused enterprise SharePoint portal that provides an intelligent platform to seamlessly connect users, teams and knowledge supporting the ability to leverage relevant information across business processes to help employees work more efficiently. FairfaxNET is a centralized resource for internal County content, forms, policies, news, application, training and other sources of information. It provides collaboration tools for agencies and work groups which are secure, convenient and a standard workspace for employees to work individually or collaboratively.



Flickr

FairfaxNET is a centralized location for disseminating pertinent County wide, agency-specific or team/project-specific information. It also provides a venue for automating business processes.

Approximately 55 County agencies now have a presence on the County's intranet site (both InfoWeb and FairfaxNET), offering more than 11,000 HTML documents, 12,500 PDF documents, and 15,000 images on the internal site. Most agencies have Web content contributors, and Internet Services staff support content creation efforts for those agencies without a dedicated Web presence. The County's intranet will continue to be updated with additional access to enterprise data and interactivity, and expanded to become a viable alternative for full transaction-oriented applications. The addition of new information and increased business functionality is essentially an ongoing project. Based on conversations with a wide range of County managers, it is also expected there will be numerous concurrent application development requests from a dozen or more agencies for core web-enabled applications as the benefits of the technology become more widely recognized. These requests for support are handled on an as-needed basis based on priority, visibility and functionality, and highest Return on Investment.

FairfaxNET is the primary platform for access to internal applications, information and services, employee collaboration and information sharing, and collaboration with other agencies. FairfaxNET is also the gateway to the enterprise ERP solution (FOCUS).

In FY 2015 – FairfaxNET was upgraded to SharePoint 2013. FY 2017 - FY 2018 goals include development of project sites to manage and keep track of projects, implementing records management for document storage and archival purposes, and upgrading to SharePoint 2016 to keep the system in line with the evolving technology. Work will continue with the County agencies to automate and streamline business process for operational improvements.

5 – Web Content Management

A new Web Content Management system has been selected and is in the process of implementation. The scope includes fit-gap analysis, requirements refinement, defining information architecture (content classification), and system configuration with appropriate modules plug in/development to enable the reconstruction of the public website including search engine optimization. The refresh and functional aspect of the public website is an ongoing effort to keep up with evolving technology and public demand.

6 – E-Services

Internet Services prototyped new application development platforms and developed standards and best practices for the current environment. DIT supports other agencies in the development of Web content and applications.

Project Budget

In FY 2018, funding of $725,000 supports the County's eGov program to meet the increasing demand for County's web, e-Government and on-line transactions services, implementation of the new Web Content

Management System, as well as improved navigation, web content synchronization, mobile applications, social media integration, transparency, Web 3.0, support of the County's intranet (FairfaxNet) and continued compliance with Department of Justice Americans with Disabilities Acts requirements.

Return on Investment

This project continues to provide single information architecture and supporting infrastructure for all platforms and new information and e-services to the public. It further expands the content management system to improve automated workflow, revision control, indexing, search and retrieval for enterprise systems. The project improves the search capability for citizens and constituents while enabling the County to build applications faster and more efficiently by maintaining reusable components. Public access technologies minimize staff resources necessary for providing basic information, thereby allowing staff deployment to more complex tasks that require detailed or specialized information.

2G70-041-000 Customer Relationship Management (CRM) Project

Project Description

Customer Relationship Management (CRM) is a foundational technology that supports the County's strategic goal of improving the quality and efficiency of responses to citizen requests/issues by integrating current stovepipe applications, implementing on-line 24x7 access strategies, social media tools, and techniques to enhance the overall customer experience and manage service requests via a single user enterprise-wide interface tool.

Project Goal

This project is a multi-year effort for the replacement of current legacy CRM solutions with an up-to-date solution that integrates with County agencies' business applications and processes, consolidating and reducing redundant hardware, software, and maintenance expenses. The enterprise CRM provides for unified tracking and case management of service requests and manages requests via a multi-platform CRM solution across many channels including e-mail, web, social media, and call center capabilities. The improved integration with the County's Web environment, e-mail and communications systems, promotes service efficiency and effectiveness, improved customer experience, and citizen engagement. Information and data provided with an enterprise view enhances opportunities for cross-agency processes and service planning.

Progress to Date

Phase I included environment setup, business process analysis, configuration, application development, and data migration for eleven County business systems including Board Offices. Phase 2 consisted of the successful data conversion and migration from IQ to the new CRM application for the Board Chairman's office and the Dranesville Board office.

In FY 2016 Phase 3 work continues business process design for the remaining Board of Supervisors' Offices, Department of Tax Administration, and Office of Public Private PartnershipsP3. Future phases (FY 2017- FY 2019) will continue planned migration of the additional 22 agency applications to the new consolidated CRM platform.

Project Budget

In FY 2018, funding of $428,500 provides for continued deployment of an enterprise CRM for handling citizen's service requests, case management, and issue tracking.

Return on Investment

CRM technology facilitates increased efficiencies and effectiveness in managing the many citizen requests and interactions within and across County agencies and business functions. It allows a constituent-focused operation where government is positioned to be proactive to citizen concerns by enhancing collaboration among all agencies and by providing knowledge of common issues for follow-up. The CRM solution will also improve transparency by allowing constituents to easily view how the County manages their request by providing a tracking number. Consolidating intakes, reducing the number of duplicate request, and eliminating redundant systems provides taxpayer savings. This cost savings provide tangible evidence to citizens that their government is working for them efficiently by providing better access to information, optimized issue response/processing, and improved accountability/compliance.

2G70-069-000 Tax System Modernization Project – Tax/Revenue Administration

Project Description

This project provides the information systems development and technology infrastructure required to redesign the County's tax and revenue systems. The Tax/Revenue project facilitates a simpler process for citizens to fulfill their tax obligations and pay for services by modernizing the internal processes used for assessing, billing, and collecting County taxes and other revenues. In FY 2010, the County completed the replacement of the legacy real estate mainframe system with the Integrated Assessment System (IASWorld). This project provides for the replacement of the two remaining core tax systems, Personal Property and Business Professional and Occupational Licensing (BPOL) with a web based application. Implementation will allow for a comprehensive overhaul of many existing functions such as personal property account administration, business filing and licensing, vehicle registration, tax assessment, exemptions and adjustments, accounts receivable, and billing. Elimination of outdated technology platforms will enhance opportunities for integration with other County and State systems, as well as, facilitate citizen interaction and self-service opportunities via web based technologies.

Project Goals

The legacy mainframe platform for the Personal Property system and BPOL limits integration with other County and State systems, limits reporting, as well as constrains citizen interaction and self-service

opportunities via web based technologies. In addition to the technology constraints, in-house and contract programmer expertise to support the legacy applications is increasingly difficult to obtain and rapidly becoming more expensive. As a result, both tax applications can no longer support efficient assessment, valuation and collection activities. System enhancements and modifications, many of which are required by changes in State and County code, cannot be made economically and require lengthy development periods. Integration with Virginia State Department of Motor Vehicles (VA DMV) and Department of Tax Administration (DTA) applications which are critical for assessment, taxation, and enforcement purposes, cannot be automated due to limitations within Personal Property and Business Professional and Occupational Licensing systems.

Progress to Date

This project was initiated an in-house effort to redevelop the outdated legacy Personal Property Tax System which includes Personal Property and Business Professional Occupational License, Delinquent Collections and associated reports and interfaces to the cashiering system, WEB, and Commonwealth of VA DMV and DTA. The project goal was to redevelop legacy applications to modern, supportable technology platforms for the existing functionality. The focus was then expanded to include enhancing the citizen, business, and staff user experience with DTA. The expanded scope included database re-organization to eliminate batch processing requirements, addressing data deficiencies other application limitations, as well as DTA identifying business processing improvements and integration with on-line capabilities.

To date, the Business Professional and Occupational Licensing, and Delinquent Tax applications were delivered to DTA for user testing and evaluation in FY 2017. The initial version of the Personal Property application was also delivered for DTA user evaluation in June 2017. Web service integration with internal County applications (iNovah, MyFairfax/Tax Portal, and EPAY), external County partners (Department of Motor Vehicles, Department of Taxation) development and deployment of BPOL Online Filing and Payment Processing via the Tax Portal are scheduled for completion later in 2017. In addition, these applications are being optimized to facilitate mobile platform use by County staff and citizens, and enable seamless integration with state, County, and third party systems.

Project Budget

Additional funding is not included in FY 2018 budget.

Return on Investment

This project eliminates risks to County revenue generated from the assessment and collection of Personal Property and BPOL taxes. Modern technology platforms will enable the Department of Tax Administration to enhance customer access and improve services to citizens and the business community and enhance the security and use of web technologies for self service functions increasingly used by the community to interact with County systems. This project will also provide for automated integration with other County and State systems directly impacting the County's revenue collection activities, and contribute to retirement of the legacy mainframe environment in the data center.

IT-000006 Office of Elections Technology Project

Project Description

This project supports elections technology and data driven solutions for voting and elections equipment used by the Fairfax County Office of Elections. In addition, this project will ensure data driven solutions meet County needs for Election Day work flow processes as well as compliance with federal and state election mandates.

Project Goals

This project will support replacement of voting/elections equipment and Electronic Poll Ballots in Fairfax County.

Progress to Date

The schedule included procurement of the first portion of the equipment for the non-presidential elections in FY 2015 and FY 2016; the remainder to be purchased for the 2016 presidential election (FY 2017). The Office of Elections finalized procurement of the new Electronic Poll Books for deployment in time for the 2016 Primary Elections. Additional document imaging, data reporting and analytical tools are planned for phased deployment through FY 2018.

Project Budget

Additional funding is not required in FY 2018.

Return on Investment

This project will ensure the County's compliance with Federal and State elections mandates as well as the Report and Recommendations of the Presidential Commission on Election Administration and the Fairfax County Bipartisan Commission report on Election Improvement. These reports specifically addresses long lines at the polls in a Presidential Election. Both reports concluded that, as a general rule, no voter should have to wait more than half an hour in order to have an opportunity to vote. The industry is currently moving towards data driven solutions and newer technologies to ensure voters will have a positive voting experience at the polls.

IT-000007 Enterprise Project Management

Project Description

The Enterprise Project Management initiative addresses a need for a more structured enterprise approach to project and portfolio management for County projects and the County's IT Investment Portfolio. The project provides for dashboards and other tracking mechanisms to ensure more effective and streamlined management processes across County departments.

Project Goals

The goal is to implement a project/portfolio management solution to strengthen centralized management of the processes, methods, and technologies used to manage IT Projects. The proposed solution will provide an integrated dashboard for monitoring key project performance indicators; automated project tracking and reporting capabilities, standardized project management mythology, improved communication, collaboration and decision making, and reduce manual processes. A standardize project management solutions can support various business areas across multiple departments. In the event, that specialized software is required in specialized business areas, these solutions are expected to be integrated into the Enterprise Project Management tool. This project will also leverage and expand existing SharePoint licenses.

Progress to Date

Business process analysis, requirements, market research, and selection was complete in FY 2016. Work in FY 2017 - FY 2018 will include design, development, testing, and implementation of the project/portfolio management solution.

Project Budget

Additional funding is not required in FY 2018.

Return on Investment

Project/portfolio management tools provide the County with the ability to enhance management of large complex enterprise wide projects from start to finish. These tools enhance and improve project planning and organization, scheduling and resource management, cost control and budget management, collaboration, communication, decision-making, quality management and documentation. In addition, project management tools improve project resource management – physical, financial and otherwise, to meet overall project objectives.

IT-000016 Budget Solutions Project

Project Description

Fairfax County Government (FCG) and Fairfax County Public Schools (FCPS) have partnered on a multi-year, joint initiative to implement a budget solution to accommodate the requirements of the end-to-end public sector budget formulation process, projections, reporting and program measures. The annual budget process is an ongoing cyclical process simultaneously looking at two fiscal years (current and future/budget preparation).

Fairfax County Government (FCG) and Fairfax County Public Schools (FCPS) have similar overall budgeting processes with distinct development calculation methodologies, timeframes, and reporting requirements, necessitating the maintenance of autonomy between FCG and FCPS. Business requirements for handling

budget development and quarterly adjustments vary from year to year. A budget solution on a modern platform will provide the necessary structure and flexibility to meet strategic and tactical requirements also with flexibility to adjust to evolving needs and opportunities.

Modern technology will support preparation of complex budget publications with rapid turnover that rely on consistent data presentation and formatting, in which data must be quickly verified and edited and published in a variety of formats including the WEB.

Project Goal

This project plans to Development of a budget solution to support all facets of budget preparation on a single platform for both County and Schools including:

- Base and incremental budgeting for both expenditures and revenues
- Annual budget formulation and quarterly review adjustments
- Operating fund budgeting
- Multi-year Capital Project and Grant budgeting
- Modeling and forecasting
- Personnel expenditure forecasting, planning, and management

The new design also will:

- Support the end-to-end process in a single solution platform that is centrally developed and used across the Fairfax organization
- Facilitate autonomy between FCG and FCPS budget development processes and query
- Provide functionality to manage related budget office functions such as management and control of position count, performance measurement data tracking, budget monitoring and forecasting/projections.
- Presentation of budget data in a wide variety of formats and levels of detail including summary reports and detailed line item reports.
- Seamless integration of budget processes (development, monitoring, reporting, etc.) with enterprise financial and human resource processes, including the SAP financial system, FOCUS budget modules, grants, human capital management applications in County and FCPS.
- Integration with the FOCUS data warehouse for the extraction of budget and actual data at user-defined intervals and upon request.
- Implementation of security and user role management
- Achieve system maintenance and data management efficiency

Progress to Date

Phase 1 of the budget solution is currently in progress, with base requirements defined and development underway for County and Schools. Future phases for the solution include forecasting/projections, performance measurement data tracking, position count tracking, and budget monitoring.

Project Budget

Additional funding is not required in FY 2018.

Return on Investment

During the period since FOCUS went live, County and Schools budget staff have been utilizing different legacy and manual solutions for budget preparation needs. The marketplace did not have a commercial solution that met the needs of a local public budget formulation process of the complexity and scale of Fairfax County. After research the market and other governments, it was determined that custom development using industry standard tools and leveraging existing county IT infrastructure was the best and most cost effective path.

Phase 1 of this project will provide functionality for budget preparation and budget publication including the ability for central budget staff to prepare Advertised/Adopted budgets and quarterly reviews. The solution will provide a permanent budget system that will have built-in integration with other County systems including integration with the enterprise resource planning systems (FOCUS/LAWSON) and the reporting data warehouse while also providing security roles and user administration to allow access by department end users, thus relieving much of the additional work from central budget office staff. In addition, with role-based access, system controls and security are enhanced.

In addition, it is anticipated that the budget solution will be better positioned to mitigate risks for system failure by implementing disaster recovery and backup protocols on an enterprise platform. Also, the enterprise platform will be scalable and supported by multiple resources. Long-term opportunities remain in gaining operational improvements in a cost-effective manner through continuous implementation of enhancements on a platform that is scalable, maintained on-site and supported by in-house staff. Creation of a custom budget solution will allow for significant cost savings and efficiencies in terms of staff time management and other resources.

IT-000017 Enterprise Document Imaging Project

Project Description

This project provides for the multi-phase implementation of a contemporary enterprise document management platform and its utilization in support of County business functions. A contemporary Enterprise Document Management platform will support on-going County agencies' efforts for imaging documents and integration with case-management systems and/or agencies operations, and provide for a more cost effective means of compliance with mandated document retention requirements. The document imaging system will be implemented in web format such as Digital Media, 'cloud' architectures, mobile apps, and wireless 'smart' devices, as well as platforms that support cross agencies and enterprise class solutions. Current document imaging systems at the County will be upgraded to latest versions and newer technology.

Project Goals

Goals include implementation of a contemporary Enterprise Document Management platform designed to address the ongoing evolution of technology and its utilization in support of the business functions within the County. Enterprise Document Imaging systems continue to be refined to provide efficiencies and enhanced capabilities to support various agencies/divisions in the County. This project supports the strategic goals of reducing paper records, promotes efficient archival and retrieval of documents, and facilitates electronic workflow process improvement initiatives in County agencies.

Progress to Date

Contract has been awarded to multiple-vendors for Imaging and Record Management. Business, technical requirements, analysis, and working sessions are underway with several County agencies. Phased implementation began in FY 2016 with additional phases planned for FY 2017 - FY 2018.

Project Budget

Funding is not required in FY 2018.

Return on Investment

Enterprise Document Imaging systems will enable the County to have a rich document management and business process flow for retrieval and storage of vast quantity of required paper records. The new platform will automate workflows, improve business process efficiencies and productivity, reduce paper records and storage needs, and make data more accessible, easily retrievable, secure and compliant with records management regulations such as the Freedom of Information Act (FOIA). Implementation of a more current document management solution will enable on-line search of digital documents that will provide significant improvement in efficiency for County agencies using data as an integral part of daily operations. It also allows more effective use of advanced analytics for decision making, resulting in service improvements for Fairfax County residents. In addition to fast and reliable business processes, the document management solution minimizes the need for storage of paper records, reduces storage space needs and protects against mounting storage costs.

IT-000024 Integrated Library System Project

Project Description

This multi-phase project will replace the current aging Integrated Library System (ILS) used by the public and staff to access nearly all library transactions. The legacy system has reached end of life and will be replaced with a more contemporary integrated web-enabled system with social media features to provide better online features as well as informative content, enhanced formats, improved stability and response time. The Integrated Library System (ILS) is at the center of all library processes, integrating with the library's public-facing web pages, used for fine payment, online resources such as Overdrive for eBooks, enhanced catalog content such as NoveList, used for collection of delinquent accounts, collection analysis, mobile library catalog apps, SharePoint for internal work processes, and other services. In FY 2016, the system had 441,000 card holders and included 2.3 million items in the collection; it fulfilled 1.3 million customer holds and 12 million checkout transactions. The Library's website had 8.1 million page views and the ILS catalog had 23.2 million page views.

Project Goals

The goal of this project is to replace the legacy library information management system with a more contemporary ILS system with enhanced formats, improved stability and response time, integrated interfaces with all content, and a web-enabled system with social media features. Implementation of a new library system supports the Library's strategic goals of expanding access to information, resources and services; engaging and empowering the County's diverse communities; enhancing Fairfax County's investment in education, and fostering a culture of innovation and creativity.

Progress to Date

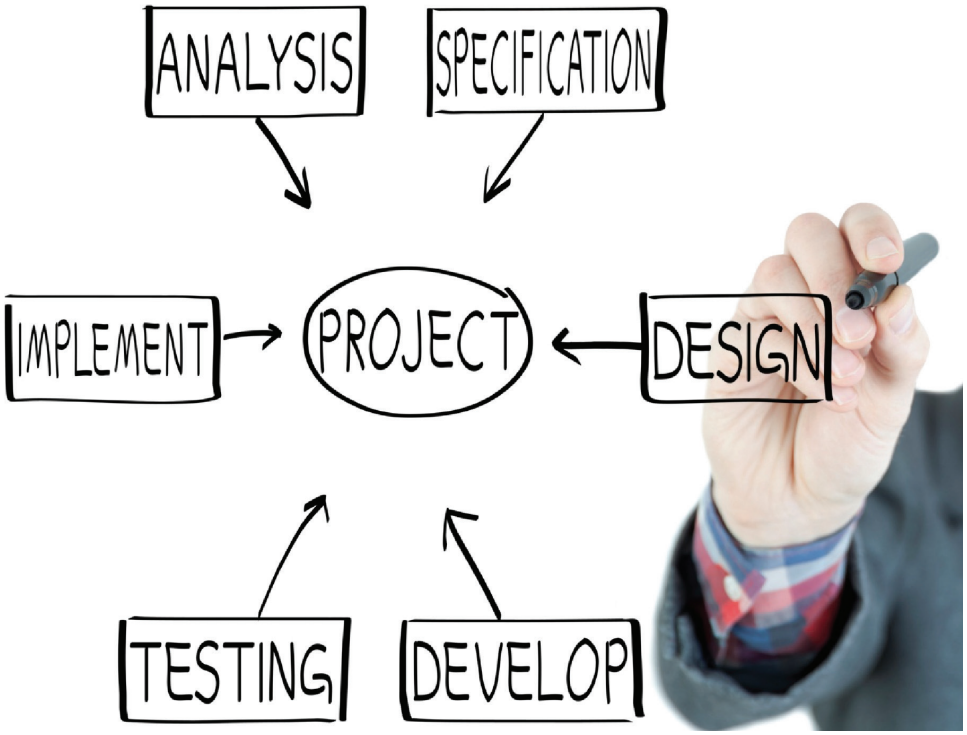
- Phase One: 2016
  - Conduct research, focus groups, surveys, write and publish RFP
- Phase Two: 2017
  - Select vendor, conduct legal review and purchase product
- Phase Three: 2018
  - Deploy and launch new product

Project Budget

Additional funding is not provided in FY 2018.

Return on Investment

The Integrated Library System replacement project will provide an enhanced customer experience for those who use library services, both in person and online. Every online transaction results in fewer transactions that need to be addressed by library staff. While there will always be services that are best managed by County employees, many of the most common library services can be managed by the customers independently. In a time of reduced budgets, enhanced online services can help maintain a high level of service. Public library customers, like all members of the public, are spending increasing amounts of time online and with mobile devices. A contemporary and fully-featured integrated library system, with elements intended to engage the public, will encourage the public to access and utilize the library's site to meet their needs.



IT-000028 Geo Spatial Initiatives

Project Description

GIS is a strategic foundational technology, integrated with numerous County applications and business processes. It is an essential component of County operations and is heavily used by a wide range of County agencies. GIS data and maps are heavily used in tax assessments, emergency response, public safety, planning and response in the Health Department, forest management, stormwater management, and planning and zoning.

GIS is utilized across most County agencies on a daily basis for planning and decision making. The quality of those decisions depends on the data being used. The current initiatives include support for 3 important sets of data: Ortho/aerial imagery; oblique imagery, and planimetric data. Ortho imagery is the foundation for placing most of the data in the GIS and planimetric data, derived from aerial imagery, is used in almost every GIS application in the County. The planimetric data is important to many County operations, the highly detailed contour and surface data is critical for the County's Stormwater Management Program. Oblique imagery is essential for critical 24x7 public safety tactical tasks, review of zoning applications, and provision of 3D data for Virtual Fairfax, a heavily used public web application averaging about 1/2 million sessions a year. Most recently, LIDAR is used more regularly as agencies recognize its value.

Project Goal

The value that GIS brings to County operations depends on the underlying data being as current as necessary for agency operations. This initiative supports acquisition, maintenance, and refresh of key GIS data assets at frequencies necessary for optimal County operations. Currently there are three data sets that must be maintained and goals for each are as follows:

- Oblique Imagery acquisition is to maintain that imagery every 2 years.
- Ortho Imagery is to refresh/acquire every 4 years (can be pushed to every 8 years under certain conditions).
- Planimetric data (derived from the ortho-imagery acquired with the state) is to refresh the County's planimetric data on a predictable schedule. Because of the size of the investment necessary to update/add approximately three million features, an 8 year refresh cycle, that is carried out across 4 years, was determined to be the most efficient and cost effective approach. The highly detailed contour and surface information is particularly important for the County's Stormwater management program.

Progress to Date

The County has been acquiring oblique imagery biennially for 13 years and will be re-flown in 2017. The imagery is used directly by Department of Tax Administration and many other agencies in the heavily used Geographic Exploration & (GEMS) application. Oblique imagery is also the source of the 3-D buildings that are used in the publicly available Virtual Fairfax application. The aerial and ortho imagery that is jointly acquired through the state is the essential foundation of the planimetric data update. It is also the

most locationally accurate base for placement of other County map-based data. This planimetric update is dependent on the availability of current aerial imagery from the state of Virginia in order to acquire the latest changes on the ground.

