Fairfax County, Virginia

LINES OF BUSINESS

July 2016

DEPARTMENT OF INFORMATION TECHNOLOGY (DIT)

County Lines of Business (LOBs)
Presentation to the Board of Supervisors

www.fairfaxcounty.gov/budget/2016-lines-of-business.htm

OUTLINE OF TODAY'S PRESENTATION

1. Department Overview
2. High level view of our 17 Lines of Business (LOBS) with metrics
   - IT Investment Fund
   - GF - Software/Solutions, WEB, GIS, Services
   - IT Infrastructure
   - Document Services
3. Trends and Challenges
4. Looking Forward
5. Discussion

*See **www.fairfaxcounty.gov/budget/2016-lines-of-business.htm** to access LOBs documents and presentations.*

DEPARTMENT OVERVIEW

DIT was established by the Board of Supervisors as the central technology authority, utility and provisioning agency for Fairfax County, based on the recommendation of an a committee of county government and private sector leaders Information Technology Advisory Group (ITAG – 1994).

Core ITAG recommendations:

- Commitment to funding
- Establish SME leader position (CIO/CTO)
- Establish centralized management approach to IT for all agencies (DIT)
- Strategic planning
- Training
- Optimize resources, using staff and industry
- Disaster preparedness and recovery

DIT designs, manages, implements and maintains all aspects of IT solutions and supporting infrastructure that enable County agencies to deliver services and information.

Provides leadership, governance, architecture, and technical resources and expertise in development and deployment of IT capabilities.

Enables the County to transform business processes for increased efficiencies and effectiveness through the use of technology and delivering at in best optimized cost effective manner.

Enables multiple levels of citizen services and interaction through online services, bill & tax payments (online and mobile), open data, visitor information portal, land information, issue reporting, crime reporting, transparency, etc.

DEPARTMENT OVERVIEW

DIT has 17 specific technology and communications specialty units – ***Lines of Business (LOBs).*** DIT **directly** supports:

- **All agencies within Fairfax County Government**
- **Certain capabilities for Fairfax County Public Schools**
- **Local partner governments within the county's geo-print**
- **National Capital Region (NCR)**
- **The Public**

County IT environment **operates around the clock** - county technology is accessible 24 x7, 365 regardless of county government open/closed status so that agencies and citizens can function.

DIT staff provide essential support 24x7, **from anywhere.**

SERVICE DELIVERY MODEL FOR INFORMATION TECHNOLOGY

DIT	County Agencies
• Developing, overseeing and compliance for county-wide IT strategy, policies, standards and solution acquisition.	• Responsible for determining business needs and requirements for agency IT solutions.
• Manages County-wide IT governance.	• Re-designing business processes to align with optimal use of technologies.
• Establishing standards for application development and data reporting.	• Justification for new technology investments and ROI.
• Steward for IT Security policy, incident response, investigations, data/records search and enforcement including data privacy compliance.	• Business Project Lead for new IT projects, managing scope and compliance with associated laws and regulatory requirements related to the agency business; managing project steering committee.
• Developing and implementing enterprise-wide IT infrastructure and applications solutions supporting all agencies such as e-mail, messaging, ERP, CRM, document management, GIS, etc.	• Determining, managing and informing DIT of agency-based users for access rights for enterprise systems and the network, and for conducting monthly reviews.
• Providing the communications infrastructure including 9-1-1 (network, telephone, wireless, radios, smart phones) and associated systems and contracts for all county agencies and constitutionals. Network and radios also for Fairfax County Public Schools.	• Responsible for knowledge and decisions about the agencies' data and developing basic reports.
• Application development and maintenance	• System Administration for small agency specific business systems as appropriate.
	• Conduct user acceptance testing and sign-off for new systems.

SERVICE DELIVERY MODEL (INFORMATION TECHNOLOGY)

DIT	County Agencies
• County WEB-site and GIS architecture, infrastructure, navigation, search and document management tools, • mobile apps and electronic services development lead. • Develop data warehouses and complex reports for individual, multi-agency and enterprise-wide • requirements. • Provides IT strategy and consulting advice to all agencies. • IT input and review for IT procurements. • Manage PC Replacement program and required licenses, includes laptops and tablets. • Providing and maintaining all common IT tools and SW licenses for use County-wide. • Oversees All county data centers and galleries. • Provides disaster recovery program • Technical project lead for all IT Projects • Manages the IT Projects investments portfolio	• Talk with peers and conduct market scans for specific industry applications. • Determines agency specific system user training. • Establish documentation and SOPs related to use of agency systems. • Augment local desk-side technical support

OVERVIEW

Centralized Enterprise Structure

Private Cloud with great Total Cost of Ownership (TCO):

- **Applications, Infrastructure, e-Gov, GIS, Courts, Cyber Security for:**
  - **50 plus county agencies**
  - **24,000 plus end-points**
  - **Over 600 business specific applications**
  - **20,000 plus WEB pages**
  - **1,000 + servers (virtualized)**
  - **Data Center mirrored to Commercial Tier 3 Co-location**
  - **400 sq. miles fiber supporting 400 County & Schools sites**

Plus off the grid:

23 localities and partners secure network/data interoperability in the NCR, MWAA, WMATA, etc.

BIG PICTURE

Department of
INFORMATION TECHNOLOGY

www.WeCanDoIT@FFX.DIT

DIT: A HIGH PERFORMING ORGANIZATION

TECHNOLOGY GOALS

- Ensure Visibility, **Security,** and Accountability
- Consolidate and Simplify IT
- Maximum Performance
- Leverage Energy Efficient Computing
- Expand Shared Services & Business Consolidation
- Adopt & Promote Self-Service & Mobility
- Automate Support Processes
- Build a Culture of Agility
- Enhance Customer Experience
- Harness Data

Cornerstone Strategy

"Government without Doors, Walls or Clocks"

BOS 1997 – Still Relevant

DIT: A HIGH PERFORMING ORGANIZATION

PERFORMANCE:

No appreciable breach of environment or workplace interruption due to unauthorized penetration in over 14 years.

No data loss due to cyber attacks.

No Holistic Data Center crashes due to IT failure.

Supported by:
Best Practices
Defense-in-Depth Cyber Security Architecture

Operating 24 x 7/365 with single business day staffing

99.999% uptime

DIT STRATEGIC FOCUS

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

Leverage technology to stimulate the development of an environment that promotes an open, collaborative, and unifying culture.

Provide an agile technological infrastructure able to rapidly respond to changing technology and business demands to support the agencies' ability to deliver services.

Some Key Objectives

Provide the enabling capability for Fairfax County serving a technology savvy population and business community

Align Technology with Business Vision

Enable enterprise operability, responsiveness posture, and transformation opportunity

Combine innovation and investment strategies

Enhance Citizen Access to Information and Services - Promote and deliver on-line – anywhere/anytime services

Maintain a sound, secure infrastructure capacity that address other trends and County business opportunities

Develop and maintain technically skilled staff competent in current & emerging technology, and a user community that understands and can employ technologies to maximize productivity and effectiveness.

www.WeCanDoIT@FFX.DIT

PRACTICING GOOD GOVERNANCE

Fairfax County IT governance leverages external and internal advisory committees composed of county employees and citizens that are subject matter experts. Key committees include:

See Section 1: Fairfax County IT Plan

BOS appointed citizen group: ITPAC

Information Technology Policy Advisory Committee - ITPAC provides BOS with expert IT policy advice, and the CTO with technology direction advice and validation and applicability of IT industry and public policy trends.

Formed by the County Executive: Sr. IT

Senior IT Steering Committee oversees policy and IT investments, and provides guidance and decision advice on deployment of technology to ensure their alignment, value and support of business requirements in Fairfax County.

Sr. IT or CTO may activate sub-committees of senior officials around specific investments, strategic initiatives, business areas, and/or issues:

- E-Gov Steering Committee
- Public Safety IT Governance Board
- Courtroom Technology Governance Board
- Human Services Integrated IT Leadership Committee
- Land Development Steering

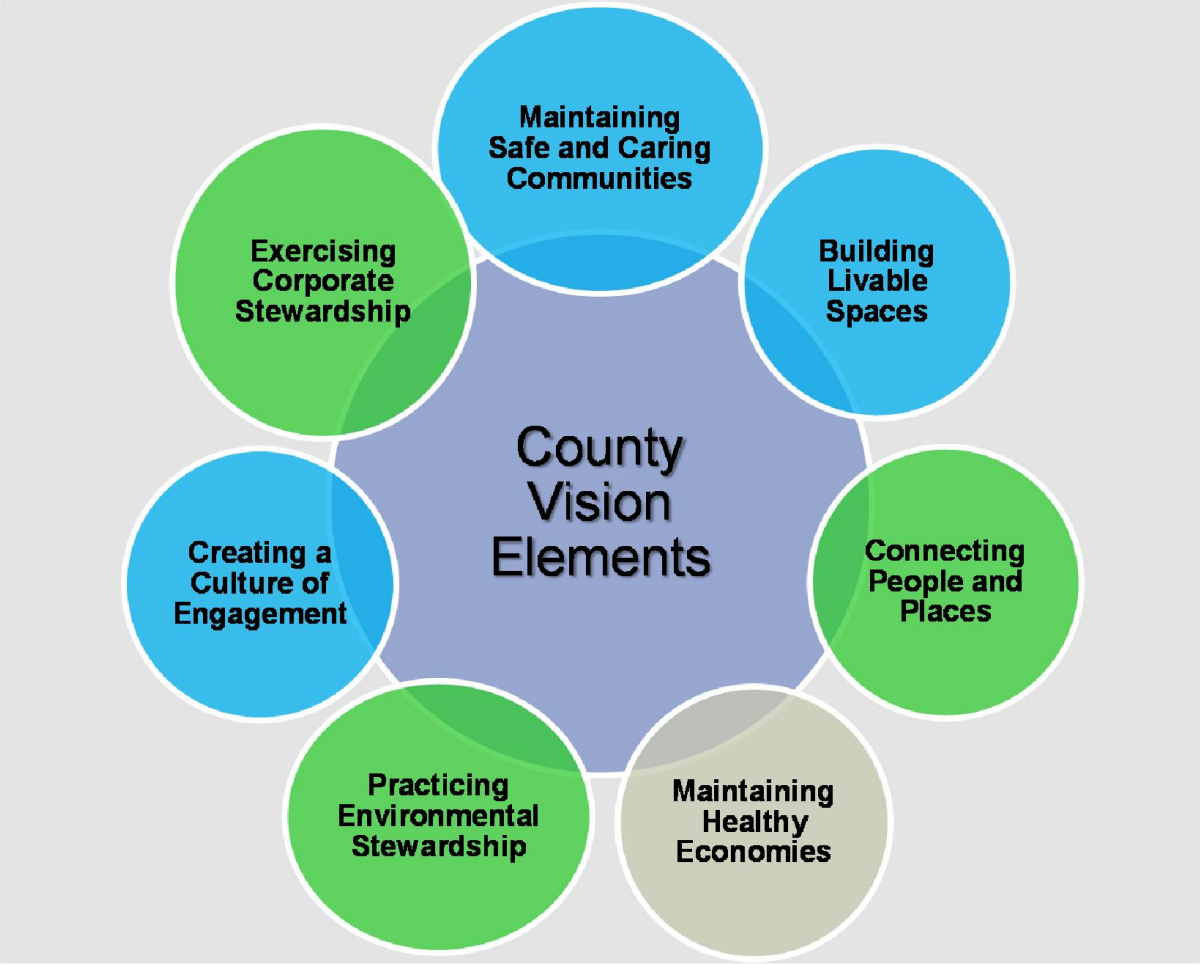
COUNTY VISION ELEMENTS

The set of DIT programs directly support County Vision Elements:

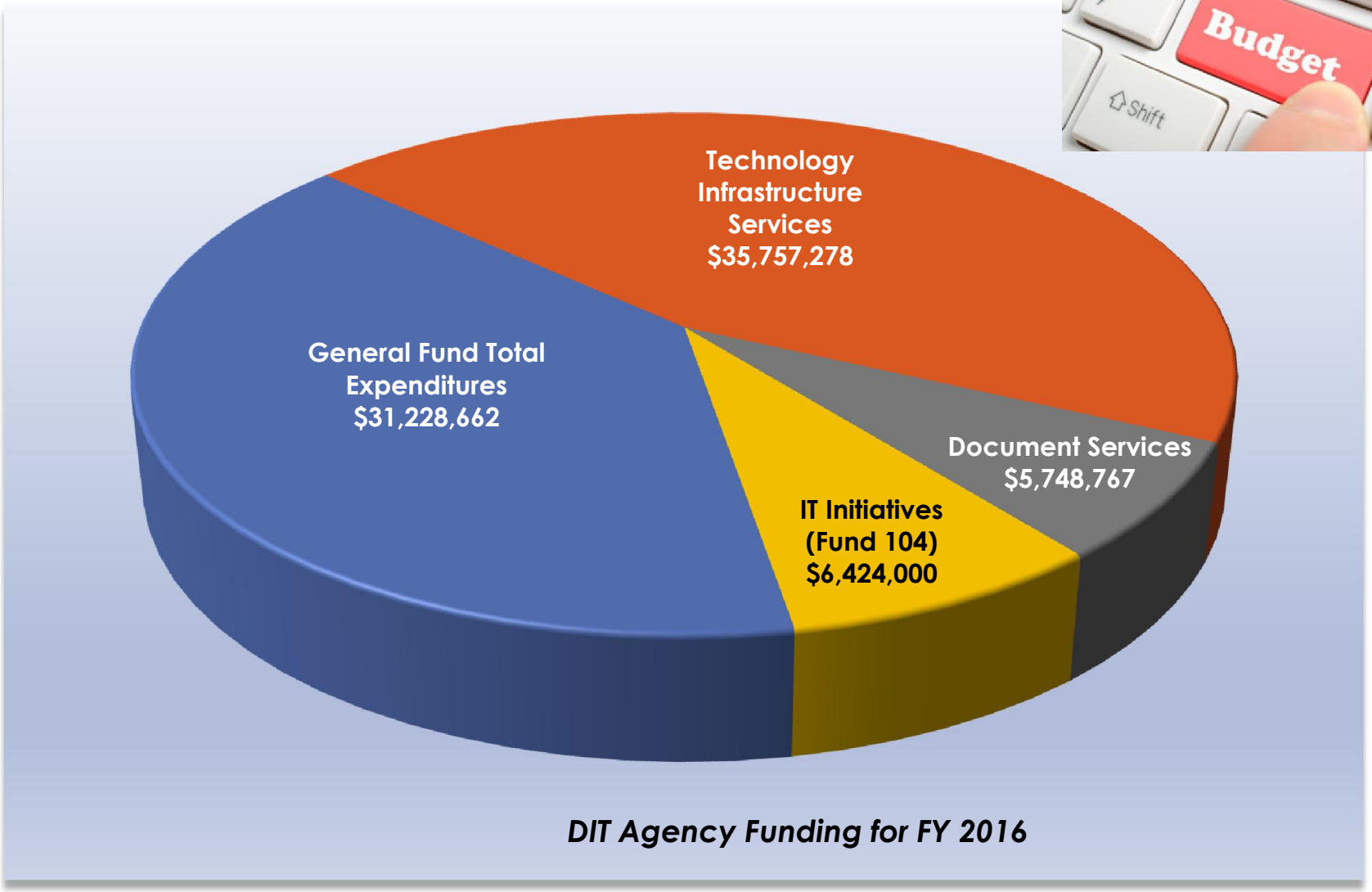
Signifies support of Vision Element – ***Technology Infrastructure***

Signifies support of Vision Element – ***IT Solutions for County agencies***

Does not directly contribute to Vision Element



DIT TOTAL FY2016 FUNDING



DIT Agency Funding for FY 2016

DIT LOBS: FUNDS

Fund Title	# of LOBs in Fund	Major Program Focus	FY 2016 Adopted Funding*	Positions
General Fund	10	Enterprise and Agencies major applications: (SW development, solution integration, data reporting), Infrastructure Support, E-Government, Courtroom Technology, Telecommunications services, Cyber Security	$ 31,265,574	250
Information Technology	1	Annual IT projects portfolio	$ 6,424,000	0
Technology Infrastructure Services	4	Network, Data Center, Technology Infrastructure, SW licenses maintenance, PC Replacement, Radio Services	$ 35,757,278	73
Document Services	2	Multi-Function Devices and Print Shop	$ 5,748,767	10

Notes:

Technology Infrastructure Support is broken across two funds, General Fund (LOB #141) and Technology Infrastructure Services (#302). End User Services (#132) and Telecommunications (# 136) which are part of supporting the County's IT infrastructure is funded within the General Fund. Telecommunications moves to Technology Infrastructure along with all other infrastructure transport services in the FY 17 budget plan.

During the next three years, 107 DIT employees are eligible to retire which represents 34% of DIT's workforce

GOVERNING
THE STATES AND LOCALITIES

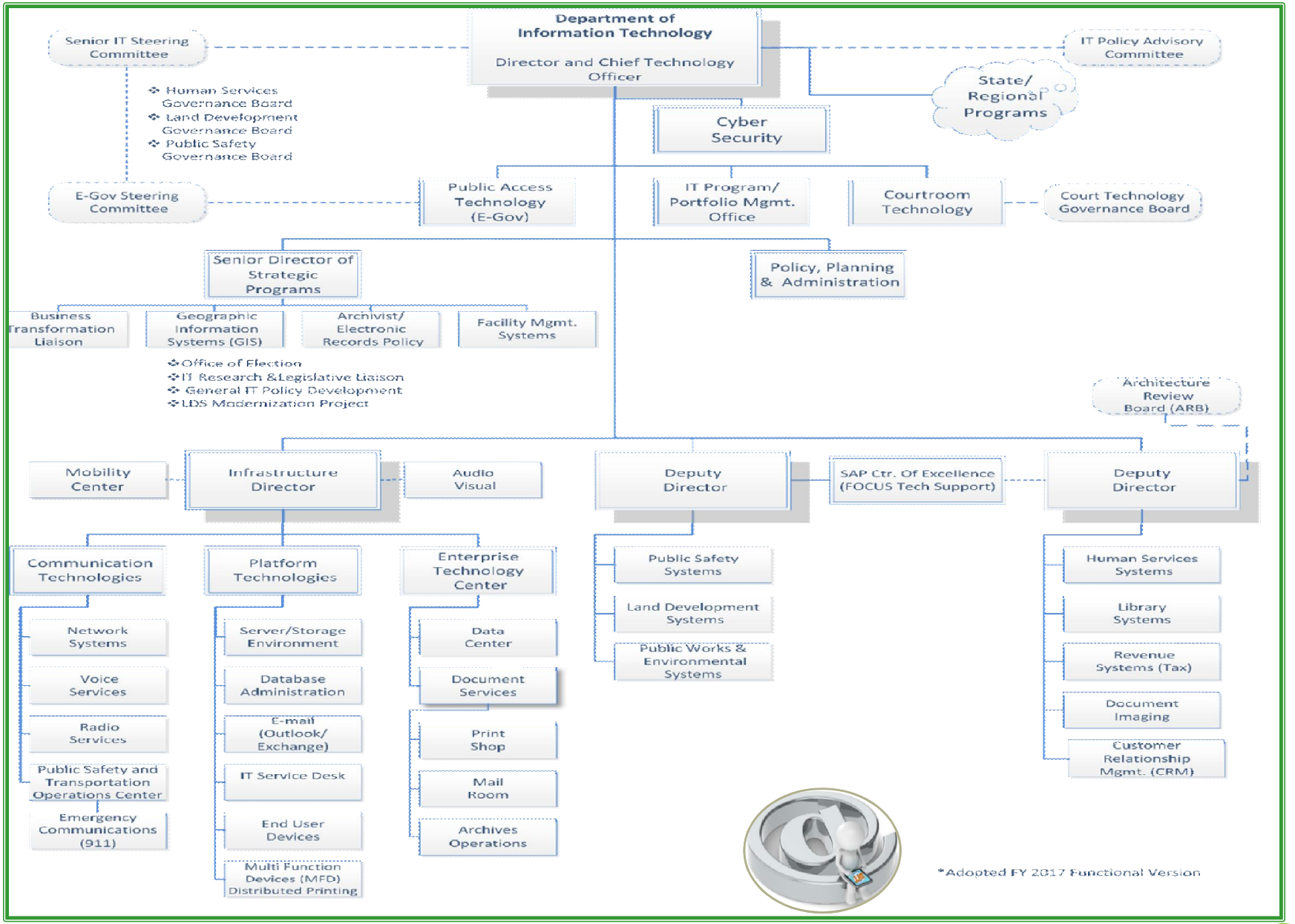
FINANCE | HEALTH | INFRASTRUCTURE | MANAGEMENT | ELECTIONS | POLITICS | PUBLIC SAFETY | URBAN

MANAGEMENT & LABOR

The 'Silver Tsunami' Has Arrived in Government

Significantly more state and local workers are retiring or quitting, according to a recent survey.