Project Budget

Funding of $130,740 is provided support the County's Geospatial initiatives in FY 2018.

Return on Investment

Key GIS data sets are used in all County web applications that incorporate maps and in nearly all public safety vehicles through maps included in the CAD/911 system. The GIS database with new impervious features and contouring, facilitates key land use applications as recommended by the Fairfax County's Environmental Quality Advisory Council (EQAC). GIS data also provides County agencies readily accessible data for locations across the County and the ability to view field conditions from a desktop reducing the need to travel, resulting in significant staff time savings and improved response. Oblique imagery is essential for multiple County functions including critical 24x7 public safety response and tactical tasks, review of zoning applications, and provision of 3D data for Virtual Fairfax, a heavily used public web application. Planimetric data is planar data (2D) derived from observable natural and manmade features visible on aerial imagery, making up many of the key GIS layers used in most maps created in the County.

3.4 Technology Infrastructure

2G70-018-000 Enterprise IT Architecture and Support Project

Project Description

This project supports the strategic infrastructure and expert services required for complex multi-phase enterprise-wide business transformation of IT systems for County general services, enterprise technology, security and infrastructure, and corporate systems including the County's ERP and related business systems.

Project Goals

The main goal is to realize optimal system performance and infrastructure environment efficiencies, and support system enhancement and open-government initiatives. This includes various product platforms, security, middleware, document management, and the web services for seamless performance between Fairfax County Government agencies, and Fairfax County Public Schools environments. Additionally, the project provides for on-going transformation support activities, development of business intelligence and reporting model repositories, system performance, system engineering, security access technology and knowledge transfer. The funding supports projected system integration and configuration services and includes various product platforms, security, portal and web services enabling seamless system integration.

Progress to Date

A modern system landscape and server environment was implemented for development, testing, training, conversion and full production systems needs that support the SAP ERP solution, portals, security and third party bolt-on products for overlapping project phases. On-going infrastructure and specialized expert support services will continue in FY 2018 to support system enhancements and required upgrades, workflow and reporting improvements, transparency, system performance and engineering, security access technologies, and technical system refresh.

Project Budget

FY 2018 funding of $1,696,000 provides continued support for strategic infrastructure and services necessary for continued work on enterprise wide business application and infrastructure processes.

Return on Investment

This initiative continues to support the County's on-going technology modernization program in line with the IT investment priorities that provide for a stable and secure IT architecture while leveraging IT investments. This program allows the system to be available on a 24 x 7 basis instead of business–day only use, which extends the ability of agencies to perform work with an improved window for planning and executing system maintenance activities with fewer resources. On-going support for modernization of County systems empowers both employees and managers to execute processes more efficiently, and support functions that improve overall system performance and availability.

2G70-026-000 Fairfax Radio System Project

Project Description

The County has two 800 MHz radio systems: the Public Safety system on newer technology supporting all the public safety responder agencies, and, the Public Service systems and a legacy 800 MHz radio system serving the general government agencies and Fairfax County Public Schools. The Public Safety Radio system was upgraded in FY 2014 to the new P25 digital/IP technology (this system is supported in the DIT Operating part of the E911 - Fund). The Public Service system is over 13 years old using proprietary technology developed in the 1990's and based on the older circuit-switched analog technology which is lacking in sufficient call processing capacity to meet current end user requirements, and has high maintenance costs. Further, at the end of 2018 the manufacturer (Motorola) has declared it will no longer be supported, thus system must be decommissioned as it can no longer reliable for critical communications. This project is to provide redundancy to improve the reliability and disaster recovery capabilities of Public Safety system, and retire the legacy Public Service system.

The initial plan was to leverage the expanded capabilities and capacity of the Public Safety Radio System P25 digital/IP system, however, after careful analysis and more recent availability of commercially based Push-to-Talk solutions, this project has been modified to replace aging Public Safety Answering Point (PSAP) dispatch center consoles, provide improved back-up and redundancy to the Public Safety radio system, and implement Push-To-Talk for non-public safety radio users. Implementing broadband wireless IP phones with Push - to- Talk for non-public safety users meets a wider set of business requirements for mobile workforce communications. These efforts will significantly reduce the County's recurring radio systems expenses while providing new capabilities for all of the Fairfax County radio users.

Project Goals

This project provides for the necessary upgrade of the Public Safety system for improved redundancy and modernized dispatch center equipment, and leverages commercial wireless IP phones with Push - to - Talk for numerous non-public safety County agencies including Connector, FASTRAN, FMD and DPWES fleets, and Fairfax County Water Authority, and the Fairfax County Public School Transportation Department (school buses) - approximately 3200 users.

Progress to Date

Following discussions with various agencies, the Push -To-Talk radio solution was successfully implemented in numerous County agencies, including: Community Services Board, Department of Vehicle Services, Department of Planning and Zoning, Elections Office, Department of Information Technology, Security Staff in the Department of Facilities Management, Fairfax County Water Authority, FASTRAN (CSB Merrifield Neighborhood Services). Meetings are underway to review, evaluate and document technical and business requirements for additional agencies including the Department of Public Works and Environmental Services, Department of Transportation (CONNECTOR), and Fairfax County Park Authority.

Interoperability links have been established between the commercial Push - to - Talk network and the P25 Public Safety radio network. Dispatch center call processing equipment has been upgraded at Department of Public Safety Communication (DPSC) and the County's backup facility, Towns of Herndon, Vienna and Fairfax City. The upgrade to the Public Safety radio system and disaster recovery began in late FY 2017 with completion scheduled in FY 2018. Fairfax County Public Schools can begin piloting the Push-to-Talk service when the amended code § 46.2-919.1 authorizing the use of wireless telecommunications devices becomes effective, July 1, 2017.

Project Budget

No additional funding is required in FY 2018.

Return on Investment

Broadband Push-to-Talk far exceeds the current Public Service system capacity and provides a future-proof solution by leveraging smartphones and reducing the out-year cost associated with a future "fork-lift" system replacement and associated annual maintenance costs for a separate system. The enhanced Public Safety Radio system will provide continuing dedicated utility and enhanced backup capability for improved reliability for Public Safety agencies and other emergency support functions. Leveraging the use of the new Push-to-Talk functionality on smart-phones provides enhanced mobile workforce capabilities for the County workforce at a lower cost. The two capabilities will be interoperable, allowing communication between public safety and public service users for incident or disaster management.

2G70-036-000 Remote Access Project

Project Description

This project supports enhanced and expanded capability of authorized County users to securely access the County's systems from remote locations for field service activities, telework, Continuity of Operations Plans (COOP), and emergency events such as pandemic outbreaks or natural and weather emergencies.

Project Goals

This project established an enterprise-wide standardized remote access control methodology and architecture that provides a solution for employees and external system users, partners and County customers to authenticate their identity in order to gain access to systems and relevant data to conduct work securely. All user authentication management is based on policy and centrally managed allowing for comprehensive audit and reporting services. This project supports increased security, simplified management, secure access from remote locations, and mobility.

Progress to Date

Through this project, over 4,000+ users can access County systems as authorized, with over 3,000+ able to gain access simultaneously. Project activity is on-going in order to support, enhance and expand enterprise wide remote access, which supports County Telework and Continuity of Operations (COOP) goals.

Project Budget

FY 2018 funding of $100,000 continues support for remote access capabilities.

Return on Investment

This project provides a cost effective approach to enhance the County's infrastructure in order to provide flexibility for a variety of remote access devices that may be used by County staff. The capability encourages more employees to take advantage of telecommuting in line with regional goals supported by the Board of Supervisors and also provides County staff necessary remote access capabilities in case of emergency events such as snow storms, hurricanes or possible pandemic outbreaks.

2G70-052-000 Cyber Security Enhancement Initiative

Project Description

The Department of Information Technology defines and enforces the security standards and policies necessary to protect the County's information assets and technology infrastructure. This project supports ongoing cyber security projects and services to support various initiatives safeguarding the County's IT assets from evolving security threats, cyber security system enhancements, replacements and upgrades, service consultation expenses, and future security product and service acquisitions to assist with ensuring the confidentiality, integrity and availability of County systems and information and support for regulatory compliance requirements.

Project Goals

The goal of the County's IT security program is to ensure confidentiality of information, integrity of data, systems and operations, technical compliance with legal mandates such as HIPAA and PCI, privacy, and availability of information processing resources. The basic elements of identification, authentication, authorization, access control, and monitoring are employed throughout the County's technology enterprise.

Project Budget

FY 2018 funding of $500,000 supports the County's Cyber Security program.

Return on Investment

Cyber security continues to be fundamental component of the County's enterprise architecture and strategy. The security architecture and practices fuse best practice principles with a hardware and software infrastructure supported by policies, plans, and procedures. This multi-layered approach is designed to provide an appropriate level of protection of all County information processing resources, regardless of platform, and includes incorporation of industry best practices for an overall risk reduction. The secure network architecture is a defense-in-depth approach to network security design. The County is dedicated to the protection of its IT assets from evolving cyber security threats and blocking unauthorized access to County data and information.

IT-000005 Government Risk and Compliance (GRC) Auditing Project

Project Description

The Governance, Risk and Compliance (GRC) Auditing Project provides for implementation of the SAP GRC system security user access monitoring and policy compliance solution. GRC automates security monitoring and provides real-time visibility to system access controls for the County's new ERP (FOCUS) system via a dashboard. GRC is used by the County's Department of Finance, FOCUS Business Support Group, Internal Auditor, DIT IT Security Office, and in support of the annual financial audit controls review process.

Project Goals

The goal of this project is to automate security monitoring and provide real time visibility of system access controls for the County's new FOCUS system via a dashboard. The GRC auditing system is an enterprise solution supporting required policy activities of Internal Audit, the Department of Finance, the Information Security Office, and senior management. The County's financial auditors have recommended this tool in connection with the preparation of the County's Comprehensive Annual Financial Report (CAFR).

Progress to Date

Multiple GRC modules are required to fully automate security monitoring and real-time visibility of system access controls for the County's new FOCUS system via a dashboard. To date, GRC Access Risk Analysis (ARA) has been installed in pre-production and production environments, which allows for generating Separation of Duty (SOD) reports on SAP standard and customized transactions/authorization objects. This feature enables the analysis of a new role development and/or any role changes to be reviewed and mitigated before moving beyond the development systems. The SOD reports are reviewed by business owners and remediation/mitigation implemented as required. Currently, 96.5% of the SOD's identified have been mitigated and/or remediated. Additional GRC modules are planned for FY 2018.

Project Budget

No new funding is required in FY 2018.

Return on Investment

The GRC auditing solution will help the County reduce the cost and effort needed to proactively prevent risk events and compliance violations. GRC software provides real-time insight into risk position, and embeds risk and compliance programs into the County's strategy, planning and operational execution. The potential benefits include reduced unauthorized access risk with centralized monitoring and management, improved visibility across risk initiatives, reduced impact and duration of risk events, decreased cost and effort of compliance, risk, and audit programs covering SAP financial, procurement, treasury, human resources and payroll systems.

3.5 Human Services

2G70-008-000 Document Management and Imaging Project – Department of Family Services (DFS)

Project Description

This is a multi-year, multi-phased project that supports the transition within the Department of Family Services (DFS) from manual to automated processes for filing, storage and access to records using document management platform technology. Phases focus on specific divisions of the agency with the goal of providing an agency-wide document management solution built on the County standard platform.

Project Goals

This project provides a reliable and secure system to catalog, archive and retrieve sensitive Family Services documents for case management and to improve response times for client inquiries of case records. In addition, the project allows for the management, retention and destruction of DFS records in accordance with State and Federal mandates, and avoids non-compliance issues associated with the degradation, damage, or loss of paper files.

Progress to Date

Project phases are delivered in modular components aligned with the readiness of the necessary infrastructure. Phase I implementation for the Self Sufficiency Division was complete by the end of fiscal year 2010. Since then the Family Self Sufficiency document management system stores over 70,000 client case files containing over 26 million documents.

In Phase II base document management functionality was implemented for the Children, Youth, and Families (CYF) division in FY 2013, since then 2,000 electronic family and child cases have been created containing over 30,000 documents.

Phase III is in alignment with the Human Services' Five Year Plan and the consolidated Document Management components in the Human Services Integrated IT System. The project will build upon the foundation implemented in Phase II and focus on the transition to the County's new platform for document management. Project work includes end user identified enhancements to improve functionality and incorporation of business and document workflows to ensure consistency of process.

Project Budget

Additional funding is not required in FY 2018.

Return on Investment

This project provides a reliable and secure system to catalog, archive and retrieve sensitive Family Services documents for case management, improved response time for client inquiries, enhanced management and retention and destruction of DFS records in accordance with State and Federal

mandates. The project also prevents non-compliance issues associated with the degradation, damage, or loss of paper files, more effective and efficient use of staff time, and reduced error rates. Additional benefits include improved case and document security, streamlined field work, enhanced opportunities for telework, and reduced space requirements and risks associated with maintaining and routing paper copies of documents.

2G70-009-000 Document Management and Imaging Project – Office for Children (OFC)

Project Description

This multi-phased document management project continues the structured enterprise approach of imaging and workflow capabilities in the Department of Family Services' Office for Children's (OFC). The School-Age Child Care Program provides direct services to over 13,000 children in 138 centers throughout the County. Files are maintained on all staff, children, and centers. The transition to an electronic system will ensure that County residents receive the most efficient, highest quality service and that all legal mandates are satisfied regarding record archival and client privacy.

Project Goals

This project provides for a structured enterprise approach to the development of imaging and workflow capabilities in agencies that have identified an opportunity to provide increased security and integrity of their 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 costs associated with space and shelving for storage of paper requirements.

Progress to Date

In FY 2007, Phase I of the project transitioned Community Education and Provider Services (CEPS), Child Care Assistance and Referral (CCAR) program and the School Age Child Care (SACC) registration files from a paper-based system to electronic document imaging technology (Phase I). Phase 1 is currently in production. Head Start maintains files for over 350 children and families in multiple locations. With this technology, field staff and federal auditors have the ability to review files electronically without traveling to multiple locations.

Phase II of this project will be in alignment with the Human Services 5-Year Technology Plan and the Document Management component in the Human Services Integrated IT System. In FY 2017, the Human Services Information Technology Governance Board approved the Document Management component of the IT Roadmap and made it priority in the first phase of implementation. Department of Family Services/Office for Children was selected to be the pilot. This phase of the project will convert the existing the Office for Children's electronic document management system to the County's new document management platform. It will also include Head Start and School Age Child Care (SACC) paper records, addressing the need to electronically file over 12,000 children's records (emergency contacts and field trip

approvals), and center staff's training records (required by law to be stored at the 139 centers). The transition to an electronic system will ensure that County residents receive the most efficient, highest quality service and that all legal mandates are satisfied regarding record archival and client privacy.

Project Budget

Additional funding is not required in FY 2018.

Return on investment

This project supports reduced paper usage and provides for more efficient and less costly file storage for the agency and County Archives. Imaging and workflow projects increase the security of records, protect sensitive information from unauthorized access, reduce staff time required for retrieval and re-filing of documents, reduce processing time as workflow efforts streamline the reviews required, provide a viable, accurate documents management system for old and one-of-a-kind documents, promote telework, reduce error rates by reducing manual data entry, and decrease the space requirements for maintaining paper copies of documents.

2G70-037-000 Child Care Technology Project – Office for Children (OFC)

Project Description

The Child Care Management System for the Office for Children (OFC) in the Department of Family Services (DFS) determines client eligibility, tracks child enrollments, and processes approximately $1.5 million per month in provider payments for the Child Care Assistance Program and Referral Program. This application processes over 2,500 home child care facility permits for Community Education and Provider Services and connects families with child care providers participating in the Child Care Resource and Referral System. It also tracks current market rates for child care providers and interfaces with the County's financial management system.

Project Goals

This project will develop and implement a new Child Care Management System providing seamless integration of services with the Virginia Department of Social Services' (VDSS) automated child care system and with the Virginia Child Care Resource and Referral Network (VACCRRN). This project will also align reporting strategy with County and state data, reduce redundant data entry, improve operational effectiveness and productivity, enhance web self-service for the child care community, and bring OFC technology in compliance with County standards and requirements.

Progress to Date

An RFP was developed to address a comprehensive set of requirements that satisfied state and local need for a new solution that can also achieve client access and interoperability. The RFP process resulted in an award to a local firm. Phase I, which began in FY 2016 is substantially complete with the system in production providing the Office for Children with:

- Streamlined business process workflows and reports which enable staff, customers, and stakeholders to efficiently manage work and expectations.
- Enhanced interface with some Fairfax County systems and vendor supported systems thus eliminating manual duplicative processes.
- An improved Provider Access module which allows approved family child care programs to conveniently update elements of their business profile on OFC's website; request information about family child care permit requirements and inspections; and manage and view online Reimbursement Submissions.

Additional phases in FY 2018 will develop functionality required to meet federal and state legislative mandates, an archive and purge process, and enhancements to the CCMS system designed to improve OFC's operations and provide improved customer access.

Project Budget

FY 2018 funding is not required.

Return on Investment

Modernization of the child care system will ensure a stable application to support the business functions of the Office for Children. Efficiencies will be gained in seamless integration of processes for VDSS and VACCRRN allowing quicker processing of applications and child care permits. Migrating to a modern platform that incorporates web technology will provide improved accessibility to data and information from remote locations.

2G70-055-000 Volunteer Management System Project

Project Description

This project provides an integral approach for recruiting, scheduling, and managing volunteers on a daily basis as well as producing reports by operational unit. Aggregate reports across County agencies will also enable more accurate tracking and reporting of volunteer contributions to the citizens of Fairfax County. This system will also support integration with legacy volunteer software products used by County agencies and partners (some of which may be converted later).

Project Goals

The primary goal for this project is to better manage over 100 programs spread across multiple facilities within Fairfax County and facilitate enterprise growth of volunteer programs with a single software solution that improves recruitment, management, placement, and scheduling. Another goal is to better track the contributions of volunteer activities and provide a shared point of entry for citizens interested in volunteering with Fairfax County. Project objectives include developing common policies and data elements for the County's volunteer programs and streamlining the process of matching volunteer abilities, interests, and availability with County agency needs.

Progress to Date

Since the launch of the system in January of 2013, 22 agencies including more than 46 programs at over 250 sites around the county have been brought into the system. In addition, the system have been used to support volunteer recruitment for special events activities such as the Fairfax County Department of Transportation (FCDOT) Bike and Pedestrian Count, the 275th Anniversary event and the 50+ Employment Expo. The project is near completion. Work will continue with staff from the Board of Supervisor offices and the Office of the Clerk to the Board to complete requirements and post opportunities for the Boards, Authorities and Commissions into the VMS system. Once completed, it will allow tracking and reporting of the significant contributions of those serving Fairfax County in leadership roles.

Currently a work group of the County's Lines of Business Phase 2 is considering ways to improve efficiency and coordination of county and school volunteer recruitment. Recommendations will be presented to the BOS and School Board in summer 2017 and may include expansion of the VMS system

Project Budget

FY 2018 funding is not included.

Return on Investment

With over 1 million County citizens and with growing County budget constraints, volunteers are an important component in the sustainability of County programs and services. There are now more than 31,500 volunteers registered in the system, representing all supervisor districts, who are ethnically and educationally diverse. In FY 2016, volunteers provided over 1.3 million hours of volunteer service to the county; this effort has a value of $33.8M in services provided and cost avoidance by the County – the equivalent of 1.5 cents in the tax rate.

An Enterprise Volunteer Management System expands the culture of engagement by providing centralized volunteering opportunities and facilitating the tracking and reporting of volunteer activities. This will also result in additional services provided to citizens and increased cost avoidance by the County as the program expands enterprise-wide. Additionally, capturing data about volunteer employers allows agencies to apply for corporate grants that are increasingly influenced by employee volunteer contributions.

IT-000008 Child Welfare Integration Project

Project Description

The Child Welfare Integration System project will provide a single source for case management and alleviate the time social workers spend updating multiple disparate state and local data systems as they work to serve children and families. Considerable time is lost from direct client services as social workers comply with manual processes and update redundant data in silo systems to fulfill both state and local program reporting requirements. The lack of integration between the various systems results in the

inability to demonstrate client specific and program-wide progress and does not support data driven decision making. Child welfare clients often exist in complex and unpredictable situations. As such, social workers need a view of all factors influencing children and families which allows them to assess the challenges and to develop comprehensive plans aimed at successful and sustainable outcomes.

Project Goals

The goal of this project is to develop a single solution for child welfare case management which provides a holistic view of case information, incorporates rules and assessment tools, business workflows, and provides for operational and compliance reports supporting effective service delivery. The Online Automated Services Information System (OASIS) mandated by the Virginia Department of Social Services (VDSS) for case management does not fully support child welfare practices and does not provide the Department of Family Services access to all the information required. Consequently, reporting on customer data is time consuming, requires redundant data entry and data validation with the state systems.

Progress to Date

Project initiation and planning began in FY2016; requirements analysis, design, development, testing, training and implementation phases will continue in FY 2018.

Project Budget

New funding is not required in FY 2018.

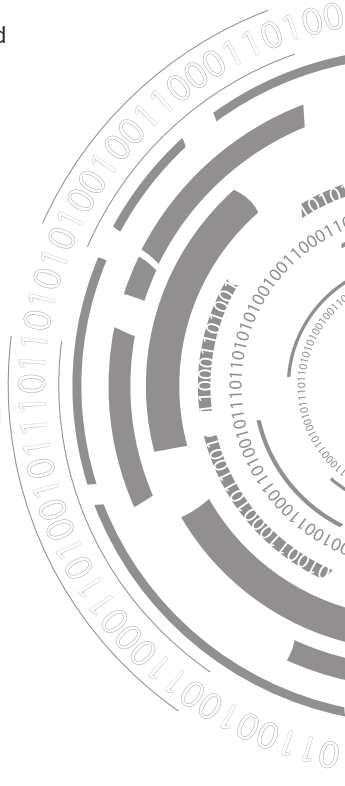
Return of Investment

The Child Welfare Integration System project will eliminate the duplication and redundancy involved with updating multiple stand-alone systems by providing a single secure portal for data recording activities, thus allowing social workers to do their job more effectively. The time savings gained can be applied toward guiding clients towards successful and sustainable outcomes. Savings are also anticipated with relation to measuring and understanding the impact of program efforts on participants through improved reporting capabilities to track efforts, outcomes, and participant progress. This system consolidation effort is expected to reduce the amount of IT support required to maintain the multitude of systems currently in place.

IT-000009 Participant Registration System Project

Project Description

This project will provide the Department of Neighborhood and Community Services (NCS) a consolidated electronic system to register and track participants at community, neighborhood, senior, and teen centers. Currently, participants who visit multiple centers complete a separate paper registration form for each center. Additionally, the NCS centers use different methods to track and count participants, including manual counting of paper sign-in sheets and small ad-hoc databases. As part of the new system, participants will be issued identification cards with identification codes that they will scan upon entrance at any NCS Center.



Participant data will be updated annually or as their information changes. The new system will enable staff to verify program/center eligibility and track participant attendance at both the center and the individual activities offered at the center, provide for better and more accurate data reporting, and enhanced protection of confidential participant data.

Project Goals

The primary goal of this project is to support implementation of one centralized, web based, participant registration and tracking system to be used at all NCS centers.