BY MIKE MACIAG | MAY 31, 2016


Department of Information Technology
Director and Chief Technology Officer
Senior IT Steering Committee
Human Services Governance Board
Land Development Governance Board
Public Safety Governance Board
IT Policy Advisory Committee
State/ Regional Programs
Cyber Security
E-Gov Steering Committee
Public Access Technology (E-Gov)
IT Program/ Portfolio Mgmt. Office
Courtroom Technology
Court Technology Governance Board
Senior Director of Strategic Programs
Policy, Planning & Administration
Business Transformation Liaison
Geographic Information Systems (GIS)
Archivist/ Electronic Records Policy
Facility Mgmt. Systems
Office of Election
IT Research &Legislative Liaison
General IT Policy Development
LDS Modernization Project
Architecture Review Board (ARB)
Mobility Center
Infrastructure Director
Audio Visual
Deputy Director
SAP Ctr. Of Excellence (FOCUS Tech Support)
Deputy Director
Communication Technologies
Platform Technologies
Enterprise Technology Center
Network Systems
Voice Services
Radio Services
Public Safety and Transportation Operations Center
Emergency Communications (911)
Server/Storage Environment
Database Administration
E-mail (Outlook/ Exchange)
IT Service Desk
End User Devices
Multi Function Devices (MFD) Distributed Printing
Data Center
Document Services
Print Shop
Mail Room
Archives Operations
Public Safety Systems
Land Development Systems
Public Works & Environmental Systems
Human Services Systems
Library Systems
Revenue Systems (Tax)
Document Imaging
Customer Relationship Mgmt. (CRM)
*Adopted FY 2017 Functional Version

FISCAL SENSITIVE COST PERFORMANCE

ART OF POSSIBLE: MORE WITH LESS

DIT has demonstrated on-going consciousness to fiscal challenges over the past fourteen years, despite growth in coverage of expanded technology environment, systems, complexity, users, demand, and regulations have increased. Overall:

Since FY 2002 sustained a 12 % decrease in core base-line staff (GF 24 positions eliminated)

Total reductions which included funding for services: $5.18 million in GF

Total IT Spend per employee is 32 % less than peer average.

Cost Effective for IT Specialists:

DIT Developer	**$ 51/hr.**
Industry Developer:	**$125/hr.**

DIT is 2 ½ times lower cost than industry

Cyber Engineer	**$ 61/hr**
Industry	**$219/hr**

DIT is 3 ½ times lower cost however Need to come closer to market to attract and sustain

BENCHMARKS

Gartner Average for local government similar scope/scale

	Peers (2015)	FFX (2015)
IT Spend per employee	8,823	6,027
Spend as % of OPEX (GF)	5.1	4.75
IT FTEs as % of user base	2.9	2.1

DIT research for select locality governments similar scope

County	IT Staff : Total FTE
King, WA	0.026
Maricopa, AZ	0.015
Fairfax, VA	0.014

Gartner IT Key Metrics Benchmark Study August 2015	***"Fairfax County spending is less than the peer group on a per-employee basis for annual cost of IT per employee".*** ***"Fairfax County is "Continuously reviews and implements best practices" in order to maximize efficiencies and do more with less".***

According to *WorkforceWeek* Research Center **the median for a 10,000+ user organization:**

1 IT FTE per 40 users.

DIT:

1 IT FTE per 50 users.

(Based on 17,000 users)

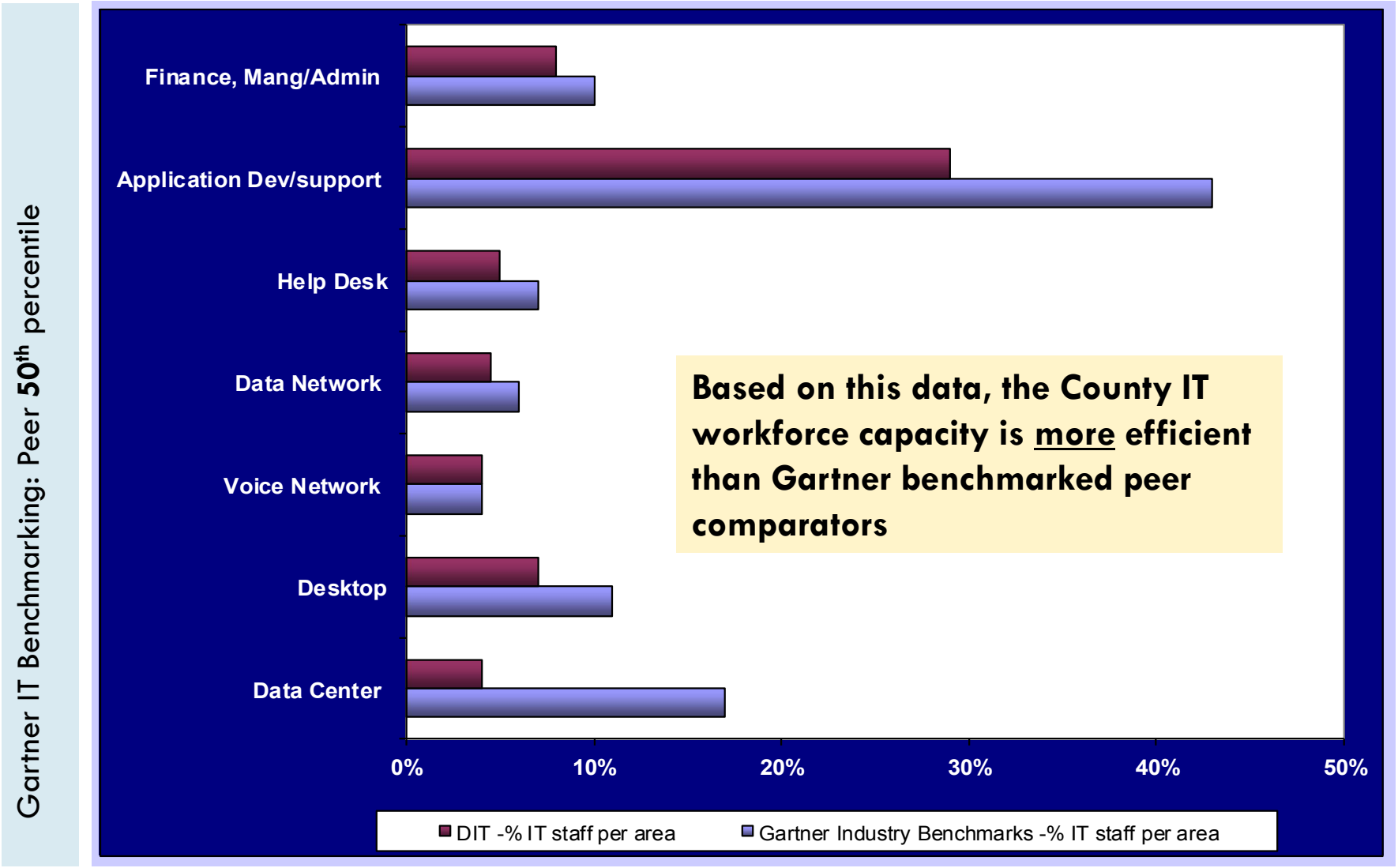
Overall IT spend per county employee/year:

FFX: $6,027 vs Peer Average: $8,823 (32% more efficient)

Data Center Processing Environment support: (*similar size and complexity*)

FFX: 1:56 staff to server ratio vs Industry standard benchmark: 1:26 (50% more efficient)

METRICS: IT WORKFORCE CAPACITY



COST EFFICIENT STRATEGIES

ART OF POSSIBLE:
MORE WITH LESS
DIT AGENCY WIDE MEETINGS

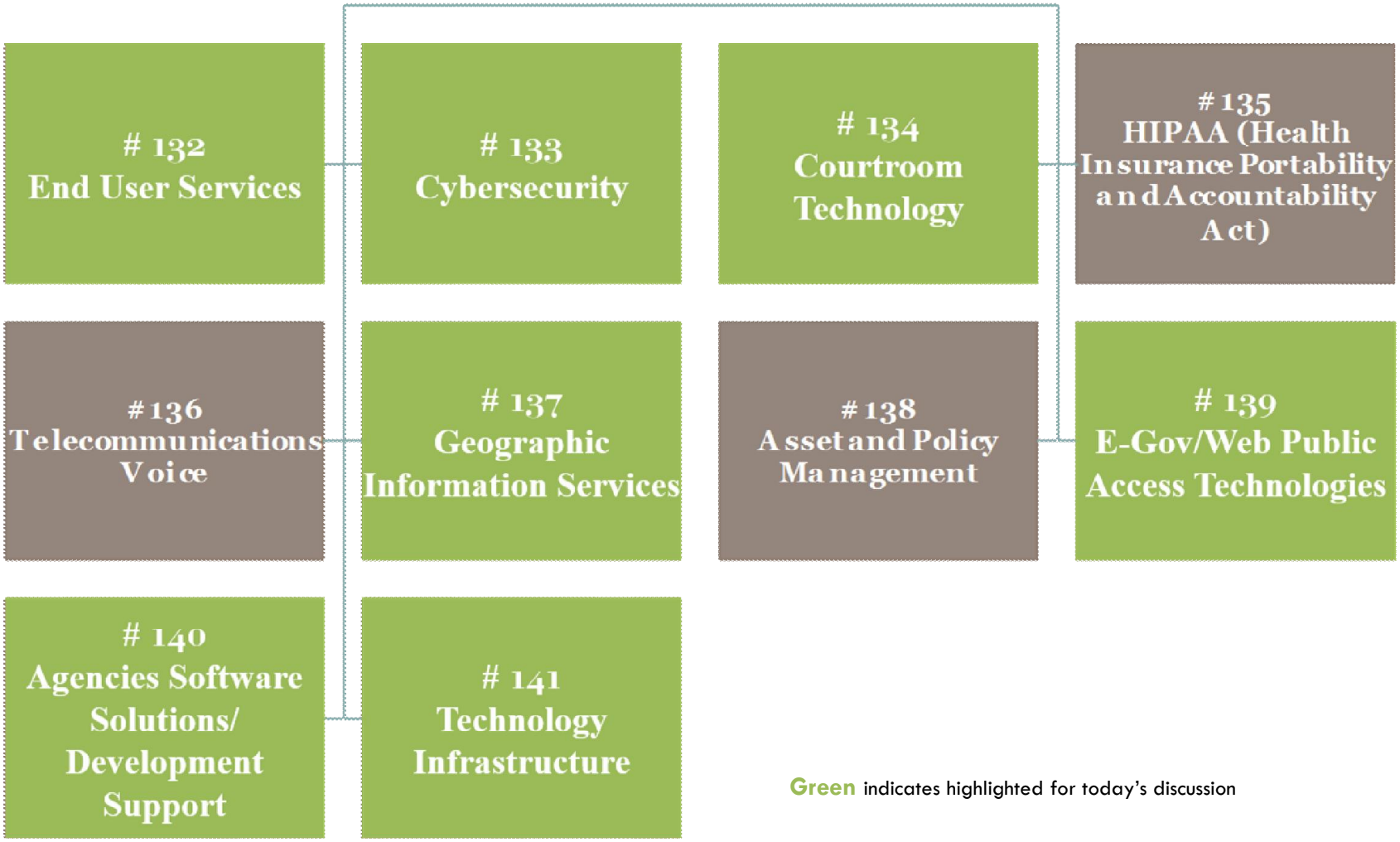
DIT COST CUTTING DISCIPLINE

- Centralized Infrastructure
- IT Standards compliance vigilance
- **Cyber Security** program and risk management discipline
- Opportunities for **common apps solutions** serving multiple agencies
- **Enterprise** SW license management leverage economies of scale
- **Virtualized** data center and shared services (***Private Cloud***)
- **Automated** IT operations
- Support is **mobile** – covering 24 x 7 with one shift
- **Leverage** all County Network assets
- Expanded use of networked multi-function (print, scan, fax) device fleet
- 'PC' replacement program flexibility
- 'Green' Data Center practices
- Hard - Competitive negotiations: some pricing better than State
- Annual DIT-wide organization and resource allocation review
- Low overhead: significant reduction in program admin support for divisions

SUMMARY OF DIT LOBS

INFORMATION TECHNOLOGY (General Fund)	
LOB 132	End User Services
LOB 133	Cybersecurity
LOB 134	Courtroom Technology
LOB 135	HIPAA (Health Insurance Portability and Accountability Act)
LOB 136	Telecommunications Voice
LOB 137	Geographic Information Services
LOB 138	Asset and Policy Management
LOB 139	E-Gov / Web Public Access Technologies
LOB 140	Agencies Software Solutions/Development Support
LOB 141	Technology Infrastructure
INFORMATION TECHNOLOGY FUND (Fund 10040)	
LOB 253	Information Technology Initiatives
DOCUMENT SERVICES (Fund 60020)	
LOB 300	Multi-Functional Devices
LOB 301	Print Shop
TECHNOLOGY INFRASTRUCTURE SERVICES (Fund 60030)	
LOB 302	Technology Infrastructure
LOB 303	Disaster Recovery
LOB 304	Radio Communications
LOB 305	PC Replacement

DIT GENERAL FUND LOBS AT A GLANCE



Green indicates highlighted for today's discussion

DIT GENERAL FUND LOBS SUMMARY TABLE

LOB #	LOB Title	FY 2016 Adopted Disbursements	FY 2016 Adopted Positions
132	End User Services	$3,620,251	30
133	Cybersecurity	1,166,078	10
134	Courtroom Technology	800,240	5
135	HIPAA (Health Insurance Portability and Accountability Act)	103,541	1
136	Telecommunications Voice	462,736	16
137	Geographic Information Services	2,028,872	20
138	Asset and Policy Management	5,841,884	31
139	E-Gov / Web Public Access Technologies	2,235,881	13
140	Agencies Software Solutions / Development Support	9,020,870	89
141	Technology Infrastructure	6,008,309	35
Total		**$31,288,662**	**250**

DIT GENERAL FUND RESOURCES

Category	FY 2014 Actual	FY 2015 Actual	FY 2016 Adopted
FUNDING			
Expenditures:			
Compensation	$21,097,606	$20,988,034	$23,000,325
Benefits	0	0	0
Operating Expenses	15,887,701	18,339,233	15,080,210
Work Performed for Others	(6,275,190)	(6,128,530)	(6,791,873)
Capital Equipment	0	0	0
Total Expenditures	**$30,710,117**	**$33,198,737**	**$31,288,662**
General Fund Revenue	**$34,148**	**$20,072**	**$23,088**
Net Cost/(Savings) to General Fund	**$30,675,969**	**$33,178,665**	**$31,265,574**
POSITIONS			
Authorized Positions/Full-Time Equivalents (FTEs)			
Positions:			
Regular	252 / 252	252 / 252	250 / 250
Total Positions	**252 / 252**	**252 / 252**	**250 / 250**

LOB SUMMARY: END-USER SERVICES (#132)

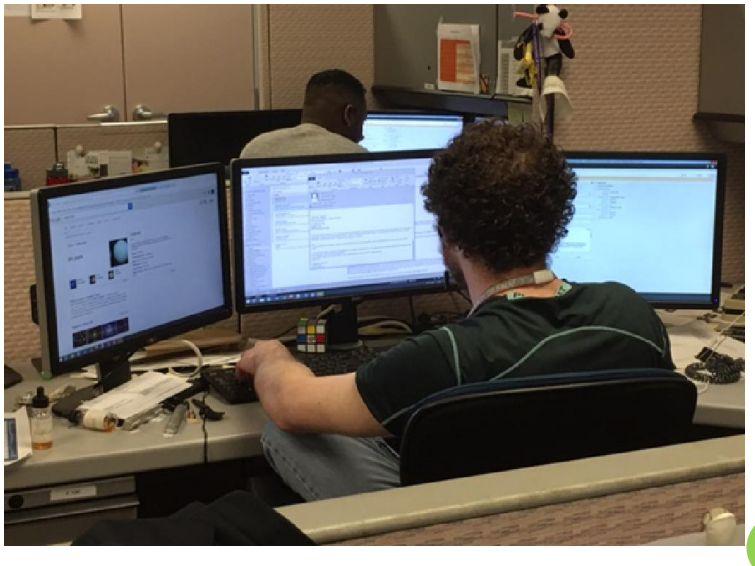
What DIT Does

Provides a wide range of technical services including IT Help Desk 'One Stop' for problem resolution and changes; HW and SW provisioning; user access; dispatched technicians. Remote resolution and Self-service IT capabilities. Serves 24,725 end-point devices (PCs, laptops, tablets, smart-phone, desk printers for all end-users).

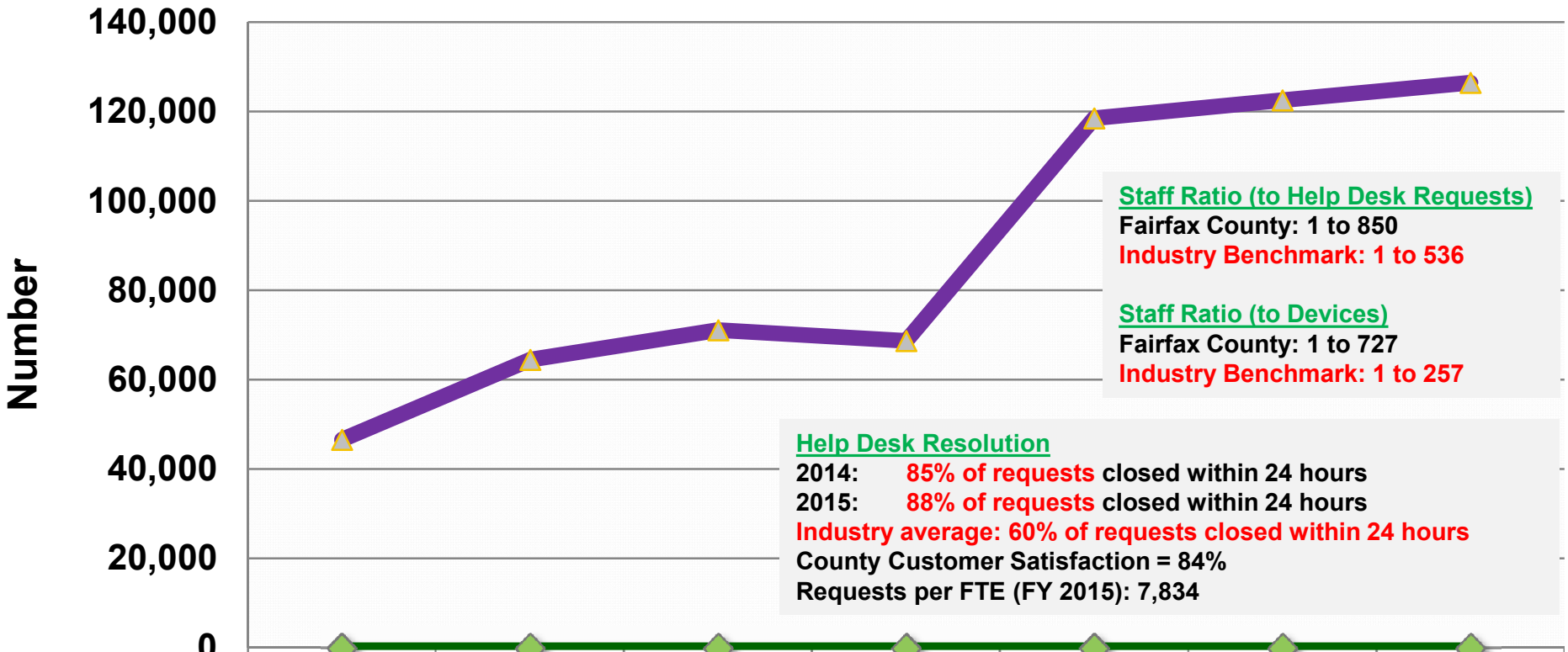
Includes **One Stop Mobility Center** mobile device provisioning and management

Efficiency, Benefits and Value:

- Simplify response with **One Stop** instead of multiple entries to the various IT specialty areas and **reduced** need to deploy technicians.
- **Improved time** to resolution, thus increase county employee productivity.
- 27 % **greater efficiency**



METRICS: IT SERVICE DESK EFFICIENCIES: TOTAL NO. OF IT TICKETS



	2001-2002	2003-2004	2005-2006	2007-2008	2009-2010	2011-2012	2013-2014
Staff	12	12	12	13	13	13	13
IT Tickets	46,565	64,465	71,095	68,685	118,498	122,534	126,452

Staff Ratio (to Help Desk Requests)
Fairfax County: 1 to 850
Industry Benchmark: 1 to 536

Staff Ratio (to Devices)
Fairfax County: 1 to 727
Industry Benchmark: 1 to 257

Help Desk Resolution
2014: 85% of requests closed within 24 hours
2015: 88% of requests closed within 24 hours
Industry average: 60% of requests closed within 24 hours
County Customer Satisfaction = 84%
Requests per FTE (FY 2015): 7,834

According to Gartner Research, the average cost of a password reset is approximately $50. Based on the self-service automation put in place by DIT for password resets, the County has saved over $3 million over the past 5 years.