Progress to Date

NCS has entered into a joint effort with the Fairfax County Park Authority to obtain a solution that will both replace the current Park Authority ParkNet system, and also provide NCS with an electronic Participant Registration System. Phase I which included refining functional requirements, RFP development, solicitation, evaluation, and vendor/solution selection is complete. Phase II work that includes configuration, testing and implementation started in FY 2017 and will continue in FY 2018.

Project Budget

FY 2018 funding is not required.

Return on Investment

The primary focus of this new initiative is improved customer service, significantly enhanced efficiency and accuracy of data reporting, and improved data protection and security. Response from the community indicates tremendous acceptance of an ID card system for entrance into NCS centers. This project will significantly reduce the current burdensome paper registration process and will substantially ease the burden on the participants since each participant has to register only once to be eligible to use any NCS center. The system will also interface with existing financial systems in order to manage program and related fees. NCS will be able to use the data recorded in the system to meet state and local reporting requirements, assist in program development, and enhance results-based strategic planning within the agency. It is anticipated that revenue collection processes will be enhanced through the use of the proposed system.

IT-000020 County-wide Tele-Psychiatry Project

Project Description

The Tele-psychiatry Expansion project supports the Fairfax-Falls Church Community Services Board (CSB) initiative to expand the delivery of specialty and general psychiatry services to Fairfax County areas that do not currently have reasonable access to services. To meet the needs of these residents, CSB's Telepsychiatry project will expand the use of mobile televideo units to eliminate the rigidity of where clients are seen and increase efficiency by using other non-local psychiatrists.

Project Goals

Enhancement of existing CSB Telepsychiatry services, a component of telemedicine services using interactive audio, video, or other electronic media to provide diagnosis, consultation, or treatment. This project focuses on establishing the availability of static and mobile telepresence or teleconferencing systems for providing psychiatric services to underserved population of youth and adult clients and to make services available to additional sites and more clients.

Progress to Date

Major installation and configuration of hardware and successful preliminary testing with INOVA and Dominion Hospitals were completed in FY 2017. Additional Health and Human Services system sites to be rolled out in phases.

Project Budget

FY 2018 funding is not required.

Return on Investment

In addition to improved delivery of mental health services to the entire community, tele-psychiatry also results in reduced travel time for clients and CSB psychiatrists, increases efficiencies in provision of access to specialty psychiatric providers such as child and adolescent and psychiatrists who speak other languages especially Spanish, provides the ability to conduct unscheduled/emergent psychiatric evaluations 24 hours per day, enables delivery of enhanced psychiatric support for community partners, increases psychiatric evaluations from emergency departments in local hospitals, as well as hospital pre screenings, and pre-discharge psychiatric appointments.

IT-000025 Integrated Human Services Technology Project

Project Description

Within the Human Services system, clients, individuals and families are often assessed with multiple needs spanning multiple service programs. A holistic approach to addressing needs along the spectrum of crisis to self-sufficiency to sustainability, as well as strong communication, coordination and collaboration components are key factors in successfully meeting their needs. As the Fairfax County Human Services system moves to an Integrated Business Model, technology will be required to enable and support that vision. The data collected within the human services systems help develop policy which shapes future County action. The strategic use of innovative information technology to support Fairfax County's Human Services Systems will help find the connections in fragmented data and incrementally link pockets of information across and within functional areas for both a mobile and community based workforce, as well as a diverse client base. This project supports the development of a roadmap and implementation plan for integrated human services technology.

Project Goals

This project plans to develop a comprehensive view of clients and their needs; deliver a scalable set of properly coordinated services, improve service quality with accurate and timely data, and deploy and maintain cost-effective IT assets and services. A well-defined technology strategy will lead to solid planning and successful deployment of resources in support for the Integrated HS business model.

Progress to Date

IT Roadmap development including organization and facilitation of Process and Data Optimization and Requirements Teams, extended due diligence, educational showcase demonstrations, and an update to IT Five-Year Plan (post Roadmap completion) was complete in FY 2016. Targeted business process modeling and analysis in support of laying the groundwork for implementation of IT Roadmap initiatives were initiated in FY 2017. Roadmap implementation "ramp-up" which establishes the overall project management structure and support for procurement activities was completed in FY 2017, with phased implementation planned in future years.

Project Budget

FY 2018 funding of $1,000,000 is provided to support of this strategic initiative.

Return on Investment

The strategic use of information technology to support Human Services in Fairfax County will help find the connections in fragmented data across many Human Services systems. It will incrementally link pockets of information across and within functional areas for both a mobile and community based workforce, as well as a diverse client base, and enable analysis of information across programs. Multiple agencies partnering to view clients holistically, tailor services to their specific needs and identify at-risk persons in a timely fashion will enable better client service. Creating an integrated view of client information across human services programs and a central point to access data from relevant human services systems will also remove redundancy in the client experience (e.g., eliminate the need for clients to submit basic eligibility information numerous times). Additionally, common standards will be created across agencies for critical areas such as IT security, data confidentiality, etc. and appropriate mechanisms to deliver information technology and services that support and improve preparedness, coordination, communication, compliance, and response of human service agencies will be designed.

IT-000026 Diversion First Interoperability Project

Project Description

This multi-agency, multi-phase technology project supports the County's Diversion First Initiative, which has an overall goal of diverting people who have a mental illness and who have committed less serious offenses or may have criminal charges to treatment instead of incarceration or justice system involvement. The Diversion First Initiative spans multiple organizational systems including the Police Department, Office

of the Sheriff, Fairfax-Falls Church Community Services Board, the Court system, and many community partners. The Diversion First Interoperability Project supports this strategic County initiative with development of an interoperable data solution that spans these diverse organizational systems in order to determine success, track and monitor individuals, develop aggregated reporting mechanisms, and develop quality improvement approaches to improve outcomes.

Additionally, there are multiple system efforts connected to Diversion First. This includes a Crisis Intervention Team Training for law enforcement personnel and Mental Health First Aid training for first responders, justice system, and community members; the Merrifield Crisis Response Center, where law enforcement can transfer custody of individuals and allow them to be assessed for mental health emergencies and linked to needed services; the establishment of additional mobile crisis units to increase the County's capacity for emergency mental health services in the field; the creation of specialized mental health dockets in Fairfax County courts; the provision of mental health services to people transitioning from incarceration and/or requiring more intensive services in the community; and additional linkages between juvenile diversion services and the adult systems.

Project Goals

Information Technology is vital to support the data collection and return on investment measures across systems and within each component of the Diversion First Initiative. The project will identify associated internal and external systems of partner organizations and interventions as well as data elements and intervention measures across varied law enforcement, justice, and mental health systems to support the data collection, data sharing, and outcome evaluation of these diverse initiatives necessary to determine overall success and assist with decision-making and assessing outcomes.

Creating interoperable data capacity is vital to measuring outcomes and assuring quality improvement as additional diversion components are implemented. The Department of Information Technology will work collaboratively with all members of the Diversion First team focused on evaluation to assure that data requirements are identified and met.

Progress to Date

Logical model framework and process flows determined the need for an interoperable data system. An evaluation work group for the Diversion First Initiative was established to determine measures, data sources, and reporting needs. Data and reporting requirements will be shared with the Department of Information Technology upon completion of the data and evaluation pilot program during FY 2018. Future phased implementation plans will be developed in FY 2018 and beyond.

Project Budget

FY 2018 funding is not required.

Return on Investment

This technology project supports the goals of the County-wide Division First Initiative and will enhance effective use of County programs and resources by providing more real-time information about individuals for ascertainment in the diversion process. Replacing manual inquiries about past involvement in a mental health or related systems and implementing interconnectivity between disparate systems improves access to pertinent information, streamlines processes, and will result in more informed and timely decision making. Diverting individuals with mental illness away from jails towards more appropriate community based mental health treatment is an effective strategy, based on national models, to provide necessary mental health care, enhance public safety by making jail space available to more violent offenders, provide the criminal justice system with alternatives to incarceration, and reduce the cost and associated risks to the individual offender and the public.

IT-000027 Human Services Integrated Electronic Health Record System Project

Project Description

This project will deliver person-centered health care services and improve the health status of County residents. The County's Human Services agencies that provide essential health care services to residents - the Health Department (HD), the Department of Family Services (DFS) and the Community Services Board (CSB) – will pursue a common information technology solution that supports the development and management of individualized care plans. The system will also deliver functionality for inter-agency collaboration and interactions with other providers including but not limited to the County's Community Health Care Network and private providers in the community, authorization and coordination of health care services, documentation of health care encounters, practice management including event scheduling, workflow management and workload management, and revenue cycle management including registration, payer information, invoicing/billing based on encounter documentation and resource use, and functionality for financial and cost accounting.

Project Goals

Using the framework supplied through the Fairfax County Human Services IT Roadmap, the goals of this project are to elicit joint requirements for a common or interoperable solution, develop the optimal approach for acquiring and deploying the desired functionality and implement a solution that will support care coordination across Fairfax County Human Services System.

Progress to Date

This initiative is expected to commence with the completion of the final Human Service IT Roadmap, to ensure the planning and implementation fit within the larger human services technology landscape. The planning process, including requirements gathering, was well underway in FY 2017. It is expected that a phased implementation effort will be initiated in FY 2018.

Project Budget

FY 2018 funding of $600,000 is included to support this multi-phased strategic initiative.

Return on Investment

While each agency provides distinct health care services and has unique documentation needs, there is significant value associated with leveraging a common information technology solution that has the requisite configuration flexibility and enables these agencies and other health care providers, including but not limited to the County's Community Health Care Network (CHCN) and private providers – to collaborate in the management of health care services they provide to the same residents and to more effectively coordinate those services. The implementation of this initiative will avoid the fully loaded cost of individual, independent systems within multiple Human Service agencies; increase data sharing capabilities among Human Services, Public Safety, and other key partnering agencies to view clients holistically, tailor services to their specific needs and identify at-risk persons in a timely fashion; create an integrated view of client information across human services programs and a central point to access data from relevant human services systems; remove waste and redundancy in the client experience (e.g., eliminate the need for clients to submit basic eligibility information numerous times); improve planning capabilities within Human Services agencies and across the system; increase visibility into, and accountability for, client outcomes, cost of service and other key program performance and success indicators; implement common approaches and standards across agencies for critical areas such as IT security and data confidentiality in keeping with Federal, State and County laws and regulations as well as with Integrative Model goals; and bridge service "silos" while increasing administrative flexibility.

3.6 Planning and Development

2G70-040-000 Facility Maintenance Management System Project

Project Description

This project provided for the initial acquisition and implementation of an Integrated Facilities and Grounds Management System which serves as a single, integrated facilities information resource for the Facilities Management Department (FMD) and the Fairfax County Park Authority (FCPA). FMD and FCPA hold the greatest portion of responsibility for the maintenance of the County's largest and most valuable physical assets: its properties, facilities, and the subsystems that keep them operational. The maintenance aspect must be fully integrated with the management of those assets by encompassing functional components and activities that support Lease Management, Space Management and Scheduling, Inventory Control, Grounds Management, Contracts Managements, Utilities Management, Physical Security, and Emergency Preparedness/Disaster Recovery.

Implementing a web based, "one stop shop" for facilities information, enables internal improvement and efficiencies as well as provides more accurate, completed, and timely information to customer agencies. By consolidating the redundant facilities tables and databases maintained by various branches within FMD as well as by the participating "partner" agencies, the County benefits from more consistent data and improved inter-agency coordination of information. Multiple County agencies currently use functionalities of this system to ensure County facilities, parks, grounds, sidewalks, curbs, trails and parking lots comply with requirements of the American with Disabilities Act (ADA).

Project Goals

The final phase of the project will upgrade the system to the latest software releases and fully leverage the system's functionality to minimize customization, simplify system upgrades, meet the business operational needs of FMD and FCPA, provide improved reporting, and integrate with the County's GIS data and systems, and the County's ERP system (FOCUS) for Human Capital and Financial management. Additionally, project goals include implementation of a mobile version of the application which will provide FMD and FCPA field staff real time remote access to work orders for increased efficiency from anywhere in the County.

Progress to Date

The project will continue work to upgrade the system's software platform and application to the latest version of the software. The upgrade and integration has been divided between:

- FY 2016 - upgrade of the system's Facility Maintenance module and the related features, as well as the integration with the County's ERP Human Capital Management System to populate the Portfolio with the County's employee data, and the implementation of the Facility Projects feature. The Facility Maintenance Module is the most widely used module of the system and has the highest upgrade priority from both stakeholder agencies.
- FY 2017 to FY 2018 – upgrade of the remaining modules and implementation of

the mobile application. Modules include: Facilities Management (Space Planning), Real Estate Management, Capital Project Management and Facility Condition Assessment. Additionally, the integration of the County's financial management system Capital Projects Financial data and the GIS integration will be completed.

Project Budget

FY 2018 funding of $500,000 is provided to complete this project.

Return on Investment

The upgraded Facilities Management system allows County staff to increase the efficiency of the facilities' maintenance service requests by providing a web based customer request and inquiry interface that saves staff time handling customers' status inquiries and work order processing from initiation to close out. Additional modules and features improve maintenance of critical facilities assets and reduce maintenance costs by automating the management of corrective maintenance services and automating preventive and condition-based maintenance processes to improve and extend the life of critical facilities assets. The system enables County staff to conduct condition-based facility assessments which helps in the prioritization of capital improvements, provides financial and environmental impact analysis to improve capital planning, and can extend the life of County facilities and assets. Other features include space measurement and audit tools that identify opportunities for better facility utilization and occupancy management; move planning and management to streamline relocation processes, and project administration features that track budgets, costs and schedules for more efficient facilities management. The systems' reporting module will provide staff with real time access report generation and improved Ad Hoc report writing versus current off-line and labor intensive methods. The on-line reporting will allow front line supervisors to easily review and analyze data.

IT-000010 Electronic Plan Submission and Review Project - Land Development Services (LDS)

Project Description

The Land Use Information Advisory Council appointed by the Board of Supervisors (BOS) issued several guiding principles that included more robust use of technology to facilitate the electronic submission and review of land use applications. The Department of Land Use Development Services plans implementation of electronic plan submission and review to enable architects, engineers and construction professionals to submit changes online by marking up or editing drawings 24 hours a day, 7 days a week, from anywhere in the world. The electronic process enables constant communication where clients are able to collaborate with one another for real time editing. The requirement for printing and transporting paper plans will be eliminated, enabling users to submit plans and track review progress in an inexpensive and efficient manner.

Project Goals

The goal is to leverage the pilot ePlans program conducted in the Department of Land Use Development Services and the Department of Planning and Zoning (DPZ) and expand the capabilities currently being developed to review building and site plans electronically. The ePlans initiatives will yield numerous benefits, including enhanced customer service, reduced carbon footprint, cost savings, cost avoidance, and meet recommendations of Board-appointed committees.

Progress to Date

The LDS ePlans pilot project includes the implementation of two major plan types to evaluate the software and hardware tools for usability in Fairfax County and the subsequent implementation of several additional plan types for use by industry until the PLUS system is implemented. The implementation team completed internal tests of multiple site plans and building plans including the electronic review of the County's Public Safety Headquarters building in CY 2015. The Site Plan ePlans module was moved into production in October of 2016 and is being used with several selected industry partners. The ePlans team also implemented ePlans for the New Commercial Building plan review process on a limited basis in March of 2017. The project has included partner review agencies including the Fire and Rescue Department, the Department of Planning and Zoning, the Health Department, the Engineering and Surveyors Institute (ESI), the Virginia Department of Transportation, and other agencies within the County (Urban Forestry, Capital Facilities, etc.).

Progress to date has substantially satisfied the original goals of the pilot project regarding usability of the system in Fairfax County. The remaining project goals include continued roll-out of the ePlans submission capabilities to additional selected partners followed by the industry at large. In addition to continued use of ePlans in production for both Site Plans and New Commercial Building Plans, the ePlans team is working towards an FY 2018 implementation of Commercial Interior Alterations, Minor Site Plans (MSP), and Major Site Plan Revisions (SPV). The Project will continue to work closely with the PLUS System project team to ensure the new system provides compatible and/or comparable electronic plan review capabilities. Additional phases will be evaluated and added as the project progresses to FY 2020.

Project Budget

FY 2018 funding is not required.

Return on Investment

This project will provide a streamlined and more collaborative plan review process, which advances Goal 3 of the County's Strategic Plan to Facilitate the Economic Success of Fairfax County: Improve the Speed, Consistency, and Predictability of the Development Review Process. In addition to streamlined review and plan submission processes, this project provides significant environmental benefits and financial savings stemming from reduced paper costs and reduced fuel consumption. Once implemented, this project will eliminate/significantly reduce the need to print large paper plans (each over 50 lbs.) and deliver them

numerous times for County review. Customer savings and improved customer service combined with a streamlined and more collaborative plan review process advance the County's goal of supporting and enabling further development and redevelopment throughout the County.

Additionally much of the current cost of physical storage (DPWES spends in excess of $59,000 annually to digitize site plans for historical retention) will be eliminated when the electronic plan submission and review project is fully implemented. Other benefits include simplification of the plan submission and review process, staff efficiency, improved record keeping, streamlined review processes, improved accuracy of data transmitted due to a reduction in the number of times plan data needs to be copied and recopied, industry "goodwill" gained by satisfying a long-standing industry demand, and reduction of costs to retrieve historical plan records with a significant reduction of risk that the documents being sought have been inadvertently lost or destroyed.

IT-000011 ePlans Project – Department of Planning and Zoning (DPZ)

Project Description

The Land Use Information Advisory Council appointed by the Board of Supervisors (BOS) issued several guiding principles that included more robust use of technology to facilitate the electronic submission and review of land use applications. Since that time, the Department of Planning and Zoning (DPZ) has made the initial investment to develop and implement a pilot ePlan system for the zoning application process. This project supports the complete review process from distribution of the case material to the various County agency reviewers through action by the BOS to include archiving the final case materials, thereby developing a fully automated review process.

Project Goals

This project's goal is complete automation of the review process for rezoning applications. The ePlan system application has the ability to be customized with all zoning application types reviewed by the Zoning Evaluation Division, including Special Exceptions, Special Permits, and Proffer Interpretations and pre-applications submissions. Further, it is anticipated that the ePlan system can be customized for use by other Divisions within DPZ.

Progress to Date

This multi-phase project builds directly on the prior DPZ investment in CY 2014 for an e-Plan pilot project. Following successful completion of the pilot, this initiative will continue adding various plan types, other customers, and reviewers until fully deployed.

The Project will work closely with the Planning and Land Use System (PLUS) Project team to evaluate integrated systems that provide an electronic plan review capability. Additional phases will be evaluated and added as the project progresses until fully deployed in FY 2020.

Project Budget

This project does not require FY 2018 funding.

Return on Investment

The incorporation of the ePlan system for application submission and review will enable staff to process applications in a more efficient manner by significantly reducing the administrative aspects of manually entering application information into existing databases and tracking, copying and distributing the wide variety and growing volume of case materials. Staff resources will have the ability to place more emphasis on the technical review of proposals and assist in addressing efficiency issues related to the increased complexity of rezoning applications. The automation of the land use process, analysis, collaboration, distribution and parallel processing of agency comments and markups will yield considerable reduction in applicant costs and improved staff efficiency. A number of other jurisdictions surrounding Fairfax have implemented aspects of the ePlan system, including Montgomery County and the District of Columbia. Full implementation of this effort will place the County in a position of greater economic development appeal.

IT-000012 ParkNet Replacement Project

Project Description

This project supports the Park Authority's initiative to replace the legacy ParkNet system with a commercial, off-the-shelf (COTS) application to meet Park Authority and County requirements. ParkNet, the Fairfax County Park Authority's key management and information business application was implemented in the early 1990's and facilitates all point-of-sale activities, internet class registrations, program and camp registrations, pass holder and class attendee check-in, and maintains critical user information. ParkNet is now technologically outdated and without adequate support from the vendor.

The Park Authority operates nine recreation centers (RECenters) with indoor swimming pools and a variety of fitness/classroom/gymnasium spaces; three lake front parks; 68 picnic facilities, several historic sites that can be reserved; two campgrounds; five nature centers, and several other unique facilities that apply user fees and charges such as general admissions, passes, retail sales, equipment and facility rentals, classes and events. In addition to these sites, recreation programs are also held at non-FCPA locations throughout the County including public schools and private vendor sites.

Project Goals

The project will replace ParkNet, the key management and information system for the Parks. The system no longer meets the present business requirements of the Park Authority, is technologically out-of-date, and out of compliance with current County IT standards (it was implemented before most County standards for applications of its size were established).

Progress to Date

An agency task force documented and compiled requirements for the system. The Park Authority then partnered with Neighborhood and Community Services (NCS) to develop a Request for Proposal (RFP) for the Recreation Management System that addresses the requirements of both agencies. The RFP was issued, responses were received and evaluated with vendor selection and contract award complete. Implementation began in FY 2017 and will continue in FY 2018.

Project Budget

FY 2018 funding is not required.

Return on Investment

The ParkNet application has become an essential component of providing the County's citizens with the parks and recreation services they expect. With expanded system capability there are opportunities for improved customer satisfaction resulting in enhanced revenue through new application features the agency intends to implement, such as Electronic Fund Transfer payments for pass sales and online facility reservations. Investments in automating Park applications have resulted in increased revenue collections. Revenue collected and recognized through ParkNet totaled $47,298,219 in FY 2013; an increase of more than 200% since ParkNet was implemented in 1995.

IT-000019 Planning and Land Use System (PLUS Project)

(Fairfax Inspections Database On-line (FIDO) - Land Development Service (LDS) System Replacement Project)

Project Description

This multi-phase initiative will replace and consolidate numerous legacy land use systems supporting zoning and development plan review, building permit/license issuance, code enforcement, inspection, and cashiering activities. The disparate legacy systems are heavily customized, unable to meet County business processes, customer service goals, deliver an integrated technology platform for seamless customer and staff interaction, and support land use and development operations. Land Use systems targeted for replacement include the 20 year-old Land Development System (LDS), Plans and Waiver System (PAWS), Zoning Application System (ZAPS), the 13 year-old Fairfax Inspections Database Online system (FIDO), and several complementary systems that provide e-services, and mobile wireless support for citizens and inspectors. These systems lack the native agility of modern technologies that provide a flexible enterprise platform for evolving business process and architecture requirements; they rely on outdated business processes, lack optimal security capacities, and have compatibility issues with emerging desktop, tablet and mobile wireless technologies.

Project Goals

The goal of this project is to modernize the technologies supporting land use and development processes, which is in direct support of the County's Strategic Plan to Facilitate the Economic Success of Fairfax County, specifically Goal 3: Improve the Speed, Consistency, and Predictability of the Development Review Process. The PLUS project also aligns with other strategic initiatives including Fairfax First (an initiative to improve the speed, consistency, and predictability of County development review processes), zMod (an a plan to modernize the County's Zoning Ordinances), Chairman's Community Council of Land Use Engagement, and Phase 2 of the County's Lines of Business: requiring the delivery of modern, private-sector experiences, digitization, and multi-system integration opportunities.

This project will replace numerous legacy land use systems with a consolidated, modern enterprise solution that supports the County's zoning and development plan review, building permit/license issuance, code enforcement, inspection, cashiering activities, proffer management, and other related processes. Current systems are 13 to 20 years old; incorporating business requirements necessitated by newly mandated activities has become a challenging and time-consuming process that threatens system stability. In addition, the use of modern technologies, such as tablets, smartphones, web services, dashboards, and a single customer portal, is limited due to the age of the current technical architecture. Replacing the legacy systems will greatly reduce threats to system stability and will enable the use of technologies that will improve customer service and operational efficiency.