LOB SUMMARY: GEOGRAPHIC INFORMATION SERVICES (#137)

What GIS Does

The Geographic Information Services (GIS) delivers enterprise GIS & mapping services, systems, data, applications, maps, and training. Implement new spatial technologies to deliver enhanced data analysis and decision making. Foster integration, utilization, data sharing and GIS best practices across all departments.

Who GIS Serves

- Enterprise GIS support for all agencies. Key agencies include Police, Fire & Rescue, 9-1-1, Transportation, Tax Administration, Planning & Zoning, Public Works, Electoral Board, Health, and Human Services. Also share data with Schools, Water Authority, and EDA.

- Serve the public via **8 million maps/month over the internet,** including aerial photo imagery. Provide ad hoc research and GIS support for walk-in customers.

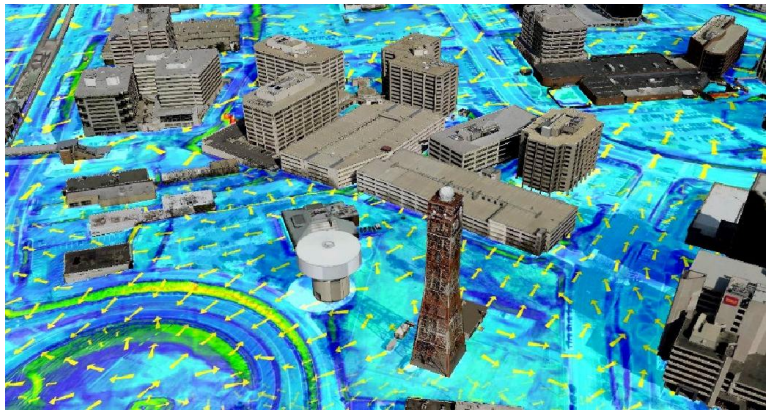
GIS maintains **57 years** of Fairfax County map books which are available on line and contain over **46,600 maps**. The public can instantly provision their own map needs reducing GIS front counter traffic.

Benefits and Value of GIS:

- **GIS utilizes the spatial/location component that is in an estimated 80% of County data to improve operational efficiency and enhance decision making.**

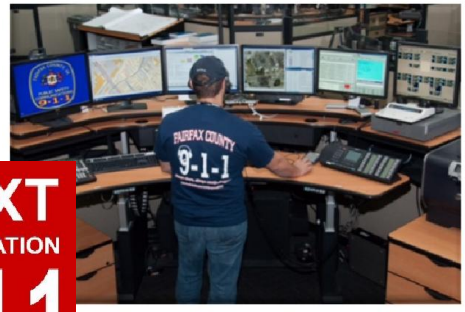
- **GIS enables faster processing of multiple "what-if" scenarios and problem solving.**

- **GIS helps meet statutory requirements for local planning and zoning maps in conjunction with the Comprehensive Plan.**



LOB SUMMARY: GEOGRAPHIC INFORMATION SERVICES (#137)

GIS enables high quality geo-spatial infrastructure, curated data, innovative analytical applications and products, mapping, web and mobile services to Fairfax County government and the public.



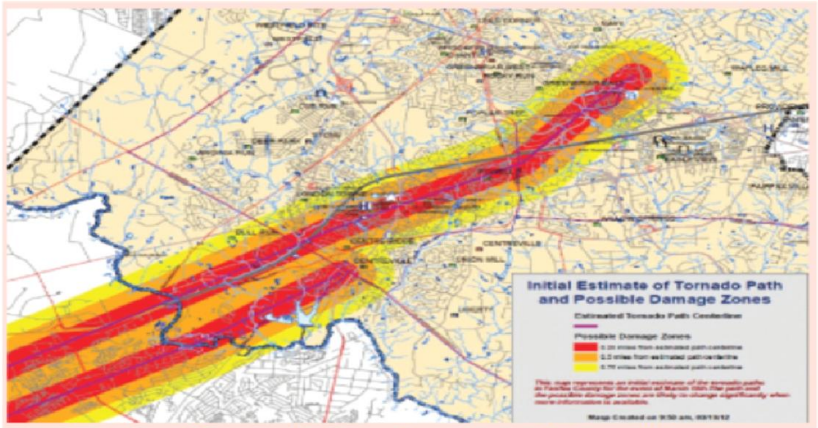
GIS enables faster response 911/CAD calls since the closest vehicles are mapped and dispatched.

On voting day the Office of Elections has response staff (Rovers) across the county to respond to system and procedural issues. GIS optimizes the dispatch of rovers to speed response.

GIS is essential to voters locating polling places with addresses.

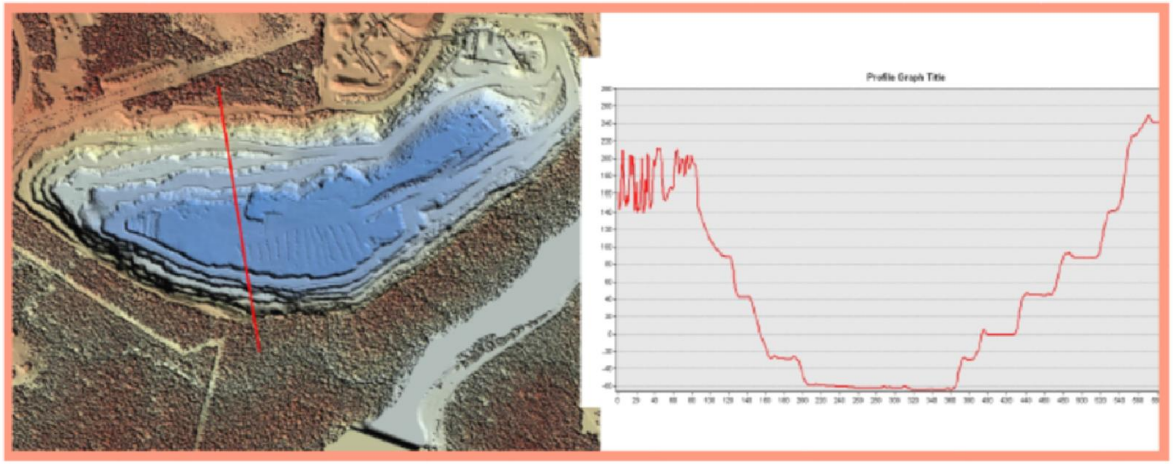
LOB SUMMARY: GEOGRAPHIC INFORMATION SERVICES (#137)

Tornado Path Map generator for OEM Exercise



Tornado Path and Damage Analysis. Operation enduring collaboration map.

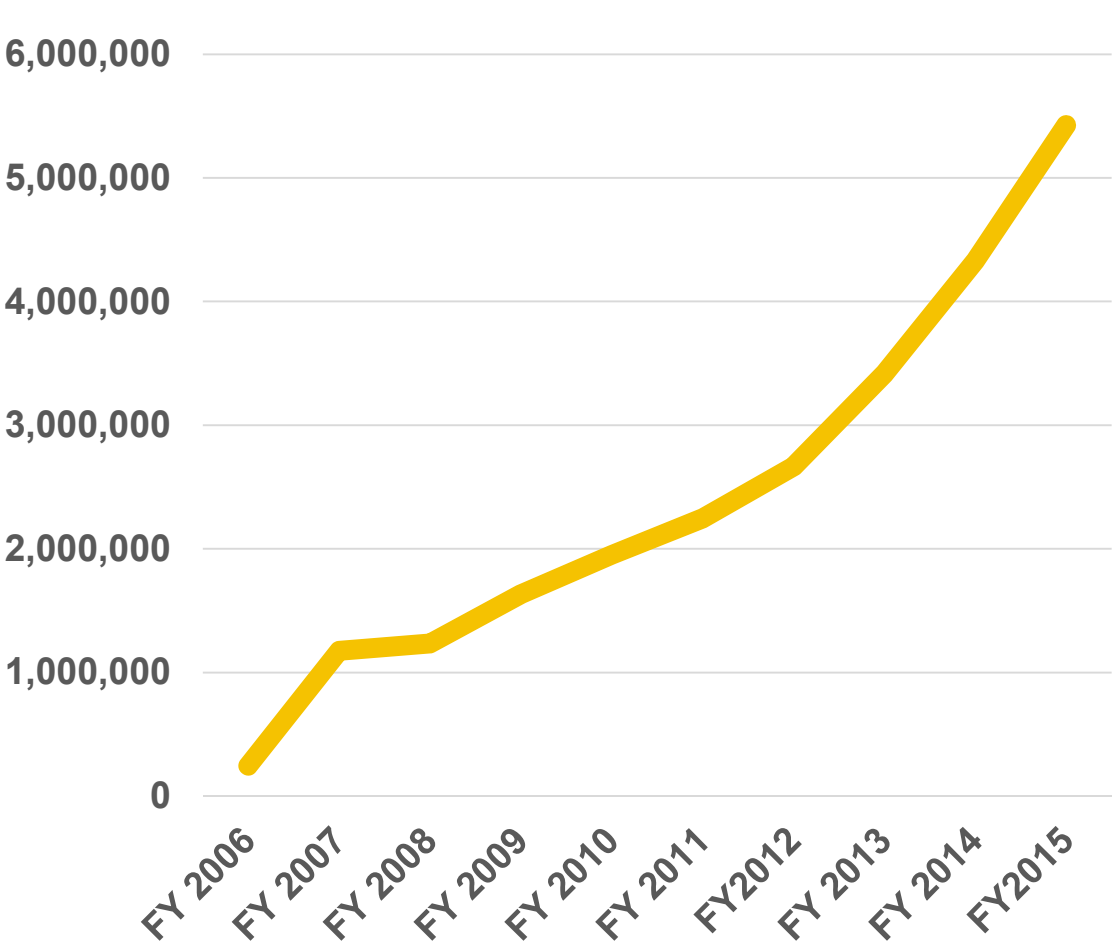
Cross section Elevation of Vulcan Quarry on Occoquan to measure depth



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

GIS METRICS: OUTPUT OF USER INTERACTION

Web, Mobile & Desktop User Interaction with GIS System



GIS DELIVERS COST EFFICIENCY

With GIS today it takes about 8 hours to digitally capture a 30-parcel development.

With Mylar and manual inking, this activity took 16 hours. This is a 100% efficiency improvement.