Progress to Date

The project has established governance structure, project plans, developed statement of work, and contracted for consultant support to develop a high-level service delivery model, business requirements, and procurement support.

In addition to replacing LDS and FIDO, the new system will also replace over a dozen complementary systems that have been developed over the years to meet new business requirements. Initial review of the modernized platforms offered by software vendors have shown very robust and feature-rich product offerings that will help the County achieve the recommended improvements in the Strategic Assessment.

Pre-planning and assessment of the current state started in FY 2016, progress highlights and plans include:

- Refinement of functional and technical requirements for 13 business areas teams in multiple stakeholder agencies (Land Development, Planning and Zoning, Health Department, Fire and Rescue, Department of Code Compliance, Department of Information Technology, and several other reviewing agencies including Public Works, Transportation, Parks, Fairfax County Schools, Fairfax Water, and Virginia Department of Transpiration.)
- Selection of a replacement system is targeted for FY 2018
- An iterative configuration approach is planned, with project completion anticipated in FY 2021

Project Budget

In lieu of FY 2018 funding, it is anticipated that FY 2017 Carryover of $1,400,000 will continue support for this strategic County initiative.

Return on Investment

In addition to providing a single enterprise platform that will enhance land use service delivery activities while eliminating risks associated with legacy system failure and recovery efforts, the PLUS project will deliver a customer service portal for constituents and industry partners with more real time status and transparency about permit applications and land use transactions. Other significant benefits to citizens and staff include GIS integration, modernized mobility platforms for customers and staff, integration with e-Plans, decreased processing cycles, opportunities for business transformation, a scalable and flexible configuration to support evolving business needs, future improvements, and delivery of improved metrics and reporting capabilities.

Capital Project Management Information System (CPMIS)

Project Description

This project will provide the Department of Public Works and Environmental Services (DPWES) and Department of Transportation (FCDOT) with a single capital project management information system (CPMIS) to manage, track and report capital project management information. The new technology solution will allow DPWES and FCDOT to move beyond project "tracking" to a cradle-to-grave system that allows management of the entire capital project lifecycle. In addition, the system will be relevant to what the construction and architect/engineering industry uses. Other County departments involved in construction project management may leverage the results of this project to achieve similar functionality in future efforts.

Specific components for the County solution will include:

- Project Planning
- Project/program scheduling, coordinating and tracking
- Contract management
- Document management
- Financial management
- Communication
- Reporting

Project Goals

The project will improve the efficiency of capital project management, increase transparency into the project portfolio and individual project status, and consolidate financial and status reporting across all DPWES and FCDOT capital projects.

Progress to Date

A Request for Proposal (RFP) was issued for a Capital Project Management Information System (CPMIS) and associated implementation services. The RFP addresses the unique project management, contract management, financial management, document management, reporting, and technical needs of capital project management. The Selection Advisory Committee, made up of key stakeholders from the Department of Public Works and Environmental Services (DPWES) and the Fairfax County Department of Transportation (FCDOT) as well as the Department of Information Technology, have begun the vendor selection process.

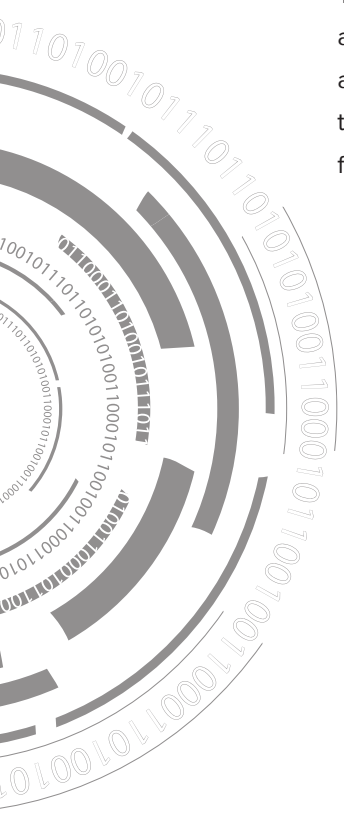
In preparation for system implementation, the processes of managing major capital project types within DPWES and FCDOT were documented. Process mapping for wastewater, stormwater, building and transportation project life cycles was completed. A series of iterative interviews and workshops was held to elicit and document the business processes, including any minor improvements, so that the CPMIS Coordinating Team and County leadership can agree upon documented processes in an informed fashion. The project life cycles cover the planning, pre-design, design, construction and post-construction phases of each project type. In addition, the processes for managing developer default and public-private partnerships were documented. Final documentation, which will be provided to the system implementer, includes process tasks, workflows and roles and responsibilities.

Project Budget

The cost of the project will be determined as proposals are received from vendors that meet mandatory, minimum qualifications. Project costs will be charged to capital projects in the Department of Public Works and Environmental Services and Fairfax County Department of Transportation.

Return on Investment

The Capital Project Management System will reduce the amount of time project managers spend on administrative project management tasks, allowing them to manage their project more efficiently. In addition, the system will eliminate the duplication of data entry into multiple systems and spreadsheets, thereby resulting in time savings for project managers, construction managers, budget analysts, and financial managers.



SECTION 4
MANAGEMENT CONTROLS AND PROCESSES

MANAGEMENT CONTROLS AND PROCESSES

FEATURED IN THIS SECTION

SECTION 4 MANAGEMENT CONTROL & PROCESSES

4.1 Information Management Framework

Background

In FY 1994 the Fairfax County Board of Supervisors created a citizen Information Technology Advisory Group (ITAG) to study the use and management of Information Technology (IT) by the County government. The ITAG was composed of eight private sector executives from Fairfax County based companies. Two committees supported the ITAG, one made up of staff from their own corporate organizations and the other comprised of County staff. The work of the ITAG resulted in the creation of the Department of Information Technology (DIT).

Several independent County organizations already involved with application programming, systems infrastructure, data center operations, telecommunications, mapping and technical training were merged to the new IT Department. Centralized resources for system security, architecture and standards, e-government, technology planning and administration were added resulting in a full function centralized County government IT organization. ITAG also recognized that larger County departments would still need to retain some IT staff in addition to utilizing central DIT resources, and that agency business specific projects such as technology based industrial systems or small scale point solutions would be better handled by the agency rather than the central IT agency. DIT assists these agencies with consultation, mentoring, technical project support, infrastructure provisioning, security, licensing, and policy and standards compliance. All departments must adhere to County IT standards, planning and budgeting and continue to follow the direction set by the County to ensure consistency, cost efficiencies and aggregate technology investment value.

ITAG made further recommendations for IT governance and funding, including:

- The County create a Chief Information Officer (CIO) position to oversee DIT and technology County wide.
- The CIO should report directly to the County Executive as a Deputy County Executive level position.
- IT be treated as an investment and given consistent funding annually.
- The CIO be responsible for IT planning County wide and the expenditure of major IT project funds.
- The County create a funding mechanism to ensure IT employees are trained properly and their skills are kept up to date.
- An annual IT plan is written to detail IT direction, projects and project portfolio budgets.

At the time of ITAG recommendation for establishment of a technology modernization fund, it also recommended that the County provide funding of approximately $20 million per year for investment in technology in order to sustain the Board of Supervisor's goal for service efficiencies and effectiveness at optimal cost. This fund provides money for new technology solutions and services required successful

project delivery. The modernization fund represents the County's enterprise wide and key departmental projects, which are closely tied to business process improvement and strategic goals.

Based on the initial ITAG recommendations, the following have been implemented in on-going development and improvements in the County's IT organization, governance, and support structure:

- Centralization of the major IT functions for the County (FY 1995)
- Creation of a CIO function (FY 1995)
- Standardization of technology investments across the County (FY 1995)
- Annual technology project review incorporated in the County wide budget process (FY 1995)
- Creation of a technology modernization fund (FY 1996)
- Established funding for technology training (FY 1996)
- Project steering committees, formal project reporting and governance framework established. (FY 1996)
- Creation of a permanent private sector advisory group: Information Technology Policy Advisory Committee (ITPAC) (FY 1998)
- Established Senior Executive IT Steering Committee(FY 1999)
- Launch of an internal project management certification program (FY 1999)
- Established enterprise technology architecture committee (FY 2001)
- Creation of an IT Investment Portfolio Management position in DIT (FY 2002)
- Established an enterprise technology architecture function in DIT (FY 2002)
- Development of strategic planning alignment process (FY 2003)
- Reorganization of IT Security leadership and development of independent IT Security Office in DIT (FY 2003/2004)
- Merger of information architecture, web services and document management functions (FY 2004)
- Establishment of Architectural Review Board in DIT (FY 2005)
- Reorganization to establish resource capability for regional Homeland Security interoperability requirements (FY 2005)
- Creation of a position dedicated to integrated Public Safety and Emergency Management strategy (FY 2005)
- Designated Director of DIT as Chief Technology Officer (FY 2006)
- Established e-Gov Executive Committee (FY 2007)
- Established Services-Oriented Architecture Team (FY 2007)
- Adopted ITIL Framework for Service Support (FY 2007)
- Established Deputy Director to enhance executive capacity on IT service delivery and operational efficiency, and manage emergency support initiatives (FY 2007)
- Established Court Technology Office and Governance (Courtroom Technology Governance Board (FY 2007)
- Established Leadership for National Capital Region Interoperability Initiative (FY 2007)
- Established Public Safety IT Governance Board, and Public Safety IT Architect (2008)

- Enhanced Change Management and Configuration Management processes (FY 2008)
- Updated Systems Development Life Cycle Standards (SDLCS) (FY 2008)
- Established FOCUS Project (County and Schools) Steering Committee (FY 2008)
- Developed Technology Strategy Map (FY 2009)
- Established 'One Web Team'; integration of e-Gov staff with Office of Public Affairs web-content and communications integration functions in adopting new WEB capabilities and Social Media
- Study of IT positions and resources County-wide (2011)
- Established best practices SAP Technical Competency Center in DIT to support FOCUS (2012)
- Established DIT Mobility Center (2012)
- Enhanced IT Portfolio Management function to an Enterprise Program Management Office (2013)
- Enhanced and Modernized IT DR and COOP (2013)
- Establishment of Human Services IT Governance Board (HSITGB) (2014)
- Archives Governance moved to DIT (2016)
- Planning and Land Use System Modernization (PLUS Project) (2016)

Executive Governance

The overall governance structure is described in Section 1 of this Plan. A Deputy County Executive (DCE) is responsible for the overall strategic direction of technology and information initiatives. The Board of Supervisors expanded the role of the DCE since the position was created as CIO in FY 1995. Today, the DCE is responsible for a broad range of information and administrative related departments and initiatives; of these the County Libraries, Department of Cable and Consumer Services and the Office of Public Affairs partner with the Department of Information Technology on public access technology capabilities and the e-government program; HIPAA Compliance, the Environmental Coordinating Committee includes Green IT opportunities and results, and the County-wide COOP Coordinator, as well of several Internal Services agencies.

The Director of the Department of Technology is also the County's Chief Technology Officer (CTO). The CTO develops strategy, policy and processes for technology County-wide. The CTO creates the agenda for IT and communications technologies, and directs the activities in the Department of Information Technology.

The Senior IT Steering Committee is the County's executive technology oversight body, providing policy, asset and resource authorization and guidance for the County's IT program. This group includes the County Executive, Deputy County Executives, Director of the Department of Information Technology/ CTO, and Chief Financial Officer. The committee receives additional input on a variety of issues from the County's Senior Management Team made up of all agency heads. The committee meets routinely to look at specific IT initiatives, opportunities and issues, sets the County's IT strategy based on the Board

of Supervisor' direction, and approves the annual IT investment plan which is delivered by the CTO to the ITPAC for its endorsement. The ITPAC (described in Section 1) is a group of technology savvy citizen leaders appointed by the Board of Supervisors to advise the DCE and CTO on strategy, the industry, and best practices. The annual ITPAC agendas provide information about both existing portfolio initiatives as well as planned initiative and opportunities, most of which require IT investment support in either upcoming or future budget planning cycles. ITPAC writes an annual letter to the Board of Supervisors with its recommendations and advice on technology priorities as part of the annual County budget process. Members also advise their respective Board members on IT matters.

The e-Government Steering Committee provides guidance and direction for new capabilities provided via the Web and other public access channels. The DCE is the chair of the committee, which includes the CTO, E-Government Manger, Directors of the Department of Cable Services, Libraries, and the Office of Public Affairs, and is also supported by the County's IT Security Director and the County Attorney. The committee considers the impact of emerging trends such as the public's adoption of social networking and other information mechanisms in forming the County's strategy for enablement of and governance over related e-Government initiatives.

Finally, major projects such as the Planning and Land Use System Project (PLUS), Public Safety Information Systems project, Courtroom Technology, and FOCUS project, and Humans Services Integrated Services Initiative have governance committees, typically chaired by the sponsoring Deputy County Executive with membership including the stakeholder business departments and the CTO or DIT management. These boards/committees oversee, provide guidance and resolve related policy issues to their agencies project manager(s) and teams to ensure scope and delivery.

Project Investment Prioritization and Execution

The Senior IT Steering Committee established funding priorities for technology projects. Based on changes in social and economic paradigms, and state mandates that must be fulfilled, the following priorities are adopted as guidelines for project funding decisions:

- Mandated Requirements
- Leveraging of Prior Investments
- Enhancing County Security
- Improving Service Quality and Efficiency
- Ensuring a Current and Supportable Technology Infrastructure

The process is managed by the IT Project Portfolio Management Office (PMO) in the Department of Information Technology. For each fiscal planning cycle in alignment with annual budget guidelines, initial project proposals are submitted by County departments as part of the annual budget process. A two-phase approach was implemented to assist in the preparation and evaluation of technology project proposals submitted for funding. Proposals must meet the following requirements:

- Submission of viable projects: minimize project requests that may be beneficial to County business conceptually, however lack substantive information in critical project areas such as staffing plans, technical architecture, project deliverables and benefits;
- Proposed project time frames, areas of responsibility and funding accurately reflect County procurement, budget and existing IT project commitments, as well as clearly identify the impact of the project on agency business and technical staff, and agency operations;
- Identify potential savings by using exiting County-owned technologies or by jointly reviewing similar individual project requests to minimize IT software and hardware duplication and leverage existing technology investments;
- Ensure that proposed project schedules are feasible, and/or that ongoing projects are within scope and budget, and are on schedule.

Early in the process, agencies are requested to submit both a business and technical viability analysis for each proposed project. The business analysis, reviewed by staff from the Department of Management and Budget (DMB) and DIT, 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; indicators 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 the County's technical architecture standards, impact on existing systems and infrastructure, data conversion, electronic interface requirements, and staffing requirements for development and maintenance of the solution. DMB and DIT make recommendations for improvement of the proposals. The final proposals are presented in an oral interview setting conducted by DIT and DMB senior management, who make funding recommendations for consideration by the Senior IT Steering Committee. This process is guided by the five information technology priorities established by the Senior IT Steering Committee. The Senior IT Steering Committee reviews the recommendation for inclusion in the County Executive's annual proposed budget. ITPAC provides the County Executive input and recommendations on technology issues for consideration as part of the Advertised Budget input process; the committee also composes an advisory letter to the Board of Supervisors supportive of the strategy and themes contained in the proposed IT project funding package under consideration for inclusion in the County's Adopted Budget.

Funding in the IT modernization budget represents the strategic and enterprise-wide initiatives for the County. If during the project review process a project is identified that is not strategic, does not have enterprise wide benefits or benefits a major department mission but does benefit a small independent function, funding may be accomplished within in requesting agencies' departmental budgets. Departmental projects must follow the established IT standards, methodology and architecture requirement with DIT providing advisory consultation, infrastructure, resources, and/or standards compliance. All technology solutions are required to be brought before the DIT Architecture Review

Board for solution technical review. Formal architecture standards have been developed that provide further guidance to the project managers. All projects must follow the County's standards and project methodology as defined by the CTO in the County's IT standards.

Once projects are approved for funding, a steering committee is created for each project. This committee can vary in size and membership, based on the dollar value and the strategic importance of the project. A project manager is selected from the department sponsoring the project and a technical project manager is assigned from DIT and /or the user agency's technical group if one exists. Project managers are required to prepare Project and Expenditure plans, hold regular project meetings and report progress and issues. Guidance is provided by the IT PMO in DIT.

The Business Sponsor's Project Manager (PM) is responsible to manage business requirements, project scope, and transition of the business to the new technology capabilities. DIT assigns a Technical Project Manager (TPM) that works with the business sponsor PM responsible to design and approve the technical solution, help develop the schedule, coordinate implementation activities in DIT, and execute the technical solution. The Technical project manager is involved in the solution selection process and (normally) solution provider contract negotiations. The DIT PMO assists with IT contracts development review, and compliance.

DIT may conduct periodic project reviews to track progress and support conformance to standards. DIT has established the Architectural Review Board to assist agencies in determining viability of solution and compatibility with architectural standards and the County's infrastructure as a part of the competition and acquisition process. This includes participation on Selection Advisory and Technical Advisory panels. Major IT projects with increased risk, higher strategic value, or a material degree of external visibility may receive direct oversight in tracking project performance, contract requirements, and technical guidance from the Project Management Office (PMO) function in DIT. As available, the County may offer an IT Project management training program for business practitioner project managers. Knowledge goals focus on project reporting and administration, contract negotiation and management, technical architecture, business process redesign, task planning and other topics.

Summary

Project investment prioritization and execution is based on the following elements that work together to create an enterprise wide process and focus for IT in Fairfax County. The process is inclusive of all agencies and ensures that selected IT solutions align with the enterprise strategic goals:

- Executive management
- Private sector and internal County board of directors roles
- Executive IT Steering Committee
- County-wide planning and review of technology investments
- Focus on standards
- Project Steering Committees

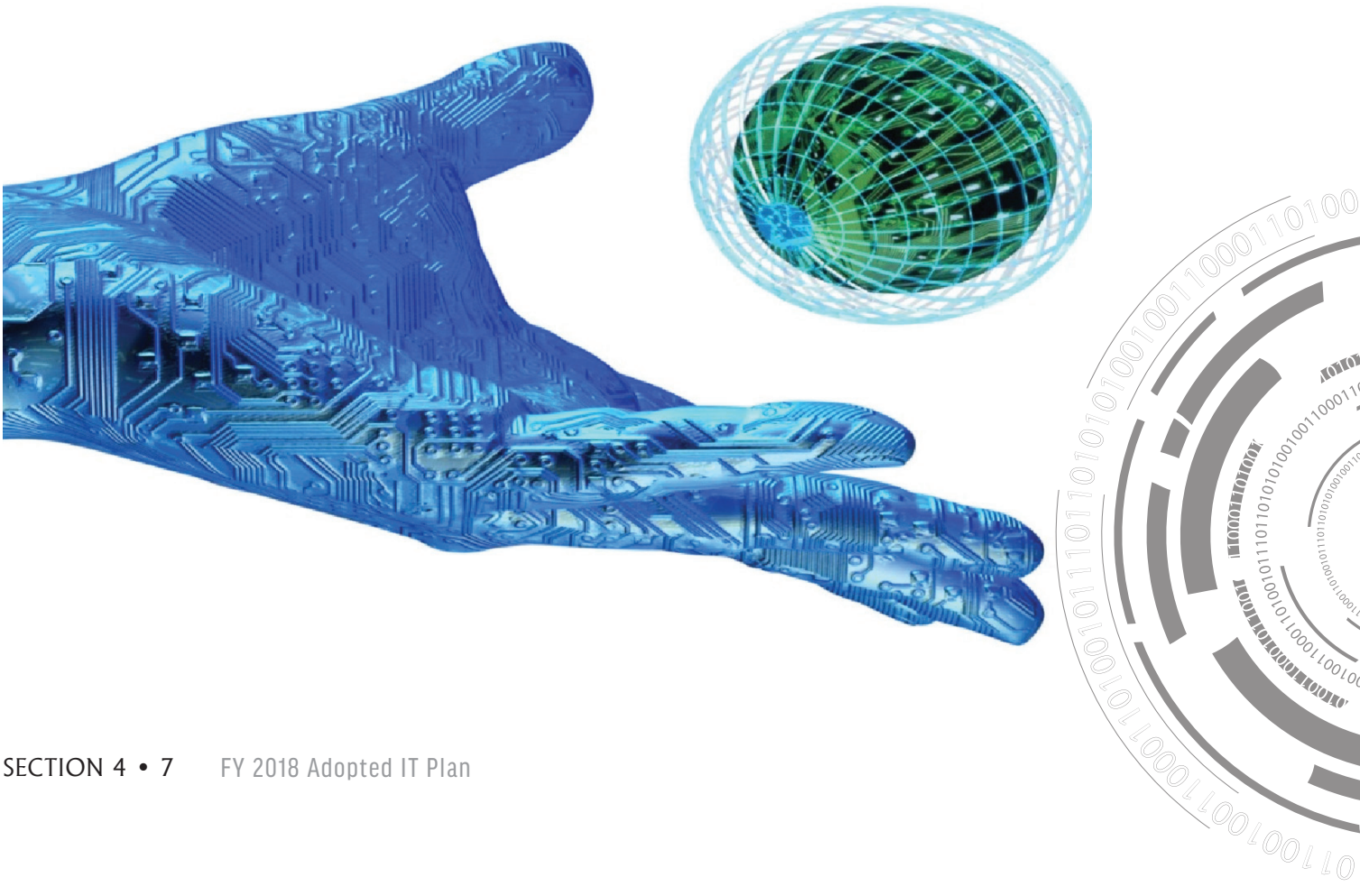
- Collaboration between agencies and DIT
- Leverage investments
- Portfolio management
- Architectural Review Board
- Skilled project management
- Performance management

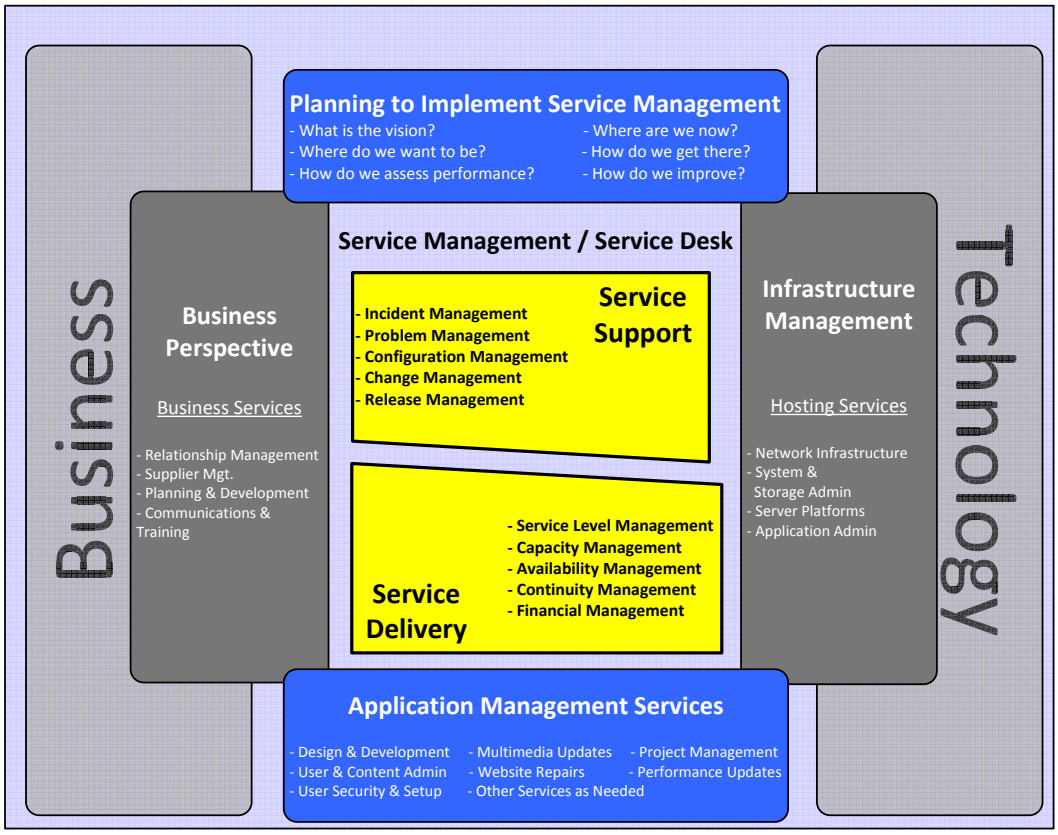
In any organization, a wide range of business processes and practices support all information technology projects directly or indirectly. They are integral to both the development and the delivery of flexible, cost-effective and reliable solutions. The following sections provide a brief description of four of these processes, which have been crucial to the successful implementation of information technology solutions in the County's service environment. These processes are:

Strategic Planning Process

- Information Technology Architectural Planning and Execution
- Information Technology Project Management Program
- System Development Life Cycle Standards (SDLCS)

Each process is briefly discussed in terms of its origins, its larger operational context, the primary functions performed, principal business benefits achieved and future directions.