Using today's digital GIS technology at least twice as much parcel information is captured (300 features vs. 150 using Mylar) in half the time.

Digitized GIS for Property and Zoning books

Latest GIS data available in the Property and Zoning map books online the **next day.** Previously the maps were updated annually with it took 6 months production cycle, thus many Property and Zoning map changes were 7-18 months old before staff and constituents could see them reflected in the map (i.e. the printed map books were already out of date when printed).

Today process is 24 hours = 1280 % efficiency improvement, and significant enhancement to county processes relying on map data.

Labor savings: Used to take 300 work hours to set up books

Today digital process takes 16 hours = 94% efficiency savings

Via collaboration with the State and economies of scale, GIS procures Countywide high-resolution imagery for about $95,000 (every four years). Individual locality the cost was $700,000 (over four years). This collaboration is a 86% cost savings.

GIS METRICS

Front Counter Walk-ins

Due to increasing GIS apps and utilities, and more data and map layers on web servers, total GIS Front Counter interactions have been reduced from **2,028 in 2014** to **958 in 2015** (a 53% reduction). Front counter visits **reduced by 81% since 2011**. reduction).

Software Licensing Efficiency

Using a software license manager GIS provisions and shares **114** licenses among **640 unique users**. This is an **82%** cost savings compared to having a copy of GIS software on all 640 desktops. The 640 Countywide GIS users last year collectively logged in for over 80,000 sessions last year.

GIS **developed GEM** (Geographic Exploration and Mapping) app for employee use **at very low cost**. GEM allows novice employees to perform basic data extracts, maps, and spatial analyses without requiring extensive training on complex GIS tools and utilities, and enables GIS to be served to other users without additional software licensing costs. GEM is currently averaging 323 unique users/month. There have been a total of 2,400 unique users of GEM since 2011. http://fairfaxnet.fairfaxcounty.gov/Dept/DIT/GIS

METRICS FOR OVERALL GIS PERFORMANCE

Example of how GIS technology contributed to savings in agencies

With the implementation of the GIS Pictometry tool, **DTA** was able to **reduce annual recurring expenditures by $218,180** by eliminating 9 Exempt Limited Term positions starting in FY 2013. The neighborhood walk program was abolished where Data Collectors were sent out in the field looking for property characteristic changes. Qualitatively, DTA reports that GIS is very helpful in communicating information, conducting analytical projects, and key support when discussing assessments with the public and during appeals.

Stormwater Management GIS Cost Savings for Watershed Analysis $30K/yr recurring annual savings) in monitoring outfall as part of a paired watershed study for a pilot neighborhood stormwater improvement project that will be constructed in 2016. Finding a suitable nearby outfall with similar drainage area characteristics took a staff about 2 days using the tool. Without the GIS tool it would have taken at least 40 hours on a consultant contract.

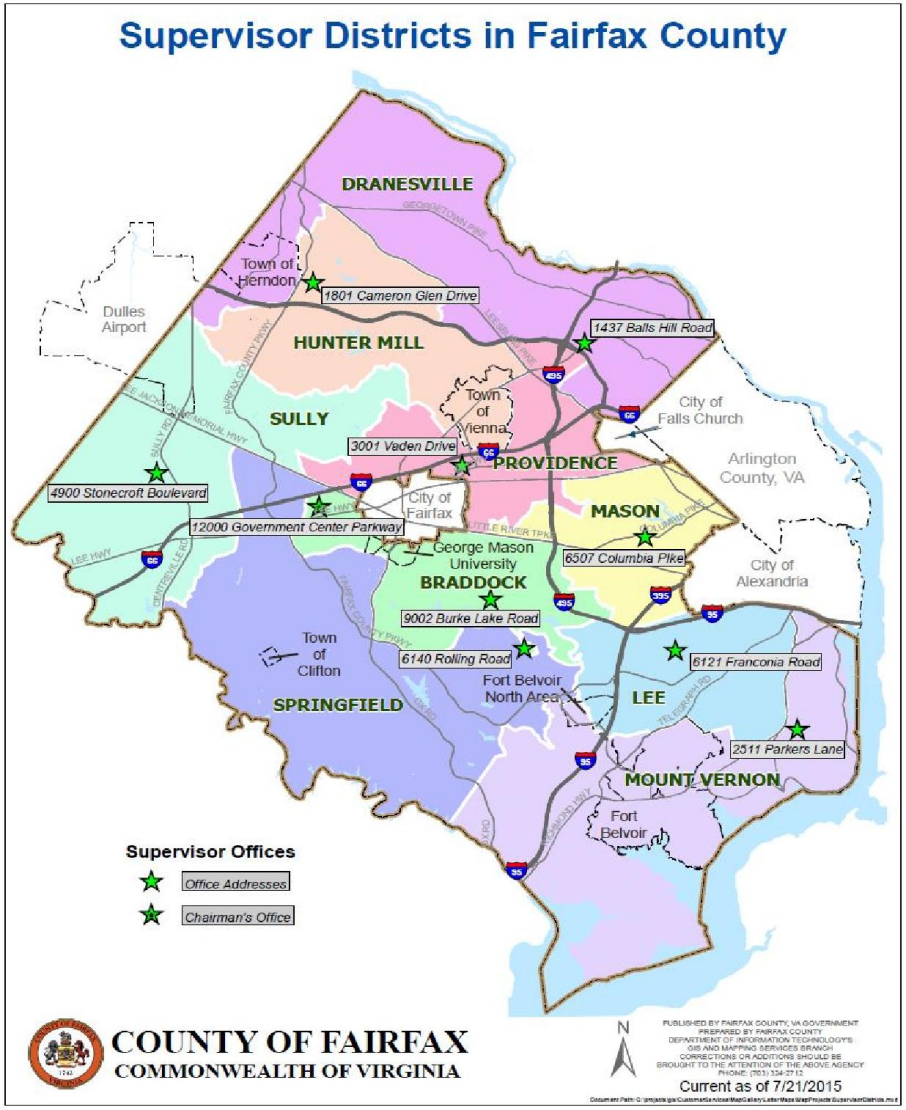
METRICS FOR OVERALL GIS PERFORMANCE

From FY 2010 to FY 2015 use of GIS Data has increased by more than 250%.

GIS maintains over 900 overlays allowing cross robust referencing of data, and over 40 maps and 38 applications are available on the public portal.

GIS continues to provision publicly available spatial applications and data, including:

- **My Neighborhood – providing names and contact information for all elected officials as well as the closest libraries, schools, voting locations, and public safety stations for every address in the County**
- **Virtual Fairfax – permitting 3D viewing of Fairfax from a "flyover perspective"**

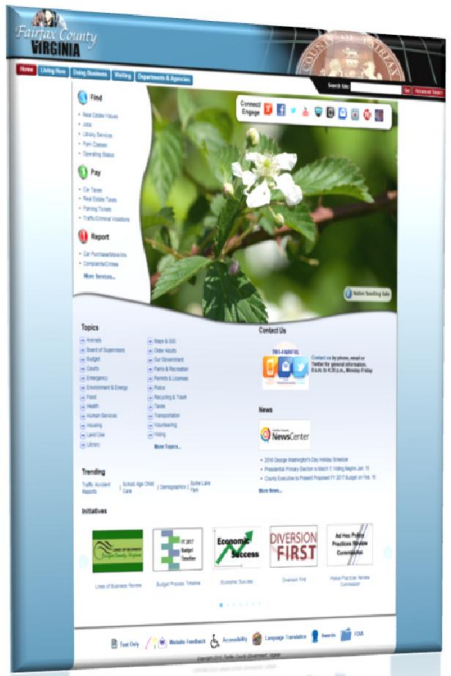


GIS AWARENESS AND PROMOTION

For over 17 years GIS Day recognizes County staff and agencies who have excelled at using GIS to solve business problems, visualize complex data, and deliver constituent service. ESRI & George Mason assist in expert judging.

LOB SUMMARY: E-GOVERNMENT (#139)

e-Government (e-Gov) supports the County's goal of a "*government without walls, doors, or clocks*".



Fairfax County Website

e-Gov provides digital interaction for Government to Citizens (G2C), Citizens to Government (C2G), Government to Government (G2G), Government to Employees (G2E) and Government to Business (G2B) engagement and participation.

The key components comprising the e-Gov program are:

- Public Website
- County's Intranet Portal
- Fairfax County Mobile App
- Interactive Voice Response (IVR) Program

The Public Website includes applications, web tools, web content management, RSS feeds, Podcasts, Social Media, Google search, e-communities web, interoperability and integration with apps, GIS & CRM.

DIT provides architecture, standards, policy, design, templates, workflow, and development guidelines for over 100 agency web contributors and developers, and content management services and social media capabilities coordination with OPA and IT Security

LOB SUMMARY: E-GOVERNMENT (#139)

eGov provides better service for the public at less cost, by **providing an online digital experience** increasing county efficiency.

Beneficiaries of eGov include citizens, businesses and the county agencies.

Citizens:

- Convenience
- Improved customer services
- Increased access to information
- Increased time efficiencies
- Interactive engagement

Businesses:

- Lower cost of doing business
- Improved access to information for businesses

County Agencies & Employees:

- Increased service efficiencies for county agencies, a channel to provide self-service IT services
- Increased productivity and better work-life balance

E-Democracy

eGov improves the image of county government in the eyes of citizens and businesses with increased transparency.

E-GOV PERFORMANCE

The public's engagement with the county's website and mobile apps has substantially increased in the past years. Online services facilitates cost efficiencies for all county agencies allowing for increased productivity. Agencies become more productive letting employees focus on mission critical activities while routine inquiries and transactions are handled electronically.