ITIL and IT Service Management Framework

4.2 Strategic Planning Process

Periodically, DIT assembles a Strategic Planning team of staff across the IT organizational specialties to gather input on value, need, and expectations related to the future provision of information technology solutions and services, and alignment with County-wide business strategy.

This effort complements development of the IT budget, organization evolution to take advantage of technology and societal changes in technology capabilities, the IT Plan and operations of the Department of Information Technology.

The focus of the planning process is to ensure a comprehensive approach to IT across the enterprise, taking into consideration a number of important influences (both internal and external) of relevance to the organization. Influential factors include changing requirements and channels for 'G2G', 'G2B' and 'G2P' interaction, the need for business integration and interoperability for cross-cutting County initiatives, fast adoption of e-government opportunities, industry and economic trends, transparency and similar imperatives, Social Media and industry trends. The strategic thinking and planning process provides a framework to make decisions around alignment of IT resources to meet the needs of County government. The Strategic Plan provides the County forethought for long term technology commitments and allocation

of limited resources to achieve business objectives. This process is necessary to keep and update technology, analyze appropriateness of technology refresh cycles, and the effectiveness and sustainability of technology investments.

Our strategy is based on certain realities: keeping up with the pace of change in technology and using technology effectively to meet government business requirements and public expectations are still the most critical challenges facing information technology providers. Advances in technology enable the workforce to provide better and faster service at a reduced cost, but changes in technology are expensive and complex. New technology must be adopted carefully and integrated wisely into the existing technology infrastructure of an organization in order to maximize the benefits in a cost-effective manner. To give focus and direction to staff within the technology department and to better plan for the future, a vision statement was adopted by DIT that aligns with the County's vision statement:

> *"We are a skilled, forward thinking and responsive organization that builds partnerships in the delivery of a strong and innovative technology environment. We pursue and embrace opportunity to creatively enable and strengthen service delivery through Fairfax County."*

Values were developed along with strategic goals and initiatives. These values, goals and initiatives, are in the Department of Information Technology Strategic Plan, October 2003. They remain valid today.

Seven major trends impact technology solutions and enrich the County's current technology architecture. These trends maximize IT capability for users and stakeholders while presenting some deployment challenges in the face of IT resource limitations:

1. The workplace is more mobile; therefore, job functions can be performed without being tied to a physical location.
2. Communication, collaboration, and information sharing methods are increasingly automated.
3. Information resources must be managed from a full life cycle perspective.
4. Security for information and communications systems and privacy of information are critical priorities.
5. Technical architectures are facing increased capacity and flexibility demands *(includes 'clouds' and new WEB/Social Media capabilities).*
6. Citizens require "around the clock" access to information and services, increased transparency, on-line interaction and enhanced engagement with government, through a variety of convenient delivery channels (*including new WEB/Social Media*).
7. Interoperability requirements drive a need for data standards and open information architecture.

To accomplish DIT's mission and vision, strategic initiatives are categorized within three strategic focus areas to ensure well-defined purpose. The successful adaptation of these strategic initiatives positions DIT to provide an effective technology infrastructure and efficient customer service support. The overall outcome promotes County agencies working together with partners, maximizes County agency resources to provide diverse government services and optimizes accessibility to County constituents and customers.

Internal DIT **Collaborative Initiatives** are focused around governance structure and processes, technology rollout, interoperability framework, technology portfolio management and marketing. **Customers Service Delivery Initiatives** are designed to improve customer service, improve continually the quality, responsiveness and cohesiveness of products and services delivered. The third set of initiatives, **Staff Improvement Initiatives**, revolves around resource allocation of personnel and skills ownership and accountability. Efforts are on-going supporting these initiatives and development of measures that will result in improvements and alignment DIT and County-wide business goals and continuous improvement mode. The process of refreshing the strategic plan, score card, and dashboard is on-going. Key considerations include the strategic direction of the County agencies served, and how agencies' strategies drive core County-wide IT infrastructure and operations plans, the development of IT resources, and with a view toward lowest practicable cost at highest performance reliability in the overall cost of IT delivery.

4.3 Architectural Planning and Execution

DIT is faced with the constant challenge of staying nimble while aligning the County's information technology strategy with the agencies' evolving business requirements. The IT provider imperative is that solutions must be delivered on time and within budget. Rapid changes in business requirements can also overwhelm the capabilities of the IT infrastructure. Disparate decisions and infrastructure investments can easily create an overly complex, ridged and/or fragile computing environment that is intolerant of change. Given the rapid pace of today's business innovation, no agency can afford to be locked into an environment that is inflexible and cannot scale. One of DIT's key goals, well aligned with industry-wide best practices, is to develop operational agility. In that effort, the modern IT function has to lower the cost of future changes while optimizing the total cost of ownership for each solution.

IT Architectural Planning creates an adaptive architecture that "engineers out" inhibitors of change, while "engineering in" a high tolerance for the unanticipated. It also provides for transition to next generation capabilities which may be internal or external sources and capabilities. Specifically, an IT Architectural Plan maximizes the effectiveness of IT, while minimizing the risk associated with IT execution. DIT's architectural planning sets a clear direction for the future development of information technology in Fairfax County. IT Architecture introduces a set of architectural best practices to guide IT in the process of designing a flexible technical infrastructure, which frees the organization to provide an IT environment that meets business requirements.

Execution of the IT Architecture Strategic Plan insures the following benefits:

- Better alignment of IT assets with business goals to create a shared enterprise-wide vision
- Supercharging the infrastructure with leading-edge technologies and 'on-demand' capacity
- Developing a consistent framework for future technology decisions
- Making viable IT investments and optimizing IT funding processes
- Resolving emerging business problems while leveraging the existing technology investments
- Reducing unnecessary database, hardware and application software redundancy, thereby providing the potential to reduce the cost of IT (DIT recognizes that some redundancy is necessary and beneficial to promote availability, reliability, and recovery of systems)
- Promoting data sharing between agencies and across IT platforms; improving interoperability and the potential for agency resource sharing
- Harnessing "Big Data"
- Promoting anywhere/anytime access
- Balanced approach, not trend for trend's sake

The **Architecture Review Board (ARB)** was established In FY 2005 in DIT to provide oversight of all County architecture and infrastructure standards, policies, directions, to address IT architecture issues County wide, to propose IT architectural goals, standards and guidelines for consideration in implementing IT projects and initiatives throughout the County. The responsibilities of the **ARB** include application development architecture, infrastructure and information architectures, security architecture, emerging technology, process and data modeling, integration and interoperability methodologies, technical standards, and System Development Life Cycle Standards (SDLCS) compliance. ARB's role is extremely important and valuable given the need to leverage solution platforms and processes across the enterprise and provide scalability, repeatable processes, and seamless interoperability for achieving cross agency business initiatives and County wide goals.

In addition to assessing conformance of proposed solutions, the committees' review process provides an opportunity to emphasize the need for interoperability of systems and processes that cross agency or functional lines.

The ARB also works with County departments to ensure participation and inclusion in decisions that affect the annual IT planning process. Responsibilities of the Committee include:

- Provide information technology architectural leadership to Fairfax County Government in supporting the on-going development of a strong, flexible, interoperable and secure technology environment.
- Ensure an integrated view between the County's architectural direction and technology initiatives and implementation plans.
- Work closely with County agencies business sponsors, Project Managers, and IT groups to identify IT architectural issues related to business needs and IT projects, and propose approaches to address them.
- Propose IT architectural plans and standards to DIT, the DCE and the Senior IT Steering Committee for adoption and County wide implementation.

Agency IT Analysts work directly with DIT divisions on a routine basis in consulting and execution of agency based solutions. DIT has regular monthly meetings with all IT analysts on key subjects contribution to new enterprise-wide solutions and capabilities and strategy such as messaging solutions, MS upgrade paths, DIT-cloud and service catalogue offerings, remote access, bring your own device (BYOD), other infrastructure, and security.

DIT also sponsors several user groups that provide for engagement of agencies in architectural and enterprise wide IT capabilities planning and related issues, awareness, and all-hands efforts. Through a variety of forums, these include:

- ALL IT Analysts forum
- County IT Security Coordinators
- WEB Analysts and Communications
- Agencies GIS Analyst

4.4 System Development Life Cycle Standards (SDLCS)

The County publishes standards for documenting the development and implementation activities for technology applications and systems. The standards include means of conveying information about the planned solutions to allow for development methodology, controls, performance, data integrity, appropriate infrastructure and operational procedures required to place the application into production. The Systems Development Life Cycle Standards (SDLCS) form the basis of making the development of applications a consistent, repeatable process. The SDLCS provides application developers a framework of the important procedures and universal requirements necessary to complete an application. As new technologies emerge and become part of the County's systems portfolio, new application development techniques and application architectures using emerging technologies are assessed. The current SDLC includes new WEB development, wireless application, interoperability, and updated security standards; the process is enhanced for business applications to include reviews for e-government and GIS, and requirements for Continuity of Operations Planning (COOP) plan and related disaster recovery information which is a requirement for deployment of any new system. As an example, web applications must conform to Section 508 and the American Disability Act (ADA) requirements, which enable the use of assistive technology such as screen readers for the blind. The standards are being enhanced to take advantage of collaboration software, WEB 3.0, open source, 'Cloud', data analytics and beyond technologies that will further enhance citizen to government engagement, decision support, and transparency. 'Cloud' based opportunities such as Software as a Service (SaaS) are also reviewed for feasibility given the County's security standard is provided.

The SDLCS and architecture standards apply to all applications developed for use by Fairfax County Government. All staff, contractors, and solution providers providing, developing and maintaining applications for County Government must comply with the Standards, which are published.

4.5 Project/Portfolio Management Office (PMO)

The Department of Information Technology (DIT) is responsible for a portfolio of IT projects supporting the County's investments in major technology projects that improve access to County services, promote government efficiencies, enhanced customer service, performance, and cyber security capabilities. The IT investment portfolio reflects and supports the strategic goals and mandates of the Board of Supervisors and technology priorities established by the County's Senior IT Steering Committee.

DIT PMO manages the IT Investment Portfolio and assists with strategic planning, fiscal management, general oversight, and progress of IT projects in the portfolio. Additionally the PMO provides direction to project managers for compliance with established fiscal, budgetary, and procurement requirements, as well as guidelines for conformity with the County's IT standards and project management requirements.

The DIT PMO also manages the development and publication of the County's IT Plan, is responsible for specialized audits, and assisting project managers resolve contract issues by working with the Department of Procurement and Material Management.

4.6 IT Project Management Training Program

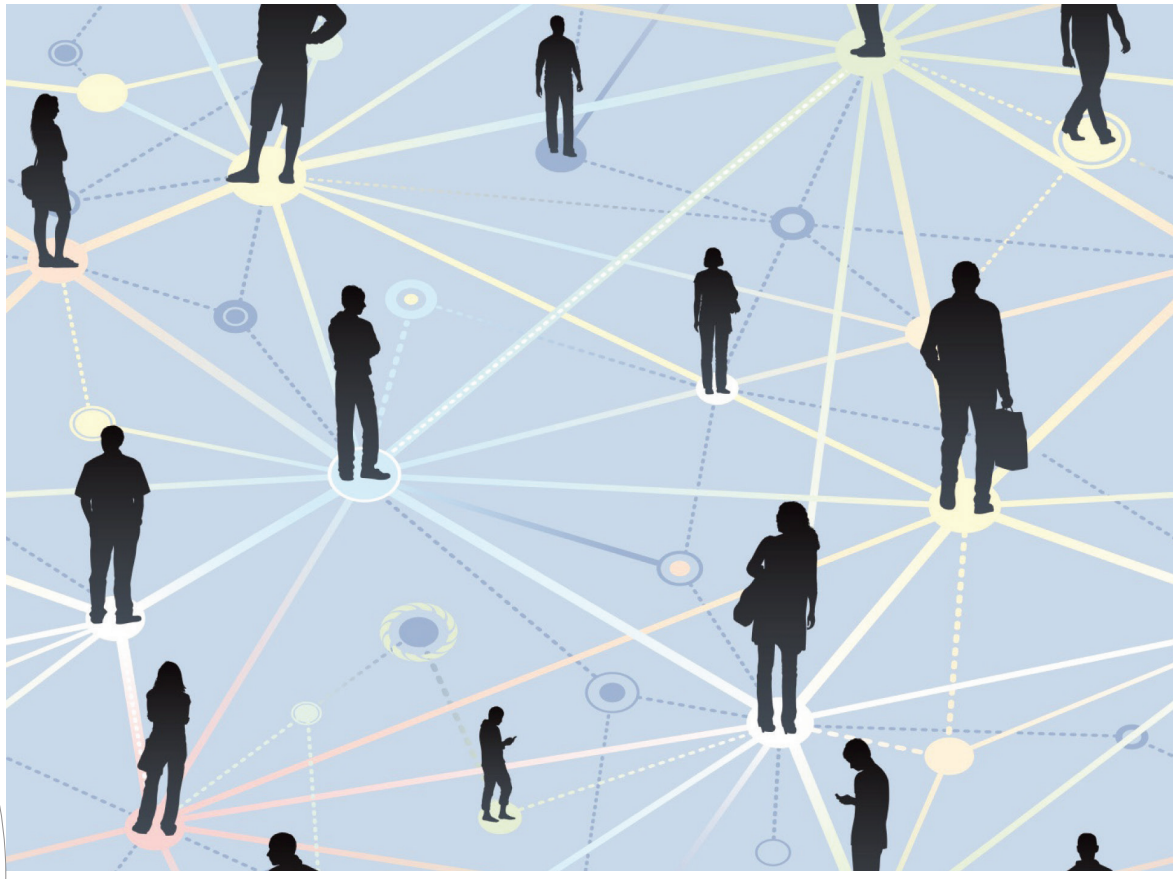
Managing an information technology project to successful completion on time and within budget is extremely challenging. Successful completion of complex initiatives depends on project mangers' knowledge and understanding of technical aspects of an IT project as well as having the skills required for managing projects in a dynamic environment. In recent years emphasis has been placed on managing risks, IT security, organizational change management, and business process redesign. The overall objective of the training is to provide IT project managers with a foundation in basic project management concepts, principles, and practices to effectively and efficiently manage IT projects.

Core content areas recommended are:

- IT Project Management Fundamental
- Project Leadership and Communication
- IT Project Plan Development
- Project Management Tools
- Solutions Delivery Framework for Information Systems
- Project Budgeting and Cost Management
- Information Security, Risks and Controls
- Project Procurement and Contract Management
- Project Risk Management
- The Technology Delivery Process
- Business Process Redesign
- Information Systems Audit and Control
- Group Presentation & IT Systems Case Study
- Best Practices and Lessons Learned

The IT Project Management Training is offered when there are new projects or new staff assigned to manage projects. In June of 2008 Fairfax County's IT Project Management Training program was recognized by the National Association of Counties and received the association's annual Model Program Award which recognizes innovative County government programs designed to modernize and streamline County government and increase services to citizens. In years where there are no new projects, DIT does not normally run a full curriculum. It will be evaluated and updated as part of the County Executive's new County-wide employee development and comprehensive training program in FY 2015 - FY 2016.

DIT also provides training funds for agency-based IT analysts to maintain skills needed for key technologies.



Section 5

IT ARCHITECTURE & INFRASTRUCTURE FOUNDATION

IT ARCHITECTURE & INFRASTRUCTURE FOUNDATION

FEATURED IN THIS SECTION

SECTION 5 ARCHITECTURE & INFRASTRUCTURE FOUNDATION

5.1 Enterprise Architecture

This section identifies current information technology architecture elements in Fairfax County. The County's technology architecture is a tactical asset that defines technology components necessary to support business operations and the infrastructure required for implementation of technologies in response to the changing needs of government business and industry evolution. It is a multi-layered architecture that includes:

- Application and Data Architectures
- Platform Architecture
- Network Architecture
- Internet Architecture
- Security Architecture

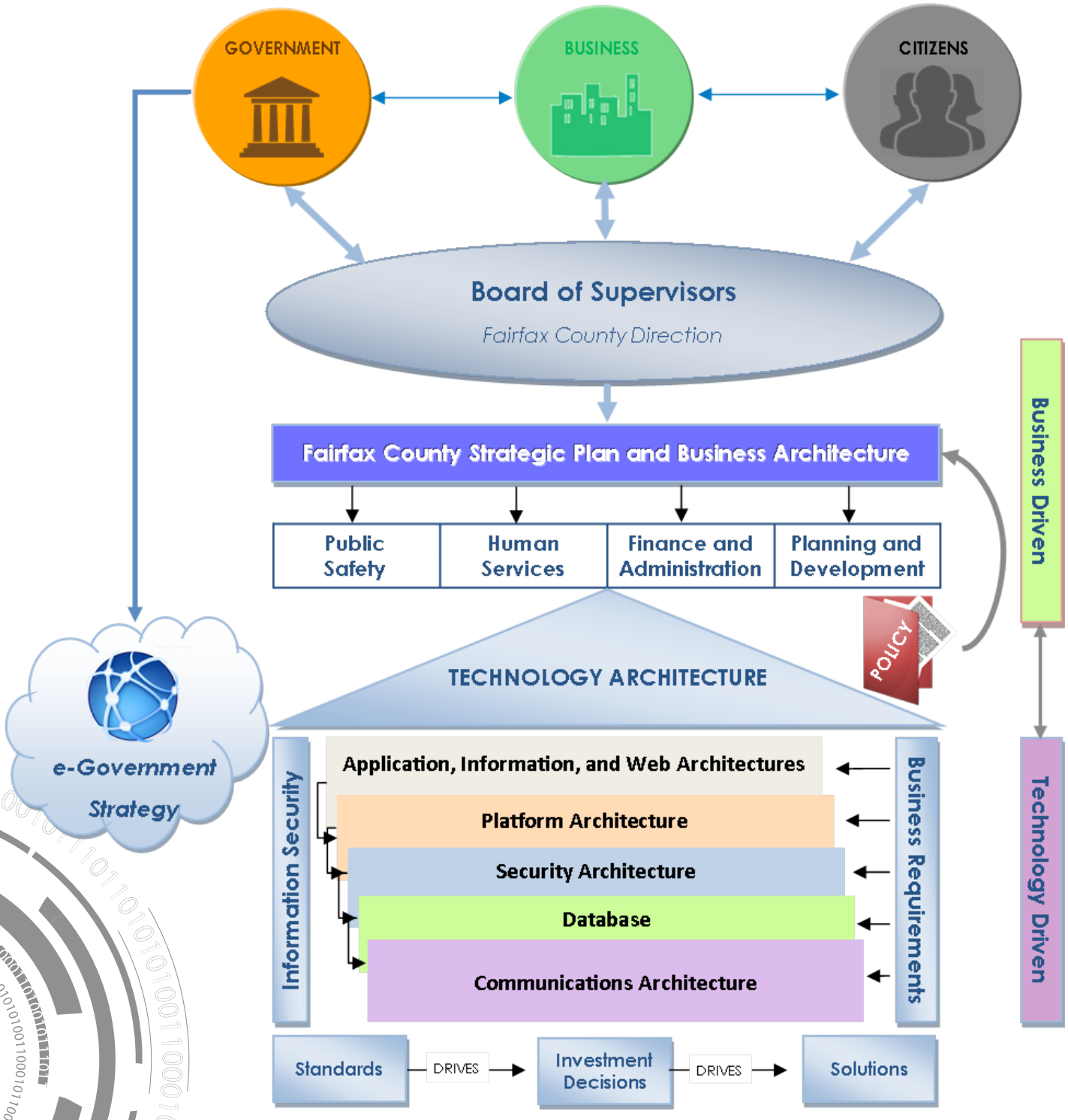
Enterprise Architecture Process Model

Fairfax County adapted Enterprise Architecture (EA approach) as the blue print or road map by which specific technology solutions are developed. Architecture defines the manner in which technology is used to enable flexible business solutions which enable expansion and change as requirements evolve, technology is updated, or becomes obsolete. Architecture as a foundation and road map enables the County to establish open standards, assess the impact of new requirements and evolving technologies, and allow for the incorporation of new technologies as part of an updated blueprint that benefits other solutions. Enterprise Architecture improves the efficiency and effectiveness of technology investments by reducing functional and infrastructure redundancy, leveraging solutions and platforms, optimizing value, and promoting the sharing of knowledge and best practices across County government.

The Enterprise IT Architecture Process Model on the following page illustrates the inter-relationships between the County's IT architecture and business, and the iterative processes involved to ensure the development of an IT enterprise that is efficient, cost-effective, responsive and business driven. For the purposes of the County's model, the businesses have been grouped into four major functional areas as represented in the County's budget: Human Services (HS), Public Safety (PS), Planning and Development (PD), and Finance & Revenue (F&R), inclusive of over 50 departments and agencies representing hundreds of unique and often times cross-agency services.

The model supports the following Mission Statement that directs the County's information technology activities, which remains valid. Every IT effort undertaken is framed and aligned with this mission statement:

> *"Delivery of quality and innovative information technology solutions for agencies and those doing business with Fairfax County Government."*


GOVERNMENT
BUSINESS
CITIZENS
Board of Supervisors
Fairfax County Direction
Fairfax County Strategic Plan and Business Architecture
Public Safety
Human Services
Finance and Administration
Planning and Development
POLICY
Business Driven
TECHNOLOGY ARCHITECTURE
e-Government Strategy
Information Security
Application, Information, and Web Architectures
Platform Architecture
Security Architecture
Database
Communications Architecture
Business Requirements
Technology Driven
Standards
DRIVES
Investment Decisions
DRIVES
Solutions

5.2 Application and Data Architecture

Application architecture defines the design of and correlations among software programs and applications. The Architecture promotes common development and presentation standards, enables optimum system integration, provides opportunities for use of shared infrastructure environments, servers, storage and related tools (infrastructure), enables shared use of data, facilitates the reuse of components, and the rapid deployment of applications in response to changing business requirements. Application Architecture includes elements of technology architecture that converts business process to business intelligence to support the County's goal of delivering timely, efficient and cost effective services. The vast inventory of enterprise-wide and agency specific applications reside on open systems infrastructure environments including consolidated servers, 'cloud' services, desktop and/or mobile computer platforms. New applications and application enhancements are constantly evaluated, developed or acquired, and applied as older "legacy" applications retire, and as business organizations and related functions reorganize and/or have new needs.

For custom development efforts (when there are no commercial or open source applications that are appropriate for County business processes) our goal is to use industry standard application development tools and language environments that are adaptive in web-enabled and mobile models. For commercial software solutions, the goal is to implement solutions developed using industry standards and avoid propriety software architecture to the extent possible; proprietary software is used only as a last resort. The Application architecture also protects the County's investment in 'classic' systems by enabling enhancements for enhanced usability, improved use of information and data analytics, search and reporting and end user controls. In addition, by keeping abreast of emerging technologies such as Web Services, XML, SOA and other contemporary methods, the County positions itself to take advantage of emerging opportunities offered by these as well as SaaS, mobile and cloud technologies. An exhaustive discussion is beyond the scope of this section; however, some examples of the County's application architecture and some recent developments are described here.

As the County balances determination among Commercial-Off-The-Shelf (COTS), in-house development and cloud/software subscription services for the diverse portfolio of agencies' business systems, the DIT framework for application development is applied. The framework incorporates Software Engineering, Information Architecture, and Application Development Methodology. These principles and techniques are used to keep the Systems Development Life Cycle Standards (SDLCS) current. The resulting approach encompasses application life cycles for "cradle to grave"; that is, from the earliest stages of planning, through requirements and design, to implementation and post-implementation support, and hot back-up. New applications will be built on the most supportable and promising platforms and an architectural framework based on the future of IT taking into consideration industry best practices and sustainable trends.

Development platforms such as .Net and standards such as XML and Web Services are a key part of the strategy. The .Net platform provides the foundation for departmental and enterprise-wide applications and offers a stable application environment with more opportunity for componentization of business logic, sharing

of common components, and the integration of business processes across application boundaries. Tools such as Visual Studio .Net provide County developers with a robust and flexible development environment. Encapsulating both existing and new business logic into "Web services" provide the ability to expose business processes across organizational and application boundaries, within the County, other local jurisdictions, state and federal government, as well as business partners. XML provides the common "glue" to hold together and provide consistent information across boundaries to facilitate data sharing among disparate platforms and systems. Enterprise Application Integration (EAI) products such as Microsoft BizTalk allow virtually unlimited ability to share, incorporate information and business processes from older, mainframe and client/server applications in to the new environment. A detailed "Architectural Framework" document has been developed, and is intended to be an organic document, flexible enough to reflect and incorporate rapid advances in information technology.

Geographical Information System Applications (GIS) – The ArcGIS software suite provides high-end Geospatial technology, GIS tools, functionality, and presentation capability to the GIS user community. The software integrates visual or graphic data in the form of maps, with descriptive or attribute information from an organization's internal databases. ArcGIS provides the tools for analysts to gain access, visualize, and query both graphic and tabular data for better analysis and decision-making. There are multiple levels of GIS software usage within the county. At a high level, there are both web GIS tools (ArcGIS Online and GeoCortex) as well as desktop software such as ArcMap and ArcGIS Pro. Additionally, ArcGIS Server is a fundamental component that provides web map services that are used by all platforms serving GIS data. ArcMap has three levels of license usage for ArcGIS that the County uses. The highest level, Advanced, is used by professional GIS analysts for sophisticated analysis and processes as well as multi user editing. The standard level is used almost exclusively by data editors and publishers for maintaining enterprise wide GIS data sets. The view level is used by most users for creating maps and simple analysis of the County's geographic data sets. ArcGIS Pro is used by the most advanced users and offers integrated 3D capabilities to GIS software. It is the latest release of Esri's technology and will replace Arcmap completely by 2022.

ArcGIS Online, ArcGIS Portal and ArcGIS Enterprise (formerly ArcGIS Server) are components used to distribute highly customized GIS based applications through the Internet/Intranet. Additionally, GeoCortex is used for publishing medium to advanced level web GIS applications. Internet based mapping capabilities are incorporated as appropriate for augmenting and delivering county services. Web maps and web mapping services are also integrated into business specific applications for public and internal government access via the WEB. The county also uses Terra Explorer from Skyline, Inc. to serve out 3D data to both internal and external customers. See Section 2 for more information about GIS strategy.

5.2.1 The Application Tools

Application tools are information technology components used to develop and support application functions. Application tools include the support systems required to enable work planning and communications.

Programming/Development Tools – New applications under development use fourth generation object oriented languages and tools. This approach continues as web-based applications are developed, or as Commercial-Off-The-Shelf (COTS) systems or Cloud and SaaS applications are implemented. Industry standard life-cycle methodologies are employed to define, develop and implement new systems. Expert system technology is used to incorporate complex rule based functionality into systems. New developments use ASP.NET for the application layer. The County primarily uses Microsoft BizTalk for integration of applications at the presentation, business logic, and data layers. Sometimes JAVA is used depending on a specific systems' architecture and anticipated integration with other systems that use JAVA. SAP ABAP is the development language for the County's ERP system.

Since often times there are no viable COTS or SaaS solutions available that meet County agencies' unique governmental business needs and related statutory requirements, software development remains relevant, thus Software Engineering technologies are incorporated into the Systems Development Life Cycle Standards (SDLCS) to provide a disciplined and consistent development approach.

The County also supports LaserFische/REAMS imaging solutions that have been in place for many years for smaller image archival and retrieval needs in some agencies. The County and Courts use the Commonwealth of Virginia's capabilities for certain court case records.

Collaboration Tools – The County uses Microsoft SharePoint and Skype for Business which includes instant messaging and web conferencing. Additionally, the County uses other video conferencing and web conferencing tools to support collaborative communications.

Database Management Systems (DBMS) - The County uses several database management platforms to support its business applications. Oracle and Microsoft SQL Server are the County's databases standards. Currently most of the Oracle and SQL databases on standard COTS development architectures are consolidated for greater cost efficiency, supportability and performance. The County IT standards call for complex, Internet-accessible or high access databases to use Microsoft SQL Server or Oracle, as appropriate. There are also "fat client "and web-based agency specific applications that are maintained separately by agencies. The standard for small agency applications is Microsoft SQL Server as the database.

Data Analytics and Business Intelligence – The County's portfolio currently contains several products used for reporting, analytic, and decision support. Business Objects/Crystal Reports, SAS, SQL Reporting Services and MarkLogic are the currently supported tools for reporting, and basic ad-hoc query. The County's strategy is to provide shared enterprise capability and infrastructure for reporting, query, transparency and decision support. As standards are defined for the County's enterprise solution(s), the portfolio will be rationalized into

fewer products over time. This approach enables DIT to continue to modernize the existing systems portfolio while creating economies of scale for improved interoperability, search, dashboards and cost control.

Desktop Office Automation/Workstation Software – Microsoft's E-mail and Office Suite is the standard for general productivity automation functions including Word, Excel, PowerPoint, Outlook and SharePoint. Microsoft Internet Explorer is the standard for Web browsing, and is implemented with the standard image. Microsoft Project and Visio are available via enterprise software provisioning or virtualized Citrix application delivery. Agencies may have other desktop-based software for special, unique requirements.

IT Service Desk Software – The IT Service Desk provides all County employees with a centralized portal for computer support using a web-based solution which us used to support the Service Desk function leveraging the ITIL framework. The Automatic Call Distribution (ACD) capability on the Avaya voice system is used to route calls. The IT Help Desk has a high percentage of first-call resolution.

5.3 Platform Architecture

Platform architecture defines the technical components of the infrastructure including server and client platforms, middleware, operating systems and interfaces supported, as well as other software tools and equipment used to operate applications. With the County's server consolidation and virtualization effort in FY 2011, Fairfax County's platform architecture was reduced from over 1000 servers to an average target ratio of 60:1, a project that continues. Servers include UNIX (Sun Solaris) and HP UX, and Microsoft Windows /2008, 2012 R2. Over 14,000 PC's provide end-user access to County systems. Laptops, iPads, Blackberries, iPhones, Droids, and other tablets and mobile devices also support employee access to agency business systems. Workstations are standardized using Windows 8.1/Windows 10 operating systems.

The County supports over 1,000 State and other non-County Windows workstations hardware devices.

In FY 2015, the County implemented near-real time, active passive solution for the systems in the County's DIT Data Center using a third party off-site facility.

The following paragraphs describe the major features of the County's platform architecture.

5.3.1 Platforms

LAN-based Network Servers – Fairfax County's enterprise server environment uses Intel and Unix-based servers. Enterprise-class server technology Cisco blade technology, Dell, SUN and HP-UX servers for robust, high availability applications support the County's enterprise infrastructure applications such as Exchange, Active Directory, SQL, Oracle, Citrix, and major business systems such as ERP, GIS, Tax systems, Human Services systems, Land Development and Public Works applications, Library, etc.

The County has standardized on VMWare for virtualization platform and consolidated over 800 physical servers to approximately 100 physical servers. Over 1,000 virtualized servers are run within these 100 physical servers. Virtualization in the SUN/Solaris environment in the form of zones has been implemented.

Desktop PCs, Workstations and Peripherals – DIT prescribes hardware platforms and desktop applications standards as well as procurement vehicles to optimize support and cost. Workstations (PCs) are replaced in accordance with the County's PC Replacement Program cycle using adopted standards bundled with the MS Office Suite. The PC Replacement strategy applies to all agencies and provides the County economies of scale as well as a more robust, effective support environment.

County PCs are used for office productivity software, enterprise e-mail and client software, Internet/ Web access software, and mainframe emulation terminals. The Windows 7 OS is being transitioned to Windows 8.1 in FY 2016, and Windows Mobile, iPads, and Androids continue to be deployed based on business needs. In FY 2017 the County will start deploying Windows 10 operating system as a continuous modernization effort. Desktop and network printing is accomplished primarily through the County's enterprise Ricoh multi-function copier/printer/scan/fax machine fleet. Agencies also use stand-alone desktop or work-group printers, and special use machines, i.e., plotters, etc.

5.3.2 Storage Area Network

A critical and required element of County IT operations is the management and storage of County data. Storage management provides capacity, timely access, and protection for the County's most important asset, its records and information. Storage management is also one of the most challenging aspects of IT operations. For each new day, County users and County agencies have data that is multiplying at an astronomical rate. Most County data is stored and backup electronically. This may include customer and agency data, partner data, financial records, analytics, and more. Critical data must be protected and recoverable if it becomes inaccessible to the users. Each Fairfax County government end user has a fundamental need to protect data and information, it is therefore, imperative that end users remain mindful of the location of their data so that DIT can better support backing up the data appropriately.

DIT is focused on delivering a multi-level storage infrastructure, based on a low-cost foundation, which provides a set of storage solutions for the most common needs across the County's computing environment. There are areas where a central service can provide the maximum benefit for the least cost, leveraging economies of scale.

These storage solutions should be available with ranges of pricing, security, reliability, and availability that can be matched to the requirements of the data being stored. DIT's Storage Management Service provides Fairfax County with a centralized and secured storage platform to retain

and store County's data. It is DIT's mission to ensure Storage Area Network (SAN) service is scalable, redundant and cost effective.

Fairfax County implemented its first Storage Area Network (SAN) in 2002. This enabled data storage in a centralized location, with redundancy and failover, mitigating the risk of data loss due to hardware failure. Data from all severs (mainframe, UNIX, and INTEL) now coexist on the same disk subsystem. In 2006, the County refreshed the enterprise disk arrays and fabric with EMC DMX-3 disks and Cisco fabric, which has since then been retired. As a replacement for these retired storage infrastructure components, the County implemented NetApp and IBM XIV storage systems, which positions the County for future growth and the ability to meet strategic initiatives for Data Lifecycle Management. The total data storage requirement has grown from 394 gigabytes in 1998 to the current total of over 3.4 petabytes. The primary storage environments are NetApps and IBM XIV.

Storage Management requirements addressed by the Storage Area Network (SAN) are:

- Scalable storage capacity that allows users to increase storage as needed.
- Modular, adaptive architectures which allow users to deploy storage in a variety of centralized and distributed environments with re-deployment capabilities as needed.
- Highly available architectures to minimize/prevent downtime.
- The storage solutions provide a range of cost savings. Using NetApps for virtualization standard storage platform saves the County money because of the built-in features such as de-duplication, which help to control the amount of storage needed for the counties growing server requirements.
- The new XIV storage provides the high volume input/output operations required by our high volume Database and Email systems
- Higher levels of performance to support the ever-growing volume of online data.
- Higher performance backup and restore operations using snapshot technology helps to support shrinking backup windows
- The ability to share data across the enterprise rather than building "islands of data."
- Easy to use, centralized management tools that allow hardware and data to be distributed.

5.4 Network Architecture

The County views a strong, viable communications infrastructure as a vital component to the overall IT strategy of maintaining its successful deployment of cost-effective solutions that optimize business goals. The enterprise communications infrastructure includes voice and data technologies, as well as various network topologies, transmission services and protocols necessary to facilitate the interconnection of server platforms, intra-building and office networks (LANs), and inter-building and campus networks (WANs). The network is thus responsive and reliable for County business applications and allows for the uninterrupted flow of voice, data, and video information.

The plan and architecture take into account growth based on the needs of County agencies as programs expand for both intra and inter County connectivity. The core network for intra-County is supported by the County's fiber I-Net, integrated with carrier lines for full coverage, back-up and redundancy for certain critical systems. The underlying infrastructure is able to support voice, data, and video, providing increased, cost-effective bandwidth potential, and improved output. The core fiber I-Net is a metropolitan fiber ring that connects over 400 County and schools facilities, with DIT supporting over 14,000 data ports and over 15,000 voice ports on the communications infrastructure.

Network technologies tend to refresh every 18-24 months, which creates additional challenges with respect to keeping network architecture and standards in line with evolving business requirements, information security and other support needs. Web-enabled applications and Internet tools such as Social Media have rapidly expanded; this coupled with business continuity have resulted in expansion from a single high capacity DS-3 for internet services to four high speed LAN based Internet connections from two diverse IPS. E-Government applications, streaming video, teleconferencing, and more integrated and complex applications drive the requirements for the County's communication infrastructure and its components, thus the communications infrastructure is flexible and designed for low-cost, incremental enhancement.

5.4.1 Enterprise Data Communications Network

The Fairfax County Government's Enterprise Data Communications Network serves as the data communications backbone that provides County wide access to information technology resources. All systems connected on the enterprise network are based on well-recognized, open standards; compliance with published standards is required for any network-connected device or system. The County standard network protocol is TCP/IP. Gigabit Ethernet is the standard LAN backbone speed in the County and 100 MBPS is the standard desktop speed. All platforms are interconnected via the enterprise network including PCs, servers, multi-function printer/scanner/copier device fleet, and the mainframe computer. Additionally, various wireless technologies are rapidly expanding throughout the County's network. The County currently uses commercial broadband wireless infrastructure to support wireless applications, data, images, live video to the field and mobile devices supporting primarily public safety responders. The ongoing strategy has allowed for the integration of the wireless and wire-line networks.

The Enterprise Wide Area Network (WAN) is built of two different architectures: I-Net or the Institutional Network, which utilizes the dark fiber provided to the County through the COX and Comcast Cable Franchise Agreements (see section 5.4.2 below). I-Net spans seven hub sites and two key resource centers; Massey Public Safety Campus and the Government Center. These sites are networked via a 10 gigabit DWDM fiber optic backbone. The I-Net DWDM backbone provides connectivity to 192 remote sites running a 1 Gigabit uplink from the backbone to the site. I-Net also employs MPLS (Multiprotocol Label Switching)/VRF (VPN Routing & Forwarding) to allow I-Net to service many types of diverse traffic whether it is enterprise, public access, public safety, or voice over IP. Through MPLS/VRF each type of traffic can

be separated logically for security support, as in enterprise vs. public access, or prioritized in the case of voice traffic. Currently MPLS technology has allowed the County to support 20+ logical networks to flow across the I-Net backbone. I-Net has now positioned the County Data Communications Network to respond quickly to the ever-changing technology needs of its customers. The remaining WAN sites are supported by the use of several technologies to include High-speed broadband VPN technology, ATM, and Transparent LAN Services based on user group and bandwidth needs.

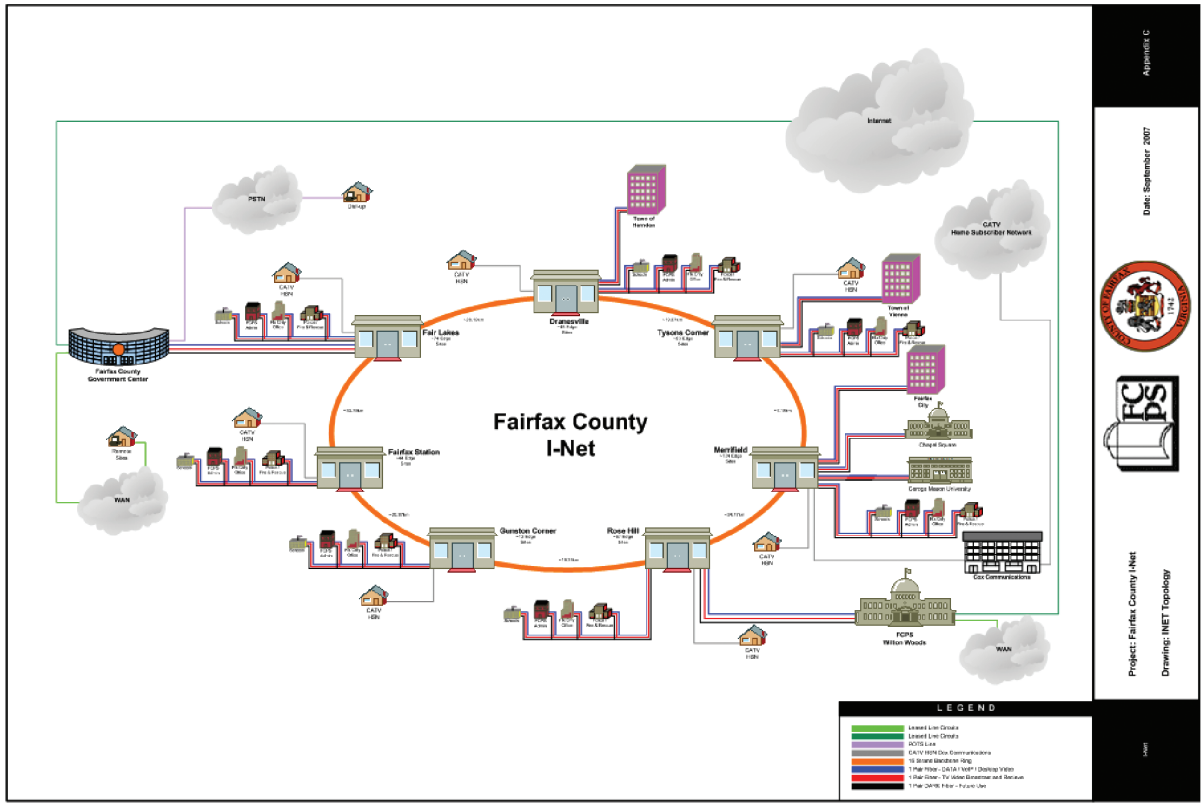
A dedicated Public Access Network was established in FY 2005. This network provides public access computers a various County locations to citizens of Fairfax County for access to County and Internet resources separate from the government Enterprise Network for security reasons. The Public Access Network includes all public libraries, community and recreation services sites, and select human services sites. The design provides for separate physical networks at each site while sharing the existing WAN/I-Net infrastructure and using logical separation on the WAN/I-Net. A firewall between the Enterprise Network and Public Access Network allows for County IT staff to manage the infrastructure down to the desktop for each site. This model will be the standard for any new facilities requiring both enterprise and public access.

The County continues to implement wireless LANs and wireless data over commercial systems as required by business and operational requirements. The use of this technology is carefully evaluated to ensure all County data is protected from unauthorized access. Currently, non-broadcast SSID's, NAT and MAC address registration, and digital certificates are required to gain access to the private WLAN. VPN technology is employed to protect data over commercial services.

Network Management is supported on four platforms using Orion Solarwinds – Moniters I-Net infrastructure for up/down alerting and performance issues, and Verizon Managed Services – provides fault reporting of all ATM and I-Net sites. Fairfax County continues to migrate legacy carrier circuits to COX and other providers which provides better quality and cost.

5.4.2 Institutional Network (I-Net)

The County's network backbone (I-Net) is the primary infrastructure interconnecting sites for the enterprise communications network, supporting both the County government and Fairfax County public schools. The I-Net was provided through the Cable Franchise Agreements with COX Communications-Northern Virginia and Comcast of Virginia. Fairfax County's I-Net is one of the largest and most complex local government networks in operation. This carrier-class network comprised of over 4,000 km of single mode fiber (SMF), in a ring, hub and spoke topology. There are seven Hub sites that are redundantly connected in a ring. The fiber optic infrastructure enables the County enhanced capabilities for transporting data, voice and video. The I-Net provides services such as high speed data, Voice over IP (VoIP), broadcast video, video conferencing, streaming video, and



distance learning. The network has several origination points, and facilities for controlling the switching and routing of data, voice and video signals among all participating sites.

Although broadband service is available through local telecommunication companies, it comes at a significant price, a loss of flexibility, and for some services, only limited availability. The I-Net provides bandwidth that is virtually "unlimited" while meeting the County's present and future communication requirements. The I-Net is the "super highway" for the County's internal video, voice and data communications. The virtually "unlimited" bandwidth potential provided by the I-Net allows the County to amortize its cost over the life of the I-Net with an overall long-term operating cost savings. The ultimate goal of converged voice, data and video technologies will be facilitated through I-Net. The I-Net can also serve as the back-haul for the County's wireless broadband initiative for public safety (See section 5.4.3).

The I-Net Video Network is a scalable integrated video transport system which provides a high quality image delivery system with scalable bandwidth, capacity, and growth potential for future Fairfax County Government and Fairfax County Public School applications. The I-Net video network transport has two distinct communication links: Coarse Wave Division Multiplexing (CWDM) is the transport technology that provides forward and reverse transport for I-Net enabled County facilities. The forward (downstream) transport provides select cable TV operator channels and local origination content produced by the

County's Video Production facilities for services such as distance learning. Each I-Net enabled facility is equipped to transmit reverse (upstream) video to the County's Video production facility for processing.

The County participates in the I-Interconnect in the National Capital Region (NCR-Net). Fairfax County has five direct interconnect. NCRnet is a foundational; interoperable communications infrastructure utility for local government first responders and emergency support functions with neighboring jurisdictions and Fairfax County DIT manages the NCRnet program, engineering and operations for the region.

5.4.3 Mobile Data Network

To support operations of the various public safety agencies, the County activated AT&T and Verizon Commercial Wireless Broadband service in 2007 to allow the response vehicles of the Police, Fire and Rescue, and Sheriff's departments to access the County's Computer-Aided Dispatch (CAD) system, the Law Enforcement Incident Management system, and various databases maintained by the Commonwealth of Virginia and Federal law enforcement. This Public Safety system consists of more than 1500 Mobile computer Terminals (MCT). Both carriers are used to support a growing portfolio of mobile applications including Public Works and Environmental Services, Zoning, Health Department, and various Human Services agencies consisting of a user base of over 1,000 mobile devices.