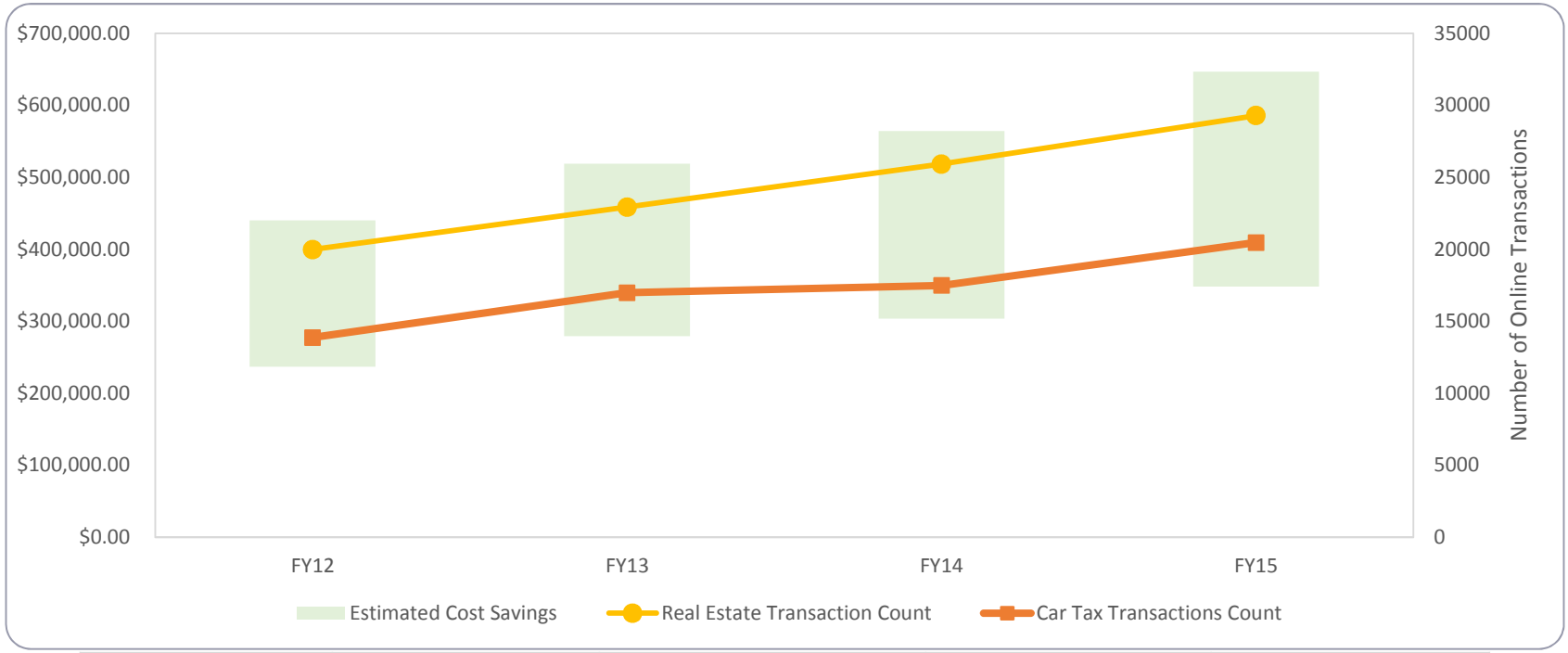
The county's website usage has increased by 18.6 % going from about 16 million in 2012 to 19 million in 2015

Since its inception in 2012 the County's Mobile App download has increased by 130%

METRICS: E-GOVERNMENT ONLINE TRANSCATIONS COST EFFICIENCIES

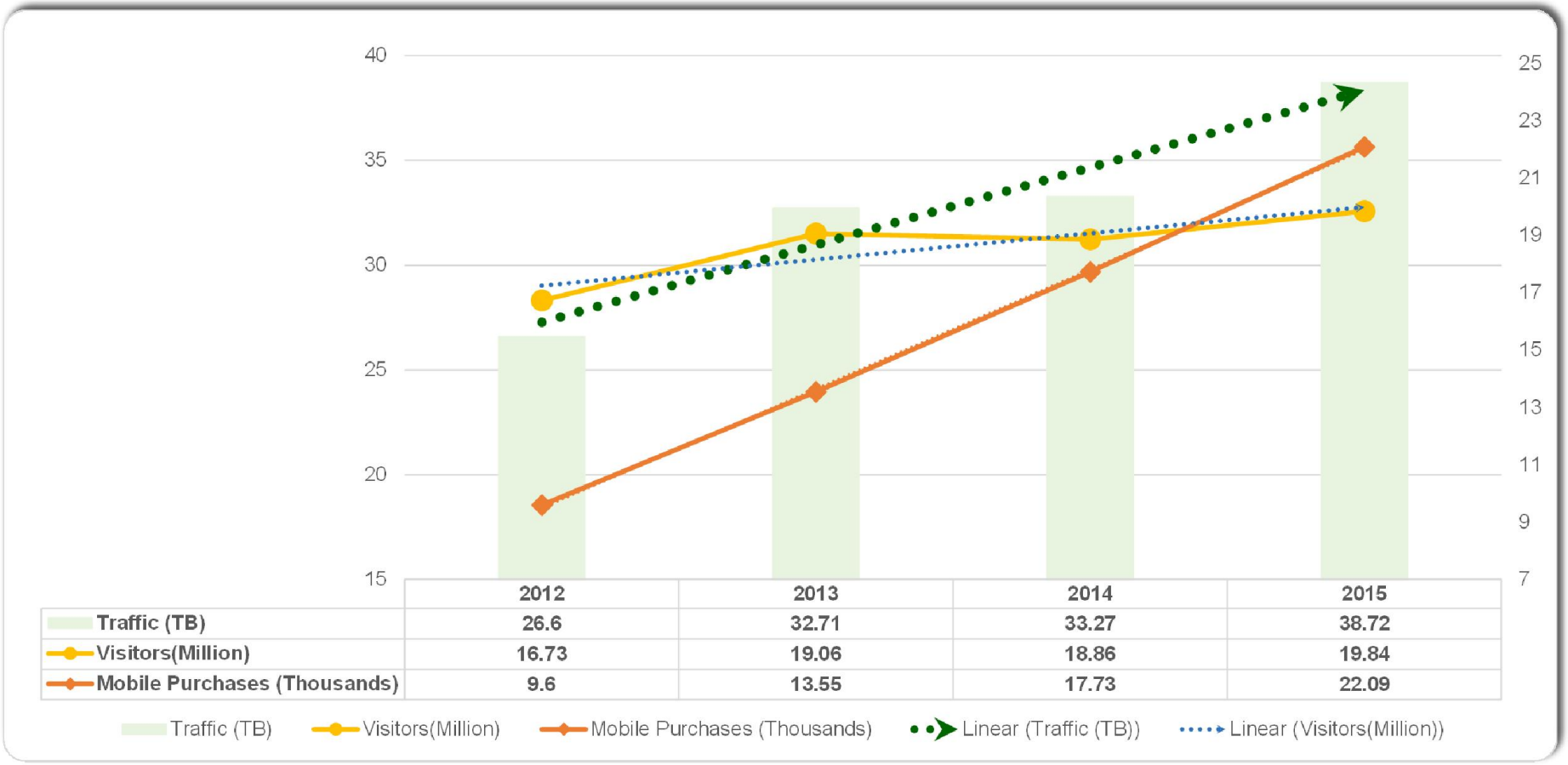
Recent government survey shows

- **90% of respondents prefer to conduct business with their local government online**
- **An average cost of online service costs $4 or less while the same transaction costs about $17 offline (brick and mortar)**



	FY2012	FY2013	FY2014	FY2015
Estimated Cost Savings	**$203,219.70**	**$239,539.69**	**$260,523.36**	**$298,567.17**
Real Estate Transaction Count	19989	22931	25925	29292
Car Tax Transaction Count	13881	16992	17496	20469

METRICS: E-GOVERNMENT WEBSITE & MOBILE USAGE



	2012	2013	2014	2015
Traffic (TB)	26.6	32.71	33.27	38.72
Visitors(Million)	16.73	19.06	18.86	19.84
Mobile Purchases (Thousands)	9.6	13.55	17.73	22.09

Results:

- 18.6% increase in public interaction with county website
- 130% increase in county's mobile app download

METRICS: E-GOV USER INTERACTION

	FY 2012	FY 2013	FY 2014	FY 2015
YouTube Views	99,131	118,350	159,919	225,120
Emergency Blog	171,374	647,577	499,967	349,977
SlideShare Views	686,062	965,798	1,029,807	1,209,467
Facebook Reach	2,088,750	6,560,341	11,603,306	28,353,758
Website Visits	15,946,100	17,911,663	19,252,748	19,105,379
TOTALS	**18,991,417**	**29,877,327**	**35,303,599**	**49,203,701**

159.08%
INCREASE
IN USE SINCE
FY 2012

LOB SUMMARY: AGENCIES' SOFTWARE SOLUTIONS AND DEVELOPMENT (#140)

DIT Agencies Software Solutions and Development divisions performs software and solutions development and maintenance for county agencies' major applications.

Staff experts include:

- Solution Architects
- Software Developers
- Systems Analysts
- Configuration analysts
- Data Modelers and Analysts
- Project Managers
- Analytics Specialists

Overall Portfolio:

150 major applications
Over 200 interfaces
Over 1,000 reports

The Apps Portfolio includes:

Four generations of technology for both custom in-house development and commercial SW (COTs).

Three Reports/Analytics Platforms

Two data-base environments

Daily Work

Requirements Analysis, Enhancements, Configurations, Routine logic and tables maintenance, Forms, Changes, Invoices,. Integration between systems, Mobilize, Reports, etc.

LOB SUMMARY: AGENCIES' SOFTWARE SOLUTIONS AND DEVELOPMENT (#140)

Sample applications/systems support include:

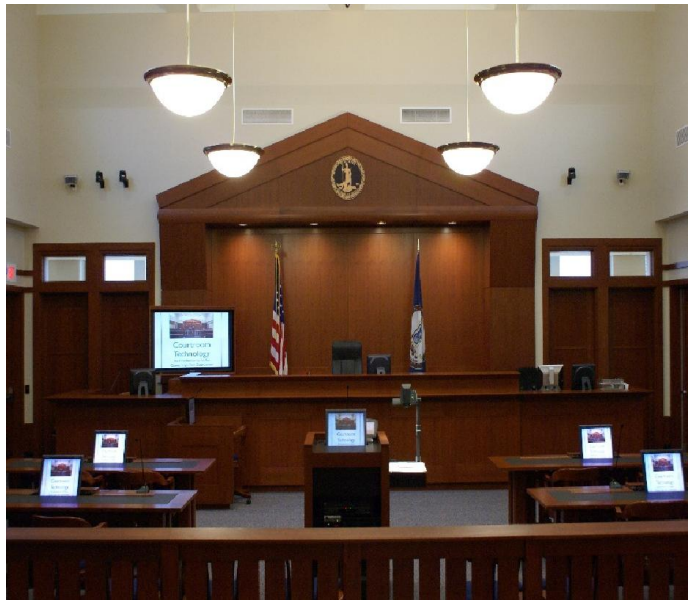
- Sheriff's Jail Management System (SIMS)
- Tax and Revenue Systems
- Land Development Systems & FIDO
- Child Care Management System
- CSB Infant Toddlers Connections
- Fairfax County Unified System FOCUS
- General District & Circuit Courts
- Juvenile and Domestic Relations Court
- Health & Human Services' programs
- Police Department
- Fire Department
- Emergency Management (EDGR)

Organized by County Business Areas:

- Revenue Systems
- Corporate Systems
- Land Development & Inspections
- Health and Human Services
- Public Safety and Judicial
- General

DIT continues to evaluate "in-house" development versus COTS and Cloud solutions and performs in-house development for certain applications whereby no commercial solution is available. Cloud solutions require analysts to ensure business practices compliance and reporting.