To enhance the County's goals for mobility, telework, operational cost efficiency, Continuity of Operations Planning, and environmental stewardship and 'green' IT, a major component of the enterprise technology infrastructure includes Enterprise mobile device management (MDM) that has been incorporated into the enterprise network and platform enabling infrastructure. MDM allows the usage of smart-phones, and tablets to include Apple, Blackberry, and Android (for example). With the County having a mature 'private' enterprise cloud, this technology has been adopted and integrated with the enterprise network. Air Watch is being utilized for the Mobile Device Management (MDM) architecture.

5.4.4 Voice Communications Network

The County's voice telecommunications architecture is the Avaya enterprise-wide VoIP capable platform. The solution uses the latest technology that includes VoIP and the County's fiber-optic network for connecting County facilities. Using the County's fiber backbone (I-Net) greatly reduces the total costs of providing telecommunications services. The evolution of the Avaya communications platform on a fully integrated broadband network synchronizes and leverages communications capabilities, security and will help meet the present and future IT and County agencies' business needs to complement cost saving advantage of using the I-Net for calls between locations. DIT is implementing Session Initiation Protocol (SIP) Trunking to further reduce the cost of the connection to the carrier network. This will ultimately lead to an end-to-end IP based broadband communications environment that is flexible, secure and very cost effective.

The voice system design uses two main Fairfax County government sites – the Massey Campus and the Government Center Campus - as the "core" for the Avaya enterprise platform. A streamlined dialing plan has enabled more efficiency and less cost for agencies that have a geographically dispersed footprint. The Core + Edge configuration has yielded much tighter voice communication integration between locations and also a highly fault tolerant network. Avaya collaboration applications, such as the Call Center Elite application, allow agencies to have call center agents geographically dispersed across the County, yet they appear as a single work group from a citizen facing standpoint.

The system architecture is also integrated with a new Call Management System (CMS) solution from Avaya. This solution's capability greatly improves the collection of necessary statistics used by Contact Center Managers to evaluate the County's responsiveness to citizens and constituents.

5.4.5 Public Service and Public Safety Radio Networks

The County operates two voice radio 800 MHz trunked radio systems, one dedicated for public safety emergency response operations with over 6,000 units, and the other that supports more than 3,000 radios for Fairfax County Public Schools Transportation (school buses), and County agencies including the Department of Public Works and Environmental Services, Park Authority, FASTRAN, the CONNECTOR bus system, and other non-public safety County agencies. The County's planning effort that will consolidate the Public Service and Public Safety Radio Systems is enabled through the new IP based technology. Implementation is planned to start in FY 2016.

The Public Safety Radio system incorporates a digital IP-based technology permitting improved data access and system management, better integration with the 9-1-1 Computer Aided Dispatch system (Intergraph), improved regional interoperability, and the inclusion of a new tower in Bailey's Crossroads for improved system coverage. The two radio system infrastructures, Public Safety and Public Service, are architected to allow interconnection, as well as back-up capability for each other.

County staff also serves as Regional Coordinator for the entire National Capitol Region's assure regional radio interoperability.

Also, like a growing number of major local governments, the County is interested in FirstNet, which provides for a national broadband capability for public safety as feasible, using 700 MHz for Public Safety broadband, but also open to the broadband wireless design is part of the comprehensive enterprise network strategy that will leverage existing voice wireless infrastructure (see 5.4.2.1), and integrate with the County's fiber back-bone infrastructure for back-haul (see 5.4.1.2 below). The County has been vociferous in its response to the FCC, regarding the need for a private broadband wireless network for public safety for the National Capitol Region. Unfortunately, our waiver languished in FCC with no decision being made, and now with FCC's recent approval to allocate the D-Block 700 MHz frequencies to public safety and first responders, and the creation of a board to manage and oversee this development, all pending waivers, including ours, were terminated until the new "board" takes effect and reviews the approach to a nationwide network.

5.5 Internet Architecture

Fairfax County's Internet architecture supports the County's e-Government program which utilizes emerging WEB technologies to make County services and information readily accessible and available to the public, with interactive services to conduct business (e.g., pay taxes, apply for permits, etc.), and searchable access to data (real estate assessments, Human Services resources, etc.). The e-Government architecture defines the standards, technologies and guidelines for public access, and requirements for conducting on-line business with County agencies, state agencies and outside entities. To meet the demand of changing times, recognizing mobile technology is key to communications; the County's e-Government program has taken the initiative (m-Government) to provide mobile access that enables greater interaction and service delivery such as mobile device-compatible web access and applications.

The County's internet architecture is comprised of the following:

- **High Speed Connection to the Internet** – The County's fractional DS-3 connections to the Internet provide internet access for County staff as well as outside access to the County's Web server(s) to residents, business, and others via the Internet.
- **Public Access Web Farm** – The County's Public Access Web Server provides Internet users with a vast amount of information made available by various agencies. The Web server can be viewed as an "on-line service counter" where residents and others may obtain information related to services, licenses, taxes, recreation, court filings, etc. The Web farm acts as the distribution or collection point for information obtained from or provided to enterprise databases via "Application Servers". The Farm is designed to contain multiple web servers distributed in different locations to provide high availability, high fault tolerance, and high bandwidth throughput capabilities. The architecture is designed in such a flexible way so that the farm can easily scale out to meet constituents' needs in the event of sudden increase of web traffic. It intends to consolidate public facing web applications throughout the agencies in the County, which

would eliminate the needs to set up separate servers for each web application and as a result leads to significant cost-savings. As the County becomes more digitized each day, more and more County's services and information are transformed into web applications and added to our public access web farm to serve citizens.

- **Intranet Web Farm** – The County's Intranet (FairfaxNET) Web Farm provides a portal to access County information and applications for agency and employee use. The Intranet Farm provides a platform allowing County employees and administrators to manage back-end data for the large number of public facing web application. Integrated with a SharePoint web farm, it also provides a platform for County employees to collaborate on documents and projects electronically.

- **Mobile Web Farm** – The Mobile Web Farm provides mobile phone users with information made available by County agencies via Web Content Management systems in a mobile device-friendly format, thus allowing citizens to obtain information and conduct e-service transaction via mobile devices. The mobile web farm also enables County developers to continuously develop more web-based mobile applications to transition the County from 'e'-government to 'm'-government. The Mobile Farm is built on top of Public Access Web Farm, therefore retains the same capabilities of high availability, high fault tolerance, and high bandwidth throughput. The Mobile Farm not only enables citizens to view the County's website on their mobile phone web browsers, but also delivers contents to County's native mobile applications including County's iPhone native application published in AppStore, and Android native application published in Google

Play. The architecture of the Mobile Farm is designed in such a flexible way that allows the farm to keep up with the ever growing numbers and varieties of mobile devices constantly released into the market, and as a result always ensure the contents is rendered properly for various mobile devices.

- **iPhone Application Infrastructure** – iPhone Application, for release into Apple's App Stores, allows iPhone users to access County's web contents and interact with various County e-services. SDK environment, iPhone application template, standards, and App Store distribution channel have been developed to further enable the County to provide m-government services. The architecture is designed in a flexible way that would enable developers from other County agencies to develop their own modules separately. These modules would later be added to the original package to ensure the app would continuously grow and improve with contributions from the entire community of developers.
- **Interfaces** – The County's application servers and enterprise databases provide the link that allows access to data residing in a wide array of sources. The interfaces make it possible to access data from virtually all of the County databases: Oracle, SQL, and MS Access. The interfaces are comprised of "Application Program Interfaces" (APIs), Open Database Connectivity (ODBC), Service Oriented Architecture (SOA), and other standards that enable the access layer of the web architecture.

5.6 Cyber Security Architecture

The Information Security Office defines and enforces the security standards and policies necessary to protect the County's information assets and technology infrastructure. IT Security continues to be a fundamental component of the County's enterprise architecture and e-Government strategy. The security architecture fuses best practice security principles with a hardware and software infrastructure, supported by policies, plans, and procedures. This layered architecture is designed to provide an appropriate level of protection for all County information processing resources, regardless of platform, and includes incorporation of industry best practices to yield an overall reduction in risk.

The objectives of the information security program are to ensure confidentiality of information, integrity of data, systems and operations, technical compliance with legal mandates such as HIPAA and PCI, privacy and availability of information processing resources. The information security program utilizes a multi-faceted approach to meet these objectives, an approach that includes threat reduction techniques, technology and management solutions, and the vigorous implementation of awareness activities. The basic elements of identification, authentication, authorization, access control, and monitoring of information processing activities are employed throughout the enterprise. The secure network architecture is best described as a defense-in-depth approach to network security design, to include a method of secure network segmentation. In this architecture, modular infrastructure building blocks are deployed to better shield important resources within the network.

The “SAFE” network architecture was developed and deployed to divide the network perimeter into the following five business groups: E-Commerce, Internet Access, Partners, Emergency Operations, and Public Access. Each group is protected by its own physical firewall, with firewall policies tailored to each specific business area. This strategy has optimized firewall performance and limited risk exposure to each business group.

- The E-Commerce business group supports all public facing web services providing access to County resources for both citizen and business.
- The Internet business group is used to control County employee access to the internet and allow for content and virus scanning.
- The Partners business group allows for connections to external “Trusted Partners” to include Fairfax County Public Schools, Fairfax County Water Authority, Commonwealth of Virginia (State Police, State Health, Department of Social Services, Supreme Court of Virginia, Department of Juvenile Justice, and State Board of Elections) as well as public safety connections for several adjoining jurisdictions.
- The Emergency Operations group was established to secure the Emergency Operations Center providing IT resources to the Department of Emergency Operations.
- The Public Access network was built for the Libraries and Community and Recreation Services.

Remote access via VPN and Citrix services provides access to the County's enterprise network resources for telecommuters, vendors, remote access users or business travelers, as well as several small Fairfax County offices. Security for remote access is managed through a Remote Access Server using security tokens and PIN numbers. Additionally, DIT implemented a mobile device management and security solution which can address the challenges of data loss prevention and security on mobile devices, such as tablets and smartphones, which may access County data from remote networks.

Firewall technology is used as the main perimeter defense with all access from the Internet routed through the County's system of firewalls. In addition, the County configures broad network traffic filtering and selective routing at firewalls provisioned nearest to the County's Internet peering points, reserving more granular filtering and routing for network traffic transiting to the internal network connection. Classic authentication for each internal user is based upon a unique UserID (also called a sign-or log-on) combined with a unique, strong password. To improve the secure access and authentication to web-based applications and backend servers, the County has implemented an identity management platform that positions DIT to leverage the security architecture framework well into the future. The County uses identity management modules to provide a software platform of shared services that includes reduced sign-on, authentication management (to validate who you are), and entitlement management (to authorize what you are allowed to do on the site) for web-based applications. The products also provide a secure reverse proxy solution that passes requests to enterprise backend content servers, and returns resources to the requesting client, thus allowing for a practical solution for the protection of internal assets. With Identity Management in place, the County can manage user profiles for both internal staff and public access, making personalized e-Government a reality. Expansion of secure identity management capabilities will continue in order to provide a secure access and an end-user authentication platform for internal and external users.

Intrusion Detection System (IDS) detects intrusions within the network, and the Intrusion Prevention Systems (IPS) primary function is prevention rather than detection. IPS devices can proactively prevent intrusions by detecting signs of an intrusion and/or detecting an actual intrusion attempt. IPS provides capacity to perform real-time analysis of Intrusion attempts to determine if sensitive data, systems or network devices are being attacked or if a breach of confidentiality, integrity, or availability has occurred. The primary objective of Intrusion Prevention is to reduce damage and isolate/ contain malicious traffic. With the large quantities of lag and alarm data generated by firewalls and sensors, a specialized application to support the role of correlation and alerting has also been implemented. The IPS solution conducts a comprehensive threat assessment and allows for quick identification of credible threats to the organization in order to facilitate expedited response and containment of intrusions and malicious activity.

As the key aspect of the IT Security strategy, the County employs a private/public network model. Sensitive and critical assets are located on the private portion(s) of the network while information and services available for public use are located on the public segment(s). CITRIX, VPN, Web Access and other remote access technologies are available for remote users. Each of these services requires a personal

security token and LDAP-based authentication for access, otherwise known as two-factor authentication. Remote access is approved at the same level as if the user were physically at their work site. Identification and authentication, access control, and auditing functions are performed on the specific platforms using the capabilities inherent in the appropriate operating system. Mandates such as HIPAA and the Payment Card Industry Data Security Standard (PCI-DSS) have increased system monitoring and policy enforcement requirements. IT security awareness activities have been implemented to effect a culture change for all employees. Through security conscious employees, realization of the return on investment in security technologies can be leveraged further as the overall risk to data and systems is reduced.

The Fairfax County Government is dedicated to the protection of its IT assets and the data/information in its charge, as well as ensuring that no unauthorized access or use of such data/information occurs. Fairfax County currently maintains a robust vulnerability and risk management program to continuously assess and validate our organization's security posture and to ensure compliance with Federal, Commonwealth, and industry regulation and best practices. In addition, DIT has invested in advanced technologies such as Data Loss Prevention and next-generation application-layer firewalls and endpoint protection to meet the evolving threats to hosted and cloud-based applications and resources. Fairfax County's Next Generation Security Program, a blend of cutting edge detection and prevention technologies, secure architecture, awareness outreach activities, continuous monitoring through security event correlation and assessments has been nationally recognized by the National Association of Counties (NACo), and received the Virginia Governor's Technology Award in 2014 and the CSO50 Award for 2016. In addition, Michael Dent, the CISO of Fairfax County, won the 2015 ISE North America Executive Award for the Public Sector for the development of a County-wide comprehensive IT security risk and privacy program.

5.7 Technical Architecture Standards

The Department of Information Technology establishes, updates, and retires technical standards throughout the year to ensure alignment, consistency, and modernization in the selection and design of business solutions across the County.

A platform is established as a standard through a governance process. This approach enables DIT to define and develop a portfolio of technology solutions that can be effectively managed and supported given available resources. Typically, projects in the concept stage come before DIT's **Architectural Review Board (ARB)** to discuss the technical approach and business objectives. Where the concept relies on new products or non-standard configurations, the details are assessed to establish general conformity to enterprise objectives. The ARB may steer the solution back to conformance, or it may authorize the use of a new product or configuration by granting a waiver. The ARB may alternatively recommend that the new product replace an existing standard, or that it be added to the list of supported standards. When DIT's executive management approves a recommendation, the standards are updated accordingly. Once adopted, the new product and its former standard, if any, are further classified as emerging (new), current (established), twilight (becoming obsolete), or sunset (referring from support as of a known date).

When a standard is established, it indicates that the designated technology will be supported by DIT as applicable, and that the selection is in alignment with broader IT goals, objectives, and strategic direction. In some cases, a standard may be adopted in advance of procurement or deployment, to provide strategic direction for emerging business needs. Adoption of a standard is not intended to convey endorsement for, or recommendation against, any specific product.

Declaration of a standard product(s) indicates DIT's strongest recommendation for selection of the available product(s) over any alternatives that may be similar or comparable. Generally, any solutions that will rely on the systems enterprise infrastructure, connect to the network, or depend upon DIT support must be fully conforming. Agencies using or selecting non-standard solutions may apply to the Architectural Review Board for a waiver on the basis of business needs and justification.

Standards are essential to sound cost controls in software licensing and maintenance, hardware, services, training, and integration. Having fewer platforms in use enables allocated resources to better support the information systems under management. Agencies are encouraged to invite DIT members to participate in selection and technical advisory committees for the Request for Proposal (RFP) process. DIT and its ARB should be consulted in advance of an RFP, to help explain technical alternatives and develop the proposal language to support conformance with existing and emerging standards.

The standards shown here do not represent a comprehensive view of all the products in use across the County. The list is intended to convey the primary standards for the major solutions to be supported by DIT and/or delivered with DIT resources.

Revised February 2016

FAIRFAX COUNTY INFORMATION TECHNOLOGY ARCHITECTURE

PLATFORM ARCHITECTURE: END USER SOFTWARE

Component	Environment
Operating System	Windows 8.1 / 10
Word Processor	Microsoft Word 2013
Spreadsheets	Microsoft Excel 2013
Presentations	Microsoft PowerPoint 2013
Database	Microsoft Access 2013
E-Mail Client	Microsoft Outlook 2013 Outlook Web Access (latest release)
Project Management	Microsoft Project Professional (latest release)
Graphics	Microsoft Visio Professional (latest release)
Web Browser	Microsoft Internet Explorer – IE11 and above
Antivirus	Cylance & Symantec AntiVirus (latest version) for Workstations and Servers
Patch Management	Microsoft System Center Configuration Manager (SCCM) 2016
Mainframe Terminal Emulation	Blue Zone
Thin Client Access	Citrix Xenapp 7.6 (latest version)
Other	Must be approved for Business Unit standard image/requirements

PLATFORM ARCHITECTURE:

END USER HARDWARE

Component	Desktops	Laptops	Tablets
Power	Single	Single	Single
CPU	Intel Quad Core i7 -3770, 3.4GHz Optiplex 5040	Intel Core i5-3340, 2.7 GHz E5450	i5-3337U (3M Cache, up to 1.80 GHz
Disk Configuration	250 GB, SATA Drive	250 GB, SATA Drive	128 GB SSD
Disk Configuration	500 GB, SATA drive	320 GB, 5400 RPM Hard Drive	128 GB SSD
Media Drive	16X DVD R/W combo drive	8X DVD CD-R/W combo drive	
Memory	8 GB, Non-ECC DDR3, 2 DIMMS	8 GB, SDRAM (1 DIMMS)	8 GB
Monitor	23” Economic, Flat Panel, DVI/VGA	14” Wide Screen WXGA+ LCD Panel	11.6" Full HD (1920 x 1080) IPS (400 NITS)
Video Card	Integrated Graphics DP/ DP/VGA w/DP-to-DVI Adapter	Intel® HD Graphics 4000	Intel HD Graphics 4000
Interface Card(S)	Ethernet 10/100/ 1000 Base-T	Built-in 10/100/1000 GB Ethernet card	None – 3rd Party USB to Ethernet
Wireless	N/A	Intel Centrino Advanced N 6205 802.11a/b/g/n	Intel Centrino Advanced N 6235 802.11 a/b/g/n
Operating System	Windows 8.1 / 10	Windows 8.1 / 10	Windows 8.1 / 10
File System	NTFS	NTFS	NTFS
Maintenance	5 Year on-site, next business day	5 Year on-site, next business day	3 Year on-site, next business day
Additional Hardware Requirements	Sound bar not included	Port replicator, external mouse, keyboard and monitor if used as desktop, Security Lock	Keyboard, and Port replicator

PLATFORM ARCHITECTURE STANDARDS:

HAND HELD MOBILE DEVICES

Component	Environment
Platform/Devices	RIMM/Blackberry Syclo Blackberry Enterprise Server iOS (iPhone, and iPads) Androids phones and tablets

PLATFORM ARCHITECTURE: Server Standards

General Server Standards: *Servers needs are determined based on many factors, including utilization of existing infrastructure, requirements of planned projects, and the availability of specific funding for new equipment. Some platforms will share components and others will not, depending upon the unique circumstances for each project and product. Sharing and re-use are promoted when feasible. The County's goal is to provide a homogeneous environment to streamline support and maximize resources, using virtual environment and consolidated server farms supporting many applications.*

PLATFORM ARCHITECTURE: GENERAL SERVERS

Component	Environment
Operating System	Microsoft Windows Server 2012 Enterprise Edition; Solaris (latest release); *z/OS 1.4*
Thin Client Access	Citrix Xenapp 7.6 (latest version)
Hardware	Intel (Windows); SPARC(UNIX); HP UX; IBM Z-Series (Mainframe)
Backup	Symantec Net BackUp z/OS DFSMS Net App snap shots
Storage	IBM XIV (SAN) NetApps (NAS)
E-Mail	Microsoft Exchange Server 2010 / 2016 Enterprise Edition L-Soft LISTSERV
Web/Application Servers	Preferred: Microsoft Internet Information Server – IIS7 / IIS8 / Above Apache Web server (if required by COTS package) Tomcat (if required by COTS package) JBOSS BEA Systems WebLogic Microsoft BizTalk Web Methods *Oracle Application Server 11g*
Configuration/Change Management	VMware Service Manager v9.1 – ITIL Service Management

PLATFORM ARCHITECTURE:

ENTERPRISE SOLUTION PLATFORMS

Platform	Current Standards
Report Writing: Departmental Reporting Needs	Business Objects Crystal Reports Microsoft SQL Reporting
Statistical Analysis	SAS
Enterprise Reporting Business Intelligence	SAP/BOBJ
Document Scanning/Imaging	OpenText
Web Content Management	Documentum Web Content Management
Web Search Engine	Google Appliance
Survey Instrument Software	SNAP 8.0 ProNet Edition (w/Scanning module)
Correspondence Tracking	Intranet Quorum
CRM	Siebel / Microsoft Dynamics
IT Services Management	VMware Service Manager v9.1
GIS	ArcGIS 9.3 & Extensions ERDAS 9.3 Arc Internet Map Server 9.3 / ArcGIS Server 9.3 ArcSDE 9.3 ArcPad 8 OnPoint 6.2 Electronic Field Study 2.7
ERP	SAP core; ESS, MSS portal
Voice Communications	Avaya S8700s and G700s Servers

Section 6

DELIVERED PROJECTS HISTORY

SECTION 6 DELIVERED PROJECTS HISTORY

Below is a historical listing of delivered projects in the IT Plan since its inception. These projects represent Fairfax County's continued commitment to delivering quality information technology programs that provide service efficiencies, ensure integrity of the County's information, and provide citizens easy access to County information and services.

Project Name and Number	Description
2G70-001-000 Human Services (IT0002)	
Harmony Information Systems	In FY 2002 this project replaced the State-supplied VUWRS system with a COTS package to enhance case management and client purchased service processing for child and adult programs.
Human Services Workflow	In FY 2003 this project provided workflow system for the electronic management of documents and data in Human Services agencies, and included the delivery of an intranet based contract management application.
Human Services Decision Support	In FY 2004 this project developed a data warehouse to eliminate duplicate data from existing Human Services legacy systems. The system enabled efficient reporting while securing client confidentiality. A reporting and analysis tool provided a user interface to execute reports and queries against the data from management and executive information. Completion date FY 2004.
Athletic Facilities Scheduling System (AFSS)	AFSS provides Community and Recreation Services (CRS) streamlined and automated processes for the scheduling of County and school athletic facilities. The system enhances public access to CRS services by providing on-line registration and application processes. Project was complete in FY 2009.
Homeless Information Systems	In FY 2007 this project implemented an automated system to track and monitor the homeless population served by the County and the local Continuum of Care. In compliance with a HUD mandate requiring all jurisdictions receiving HUD grants to track the use and effectiveness of service programs designed to assist the homeless population.
Harmony Web Enabling	This project transitioned Harmony users to a Web based application and eliminated of various paper based process.
Human Services Cost Allocation System	In FY 2007 this project implemented a system that ensures compliance with federal and state cost allocation methodologies, data reporting, analysis, and security. The system serves as the basis for claiming federal and state reimbursement for the County's eligible social service expenditures.
IT0003 Land Development System*	
LDS net	LDSnet is a single repository of land development data designed as a search and query tool. LDSnet allows update access as well as upgraded the application software to comply with County standards and vendor support.

Project Name and Number	Description
IT0004 Geographic Information Systems*	
Fairfax County Master Addressing System (MAR)	This project delivered a single standardized and centralized parcel address database for all site parcel addresses (365,000+) in Fairfax County. It ensures valid and complete address information that is a foundational requirement for efficient and effective operations, and essential for effective operation of the new CAD/911 system. The MAR is the authoritative source of (sites) addresses in Fairfax County. Project was substantially complete in FY 2008.
2G70-005-000 Tax and Revenue Modernization (IT0006)	
Tax/Revenue Systems	This project successfully replaced the County's legacy real estate mainframe system with a commercial-off-the-shelf (COTS) product called Integrated Assessment System (IAS). Implementation of IAS has allowed for a comprehensive overhaul of many existing functions such as real estate administration, account maintenance, assessment, exemptions and adjustments, accounts receivable, and billing. The core system was completed in FY 2004.
Revenue Collection Cashiering	This project replaced an unsupportable legacy cashiering system with a COTS cashiering system for the receipting and depositing of taxes and fees. The project implemented a complete revenue collections solution that provides the functionality required and is technically capable of accommodating legislative changes and business operations.
Tax/Revenue Administration	This final project delivered a Fairfax County web hosting solution for the IASWorld/ iCare module, currently hosted externally. It eliminated the need to transfer sensitive Real Estate Information to an external vendor and provided iCare users and Fairfax County taxpayers with a more recent view of Real Estate information.
IT0008 Library Projects*	
Self-Check Out and Wireless Public Access	This project enhanced the library system's services by successfully implementing automated Self-Check Out at library circulation desks through out the library system and providing wireless public access to on line information services and catalogues at Fairfax County libraries. The projects were completed in FY 2007 and FY 2009.
IT0011 Document Management*	
County Archives and Records Center – Automated Records Mgt. System	This project enabled the County Archives and Records Center to increase the efficiency, effectiveness, and accuracy of public document transfers, retrievals, and disposals as mandated by the Code of Virginia and County of Fairfax Board of Supervisors. Bar code/scanning technologies for County Archives and Records were implemented. Work was completed in April 2004.
Document Mgt & Imaging – Sheriff's Office	This project improved the efficiency, effectiveness and accuracy of inmate records management by eliminating transfers to County archives and providing critical decision-making documents online. Imaging technology was used to benefit internal and external users including bondsmen, lawyers, judges, magistrates and local law enforcement agencies. Project was complete in FY 2004.

Project Name and Number	Description
Electronic Accounts Payable (EAPS)	The EAPS project replaced the County's decentralized accounts payable processes by implementing proven imaging, e-signature, and workflow technologies thus improving internal controls and analysis of the County's accounts payable processes and reducing reliance on paper intensive processes. All County agencies were trained and transitioned to EAPS invoice processing within the first quarter of FY 2010.
2G70-013-000, 2G70-014-000 Health Department Information Systems (IT0015)	
Health Department Information System	The core AVATAR project provided a central database of information for management needs of the Fairfax County Health Department. The system provides operational efficiencies as well as ensures compliance with privacy laws and County regulations. The core project was complete in FY 2009.
Laboratory Information System	The project implemented a COTS Laboratory Information System that upgraded existing processes, enabled more efficient interaction with health care providers, and avoided the escalating cost of contracted laboratory services.
IT0024 Public Access Technologies*	
Public Access Technology – Kiosks	The multimedia kiosk was one of the key technologies in the e-government strategy deployed by Fairfax County to assist citizens with access to government information and business transactions in convenient location. The kiosk application known as the Community Resident Information Services (CRIS) provided the public easy access to applications running on the County's web site and IVR applications as well as regional information. Due to budget constraints and availability of more widely used e-government channels and internet capabilities, the KIOSK program was retired in FY 2010.
Electronic Payments	This Project implemented a uniform payment process for constituents and consolidated bill presentment and payment processes.
EAN Emergency Alert Network	Successful implementation of an Emergency Notification and Wireless Communication System, Emergency Alert Network (also referred to as the Roam Secure Alert Network) to alert the public about emergency events in Fairfax County.
2G70-016-000 Correspondence Tracking and Management System (IT0022.9)	
Correspondence Tracking and Management System	This project provided enhanced communication between County staff, departments and agencies. The system provides an integrated approach to service delivery enabling users to link to other areas within the database, as well as extended outside the IQ system through scheduling scanned images, e-mail, fax, and incoming/outgoing postal mail. The project enables agencies to automate business processes and work flows, reduce duplication of effort, and share information. These benefits are amplified by the delivery of a seamless constituent interface and enhance customer service.

Project Name and Number	Description
IT0025 Adult Detention Center Information System (SIMS)*	
Adult Detention Center Information System	The Sheriff's Information Management system provides an integrated system that reduces operational costs, improves integration of criminal justice systems and data, and enables improved decision making. The SIMS project offers enhanced functionality for booking, prisoner classification, medical and forensic programs, community corrections, court services and information needs. SIMS was implemented in February 2008.
2G70-021-000 Circuit Court Technology (IT0039)	
Circuit Court Technology	Past accomplishments include development and deployment of the Court's Land Records Recording System, including document imaging; implementation of the Court Public Access Network (CPAN) retrieval system, use of an automated jury management system to administer 45,000 potential jurors annually; deployment of a case management system to control the administration of the Court's judicial case load; development and implementation of paperless probate processing; development and implementation of a streamlined marriage license process which utilizes scanners to import data from customers' operator licenses; implementation of electronic docketing display directing public to the assigned courtroom.
2G70-024-000 Human Resource Information Systems (IT0043)	
Human Resource Information Systems	Enhancements to the human resource operations include improved reporting capabilities for agencies, and improved look and feel for a variety of functions like time sheet, and on-line pay advice, and the implementation of a succession planning and knowledge management suite, and on-line benefits enhancement. As of FY 2009 future progress in the human resource systems area will be incorporated in the FOCUS project (IT-000001-001 (IT0079)).
IT0047 Upgrade Commodity/Service Codes*	
Upgrade Commodity/ Service Codes	This project replaced the County and Fairfax County Public School's (FCPS) outdated and proprietary stock numbering system with an updated system used by Fairfax County, FCPS and other government vendors. The new numbering system enabled the merging of both the County's FCIN system and FCPS stock numbering system into one application.
2G70-025-000 Fire and Rescue Incident Reporting and Records Management (IT0048)	
Fire Records Management	In FY 2009 the transition from the web based Fire Records Management System (FRMS) incident reporting system to the client\ server FRMS incident reporting system and integration of the new incident reporting system with the new CAD system was completed. This change in application platform better positioned the Fire and Rescue Department to implement additional modules of the FRMS suite.

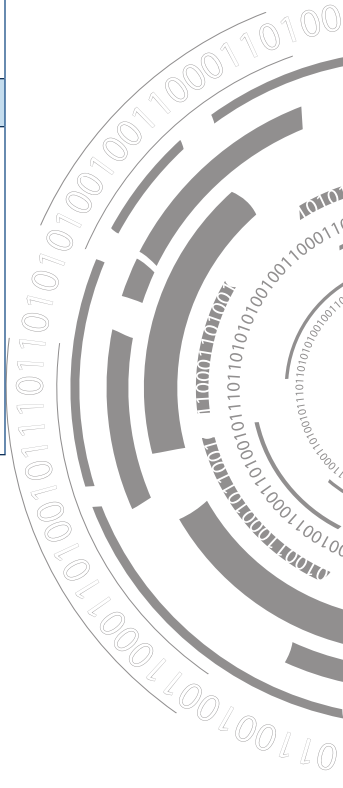
Project Name and Number	Description
Electronic Patient Care Reporting System (ePCRS)	The ePCRS was implemented in FY 2008 with the deployment of a tablet based computer system for all Fire and Rescue units. Patient treatment information is collected directly on the tablet computer while the crew members provide emergency medical care. The patient information is linked via secure wireless service to the Electronic Patient Care Reporting Servers for direct storage. The process is fully HIPAA compliant and digitally capturing the patient information reduces the overall time required to complete the required reporting process through the elimination of duplicate processes (paper and pen reporting) and provides more accurate information for better record keeping.
Incident Reporting and Records Management Systems (FRD)	The FRD Incident Reporting And Records Management Project is part of the multi-system, multi-phase initiative which successfully delivered a unified technology platform across public safety agencies in Fairfax County. This project replaced the legacy CAD system with a new, fully integrated and interoperable Computer Aided Dispatch system. The CAD system is integrated with the Fire Records Management System (FRMS) and Electronic Patient Care Reporting System (ePCRS).
2G70-026-000 Public Service Communications Replacement Project (IT0050)	
Public Service Communications Replacement Project	In FY 2007 this project replaced the two-site radio network with a seven-site, 800 MHz trunked analog radio system. The Public Service Communications System provides two-way radio communications for all County non-public safety agencies as well as the Fairfax County Public School Transportation Department (school buses), FASTRAN and the Fairfax County Water Authority. The completed system provides adequate call processing capacity and area coverage to more than 90 percent of the area within the jurisdictional boundaries for Fairfax County and provides a fully independent backup radio system for public service agencies.
2G70-027-000 Community Services Board (CSB) Initiatives Project	
Community Services Board (CSB) Initiatives Project	This project was retired from the IT Plan in FY 2017. As a result of reprioritization of strategic initiatives in the Human Services area, existing balances were reallocated to the Diversion First Interoperability Project in FY 2017.
2G70-030-000 Fairfax Inspections Database Online (FIDO) (IT0055)	
Fairfax Inspections Database Online	The original FIDO project completed the replacement and consolidation of several platform-specific land use management systems into a single enterprise solution that supports land use permit issuance, inspection, and code enforcement operations. FIDO also supports ninety different permits and land use complaint types as well as a web portal to allow citizens and businesses to query the status of a permit applications and code enforcement complaints.

Project Name and Number	Description
2G70-034-000, 2G70-035-000 Courtroom Technologies Pilot and Wayfiding Project (IT0056)	
Courtroom Technologies Pilot and Wayfiding Project	In FY 2005 this project successfully developed a prototype courtroom as a guide for future courthouse expansion and renovations to determine and assess future courtroom technology needs and requirements of Fairfax County Courts. The project identified court and courtroom technologies appropriate for the expansion and technology operations of the courts. In FY 2011 this project completed the installation of electronic docket displays in all three Fairfax County courts as well as public information monitors strategically placed at the Information Desk at the main entrance to the Courthouse. Integration of the County's docket display system with Virginia Supreme Court was also successfully completed in FY 2011.
IT0057 Community Policing*	
Community Policing	Timely and accurate information flow is critical to a successful community policing program. This project expanded that capability of officers to access e-mail and prepare and present useful information to citizens.
IT0059 Office of Children- Wireless Permitting*	
OFC – Wireless Permitting	The project provided Child Care Specialists and Fire Department Inspectors with wireless tablets for use during home visits, and enabled successful transfer of inspection information into the Office for Children information system.
IT0060 IT Security Projects*	
Identity Management	The project implemented a standardized and centralized secure authentication and authorization platform for access to web based system applications.
Security Monitoring and Audit Control	The project implemented an enterprise security monitoring and audit control process on an enterprise-wide initiative for access control and auditing on critical Windows and UNIX operating systems platforms.
IT Security – Intrusion Detection	The project implemented a modular network infrastructure for incorporation of the necessary levels of security to be embedded in each specific functional area. Critical Internet Protocol data segments were outfitted with intrusion detection sensors to ensure data integrity. This architecture mitigates security vulnerabilities, yet provide the necessary flexibility to meet County business needs.
2G70-038-000 Telecommunication Modernization Project	
Telecommunication Modernization Project	This project completed implementation of Fairfax County's strategic goal of providing Voice over IP services over the County's fiber optic network – INET. The strategy included a scalable architecture supporting a variety of County sites and agency business requirements. The project successfully completed implementation of a flexible enterprise class voice platform. The new voice platform provides the foundation for wireless integration and incorporating a variety of smart mobile devices. This enterprise class voice platform touches over 16,000 telephones, fax machines, private lines and devices used by County employees.

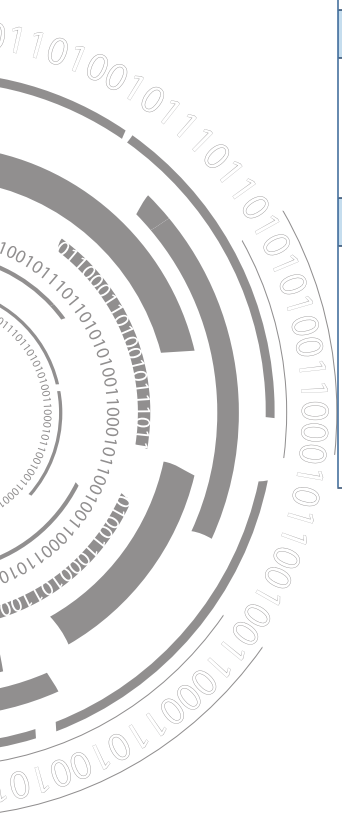
Project Name and Number	Description
2G70-039-000 Police Records Management Projects (IT0062)	
Evidence Tracking System	In FY 2006 the Evidence Tracking project enabled the cataloging, storage and security of evidence collected by the Police Department (FCPD). The evidence tracking system generates a barcode label for every item of evidence presented for storage. Barcode readers can be used to inventory the evidence to perform audits of evidence management practices.
Police Records Management System – I/LEADS	The I/LEADS Project was part of the multi-system, multi-phase initiative which successfully delivered a unified technology platform across public safety agencies in Fairfax County ensuring a unified technology platform that seamlessly shares and processes data across public safety functions and leverages available technologies. I/LEADS increased the Police Department's ability to prevent, respond to, manage, and analyze situations that threaten the safety and property of citizens.
IT0063 Facilities Space Modernization*	
Facilities Space Modernization	This project successfully upgraded the County's Conference Room Center and meeting rooms with advanced and automated conferencing, A/V and meeting capabilities. The project was completed in FY 2009.
IT0067 Stormwater Maintenance Management*	
Stormwater Maintenance Management	This project consolidated a number of standalone databases used for work-orders, complaints, and infrastructure inventory into one integrated and streamlined maintenance management system. The new system reduced operational costs, enabled integration of agency data, and reduced reliance on paper intensive manual processes while improving accuracy and better access to information. This project was completed in FY 2009.
IT0068 Home Occupation Permitting System*	
Home Occupation Permitting System	In FY 2007 this system provided increased efficiency for processing Home Occupation Permits and enabled staff to access permits for more effective and efficient operations and improved customer service.
IT0069 Integrated Housing Management*	
Integrated Housing Management	The housing and Community Development's housing management system was complete in FY 2010. The project redesigned and consolidated multiple systems and databases, eliminated manual data entry and streamlined HCD requirements for compliance with federal reporting requirements.

Project Name and Number	Description
2G70-067-000 Court Scheduling System (IT0071)	
Court Scheduling System	The Court Scheduling System (CSS) allows court administrators and the Police department to coordinate traffic court dates in order to level out and evenly distribute daily court dockets in the General District Court. CSS produces reports to help manage and resolve scheduling issues between the Court and the Police Department. Additional functionality was added to CSS to streamline officer court dates, and allow the Fairfax County Police Department to enter criminal and juvenile cases court dates into the system. By FY 2010 work was completed to enable court users to manage court schedules for ticket writing groups external to Fairfax County. In FY 2011 the Court Scheduling System successfully implemented an interface with the Supreme Court of Virginia's Case Management System for District Courts which enables the court to manage court dockets in real time.
2G70-042-000 Integrated Parcel Life Cycle System (UDIS) (IT0073)	
Integrated Parcel Life Cycle System	In FY 2008 this project replaced the obsolete Urban Development Information System (UDIS) and created a cross-functional data repository to better harness the value of the land parcel information the County maintains and to make that information more accessible across County agencies. This updated system satisfies an ongoing requirement for the Council of Governments and County agencies.
IT0074 Data Analysis Reporting Tool (DART)*	
Data Analysis Reporting Tool	This project provided an integrated data warehouse for data from the County's legacy financial, procurement and payroll systems. The system provides enhanced internal reporting capabilities. The DART project roll out was complete in March 2008. The new FOCUS project will use DART to migrate data into the ERP system.
IT0076 Interactive Web Intake Program*	
Interactive Web Intake Program	This project provides support for the interactive web-intake program at the Department of Housing and Community Development that provided the public access to services 24/7, applications in multiple languages, eliminated manual processes and redundant paperwork. The project was complete in FY 2010.
2G70-043-000 Courthouse Expansion Technology Project (IT0078)	
Courthouse Expansion Technology Project	This project completed the planning, design and implementation of modern courtroom technologies for the new Fairfax County Courthouse. The Courtroom Technology Management System successfully integrates modern courtroom technologies into traditional courtroom activities. The systems provide for integrated and electronic evidence presentations, video conferencing for arraignments and remote witness testimony, real time court recording, integrated assistive listening and interpretive system, as well as judges' control of courtroom technologies from the bench. All high technology courtrooms include multiple flat screen monitors allowing the judge, jury and gallery to view unobstructed presentations of evidence. In FY 2012 this initiative has moved into an operational phase for maintaining and managing complex courtroom technologies in the new courtrooms as well as continuing work on renovation of twenty six existing courtrooms.

Project Name and Number	Description
IT0080 Juvenile and Domestic Relations Court (JDRC) Residential Services Intake System (RSIS)*	
JDRC Residential Services Intake System	In FY 2009 a new RSIS application using .NET and SQL technologies was developed and implemented to meet current County standards in order to provide court staff easy access to information contained in a database of residential placement information.
IT0081 Housing Management Software Upgrade*	
Housing Management Software Upgrade	In FY 2009 this project updated existing Department of Housing and Community and Development (HCD) software used for management of its portfolio of properties and for financial reporting. The upgraded software is a full-featured, financial accounting package that includes management and compliance tools for all federally funded housing programs, as well as for commercial and tax credit properties.
2G70-044-000 Land Use Information Accessibility Initiative (IT0082)	
Land Use Information Accessibility Initiative	Initiatives streamlined constituent access to relevant land use information, enhanced navigation and provide more intuitive and web-based visualization tools for understanding the spatial environment. These efforts exhibit Fairfax County's commitment of make land use process and information more open, inclusive, and citizen-oriented. These projects further enable citizens' awareness of land use information impacting their neighborhoods and facilitate citizen participation in the process. Information on these systems is available 24/7 over the County's website.
2G70-045-000 Public Safety Architecture Modernization – ICAD (IT0083)	
Public Safety Architecture Modernization	The Public Safety Architecture Modernization project provides the underlying infrastructure components and shared capabilities required for an integrated, interoperable public safety system. This project also supports operational components of a CAD and RMS including network infrastructure, and adopting standard Geographic Information System (GIS) to meet public safety requirements. In November 2009 implementation of a new ICAD system for Fairfax County public safety agencies was successfully completed.
2G70-049-000 Loan Processing System Replacement (IT0085)	
Loan Processing System Replacement	This project replaced HCD's twenty three year old Loan Processing System with a COTS package that facilitates current loan processing and tracking needs, as well as connectivity to the Department of Finance for reporting and compliance. Through the years both the functionality and technology associated with the existing system have become dated and the need for a more robust loan processing system has grown. Implementing a current loan servicing system that utilizes web technology to properly account, service and report on the excess of $46 million in loans in the HCD portfolio will allow for enhanced revenue and compliance with federally mandated HUD programs.



Project Name and Number	Description
2G70-050-000 Fire Station Alerting Technology Replacement Project	
Fire Station Alerting Technology Replacement Project	This project completed successful implementation of a turn-key system replacement of fire station alerting (FSA) components. This alerting system is a critical part of the 911 systems and public safety response, and is a requirement specified in the National Fire Protection Association (NFPA) 1221 Standard. This technology life cycle replacement brings the Fire and Rescue Department's (FRD) station alerting system to a technical level to integrate with the Public Safety Computer Aided Dispatch (CAD); and enables Fairfax County to meet the public safety goals of reduced response times, enhanced communication, and immediate access to relevant and critical information for first responders. The project was complete and retired from the IT Plan in FY 2016.
2G70-051-000 Data Reporting Project - DFS (IT0089)	
Data Reporting Project	With the concurrence of all stakeholders, existing balances of $400,000 from this project were reallocated to fund the newly established high priority Human Services Data Repository Project (3G70-077-000). This project was not activated.
2G70-053-000 Retirement of Legacy Systems Project	
Retirement of Legacy Systems Project	This project was retired from the IT Plan in FY 2018. The Retirement of Legacy Systems project supported the conversion and migration of remaining legacy business systems, databases, and data off the mainframe onto more contemporary platforms. This project was the final step in eliminating the old data center infrastructure and operational support model and embraced opportunities for accelerating the on-going consolidation of server and storage environments and 'cloud' type services, which have yielding operational savings and enhanced 'green' IT initiatives..
2G70-077-000 Human Services Data Repository Project	
Human Services Data Repository Project	This project was retired from the IT Plan in FY 2017 as a result of reprioritization of strategic Human Services initiatives, existing project balances were reallocated to the new Integrated Human Services Technology Project.
IT0087 ParkNet Security Upgrade*	
ParkNet Security Upgrade	This project replaced and upgraded the Park Authority's legacy IT hardware and software and brought the systems into compliance with Payment Card Industry Standards (PCI) and the County's infrastructure standards. This initiative ensured conformity with the County's current IT infrastructure and security standards as well as compliance with PCI mandates for accepting credit card payments over the internet and IVR. This project was complete in FY 2011.



Project Name and Number	Description
IT-000001 Fairfax County Unified System – FOCUS (IT0079)	
Fairfax County Unified System – FOCUS	The software procurement was completed in the summer of 2009 with the purchase of SAP software. The project began implementation activities in summer 2010; the financial management and procurement system (Phase 1A) went live in November 2011. Project Phase 1B (enhanced supplier management functionality completed in FY 2013, and Phase 2 (County human capital management) went live June 2012 for the first payroll run in FY 2013.
IT-000003 Data Loss Prevention	
Data Loss Prevention	DLP provided the means to configure warnings and prevent users from copying sensitive data to unauthorized CD/DVD's or USB drives, which in turn could then be physically taken out of the control and protections of the County's endpoint security solutions. The implementation of Data Loss Prevention resulted in reduced compliance costs, auditing costs and the Total Cost of Ownership. This project was complete in 2014.
IT-000004 Emergency Management Portal	
Emergency Portal Management	This application was developed and implemented in-house to allow first responders in the field to report data about facility conditions, road closures and other pertinent information to personnel at the EOC via a smart device, workstation or Mobile Computer Terminal (MCT). The data is collected in a highly configurable database allowing the flexibility to adjust the data collected based on changing conditions and requirements. Data is then structured in a way to allow GIS to consume the data and graphically represent conditions on a map. This project was completed in 2014.
IT-000018 Enterprise Identity Management System Project	
Enterprise Identity Management System Project	This project supported the implementation of a single centralized consolidated identify management solution across enterprise county IT systems, it replaced and merged SAP and enterprise Identity Management (IDM) systems with a single solution to provide a more robust, agile, and flexible tool to integrate across all county IT systems. In order to meet security, management, and compliance demands, the new system allows central authentication and brings all user accounts into a single common directory for the County's IT enterprise. The solution integrates with Governance Risk and Controls (GRC) security reporting product to allow for stronger security and monitoring of user accounts, and access control for the County's information systems. The system reduced manual account management and processing, increase automation, reduce time on - boarding and off-boarding county users/ employees and integrated with all SAP and non-SAP systems for unified and centralized authentication across the county's IT enterprise. The project was complete and retired from the IT Plan in FY 2016.

*Depict project numbers in FAMIS whose numbers did not get transferred over to the new system (FOCUS)

Fairfax County
VIRGINIA

A publication of the County of Fairfax, Virginia

Publication Date: July 2017

Prepared by the
Fairfax County Department of Information Technology
12000 Government Center Parkway, Suite 527
Fairfax, VA 22035
703-324-3380 TTY 711
http://www.fairfaxcounty.gov/dit