LOB SUMMARY: COURTROOM TECHNOLOGY (#134)



Fairfax County Courtroom 5 J

Courtroom Technology Office is a collaboration between the three Fairfax County Courts, Sheriff ADC, and the Department of Information Technology implementing a best-in-class set of digital technologies and communications access that improve and provides efficiencies for the judiciary processes, allowing all three courts to share common resources.

- Responsible for consolidating and streamlining supportive technologies in a centralized, distributed environment for 40 courtroom facility
- Also collaborates with Fairfax Bar Association, Supreme Court Office of Technology, and Center for Legal & Court Technology
- **Recognized Best Practice: COVITS (VAGov), NACO and VACO Award winner (2012 and 2013)**

Further efficiencies supporting all three courts: In 2012 *DIT Courts Consolidated IT Help Desk and User Support* initiative enhanced the limited staff capacity to support the increase day-to-day operational IT support needs of the 3 Courts as well as the Courtrooms, and, CrTO provides expert assistance to Courts and Commonwealth Attorney for their Case and Records Management Systems.

LOB SUMMARY: COURTROOM TECHNOLOGY (#134)

Courtroom Technology Management System (CTMS) **is a state-of-the-art courtroom management and control system: integrated evidence presentation, laptop interface, and video teleconference capabilities for hearings, trials and arraignments:**

- Integrated electronic evidence presentation
- Laptop audio/video interfaces in multiple locations
- Video conferencing for arraignments, remote witness, remote judge and secluded witness
- Courtroom digital audio recording
- Integrated assistive listening and enhanced interpretive systems
- Judges or Clerks control of the technologies from the bench

Wireless/Wi-Fi **coverage throughout the courthouse and public safety complex and improved in-building coverage to support the use of personal and hand-held devices around the courthouse and in courtrooms.**

Electronic Docket Displays **show real-time case information identifying the case number, parties involved (unless sealed), courtroom and time and real-time status of case information rendered evenly across a bank of docket displays.**

Virtually Connected Courtrooms: Towns of Herndon & Vienna

In process: **Automated Civil Enforcement processing**

LOB SUMMARY: COURTROOM TECHNOLOGY (#134)

- During FY15, the General District Court alone conducted 210 inmate arraignments via CTMS video-conferencing capabilities, **saving more then $360,000 by eliminating the need to dispatch deputies and drive approximately 30,000 miles throughout the state.** Safety is significantly improved by not having to transport prisoners from the detention center.

- Distributed audio recording system provides a quality control tool for judge, clerks and attorneys by archiving and making audio testimony easily available and retrievable, saving staff time and transcription time.

- CTMS courtroom infrastructure designed for flexibility to reconfigure a courtroom layout without facility maintenance engineer support and cost.

Fairfax County's Courtroom Technology recently made the news (Click the link here)
http://www.governmentvideo.com/article/av-central-to-21st-century-justice/115759

LOB SUMMARY: TELECOMMUNICATIONS VOICE # 136

DIT operates a centralized IP based voice platform serving County agencies. The service connect county buildings via the fiber network and carrier circuits. This LOB also supports moves and changes, special services, IVR integration (see e-Gov), and construction cable infrastructure builds.

Avaya 2410 Digital Telephone

Telephony Program Net Cost Efficiencies:

Overhauled enterprise telecom circuit distribution moving from legacy **carriers** and partnering with COX: 16% savings

Lower operational costs by transitioning older carrier legacy circuits to new SIP technology saving $335K per year

Tough negotiations- better than State:
Price for circuits from 1.00 to 0.15 saving $250K per year

Work load example: FY 2015
Total 9,305 Service Orders ; 8 employees = 1,163 per FTE

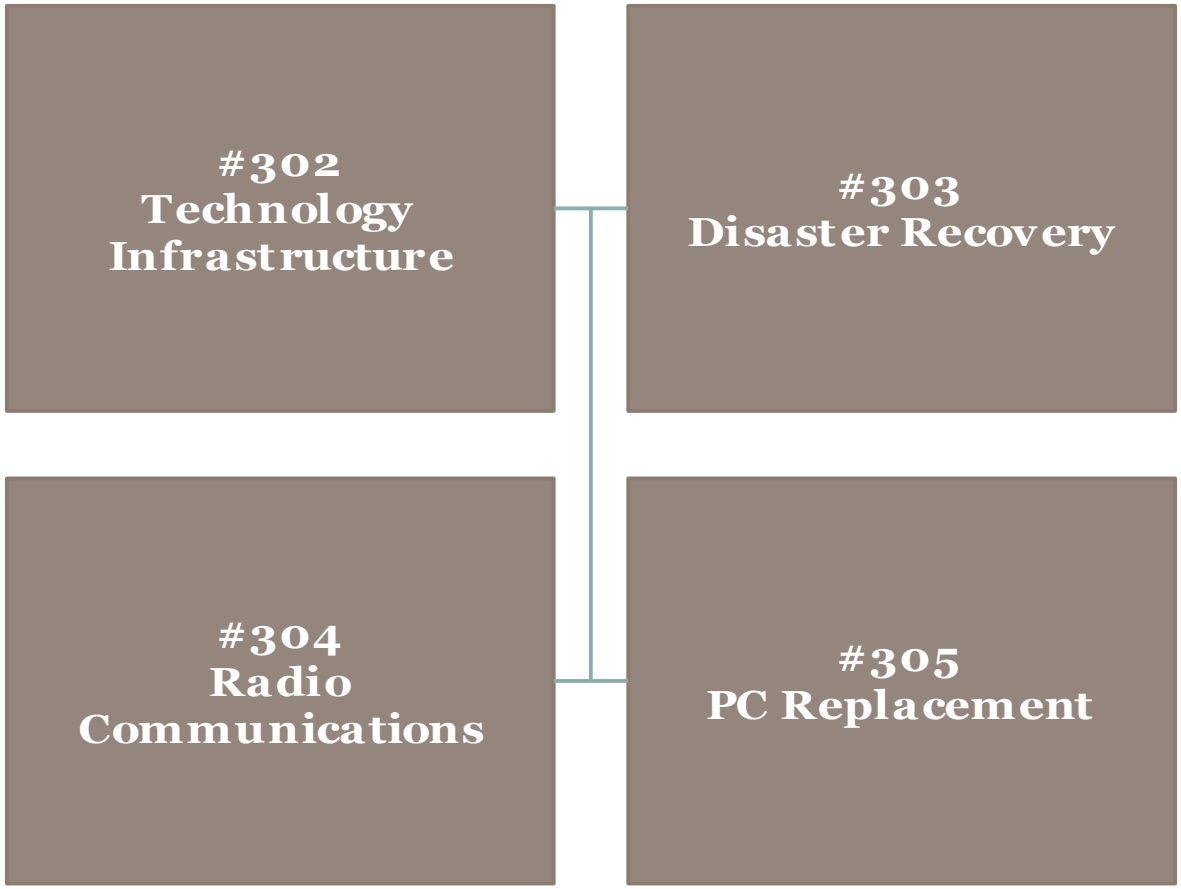
LOB SUMMARY: TELECOMMUNICATIONS VOICE #136

Keeping up with Industry, legislative requirements and good fiscal management

Benefits of Telephony Program Architecture and On-going Enhancement Initiatives

- **Shared voice platform**
- **Capability to keep calls on the County's private-owned fiber network (INET) reduces the number of telephone lines needed from telephone companies: Reduced circuit to user ratio:**
- **1:8 to 1:4 thus 50% increase in resource efficiency with better security and no degradation in service.**
- **Mobile and teleworkers work phone integrated with wireless which identifies them to the county to get their job functions completed at home and other places out of the office**
- **The county's IP based telephony voice processing enhancement provided of accurate location identification of caller to the location of the caller meeting State 9-1-1 mandate.**

DIT TECHNOLOGY INFRASTRUCTURE SERVICES LOBS



DIT TECHNOLOGY INFRASTRUCTURE SERVICES LOBS SUMMARY TABLE

LOB #	LOB Title	FY 2016 Adopted Disbursements	FY 2016 Adopted Positions
302	Technology Infrastructure	$25,483,618	51
303	Disaster Recovery	2,034,630	0
304	Radio Communications	1,334,496	10
305	PC Replacement	6,904,534	12
Total		**$35,757,278**	**73**

DIT TECHNOLOGY INFRASTRUCTURE LOBS RESOURCES

Category	FY 2014 Actual	FY 2015 Actual	FY 2016 Adopted
FUNDING			
Expenditures:			
Compensation	$5,093,881	$5,062,333	$5,683,174
Benefits	1,735,282	1,765,151	1,919,998
Operating Expenses	19,651,276	25,646,539	24,146,784
Capital Projects	4,769,195	4,778,355	4,007,322
Total Expenditures	**$31,249,634**	**$37,252,378**	**$35,757,278**
Transfers Out:			
Transfer Out to General Fund	$1,500,000	$0	$0
Transfers Out to Other Funds	0	0	0
Total Transfers Out	**$1,500,000**	**$0**	**$0**
Revenues:			
Radio Charges	$944,346	$881,450	$940,000
PC Replacement Charges	5,884,782	6,225,252	6,243,148
DIT Infrastructure Charges			
County Agencies and Funds	20,669,176	20,769,081	20,886,693
Fairfax County Public Schools	1,786,295	1,857,747	1,913,479
Total Revenue	**$29,284,599**	**$29,733,530**	**$29,983,320**
Transfers In:			
Transfer In from General Fund	$0	$0	$0
Transfers In from Other Funds	4,475,253	5,870,771	4,621,425
Total Transfers In	**$4,475,253**	**$5,870,771**	**$4,621,425**
POSITIONS			
Authorized Positions/Full-Time Equivalents (FTEs)			
Positions:			
Regular	73 / 73	73 / 73	73 / 73
Total Positions	**73 / 73**	**73 / 73**	**73 / 73**

TECHNOLOGY INFRASTRUCTURE SERVICES

Private Cloud Infrastructure High-Level

DIT Infrastructure Services are in **General Fund LOB #141 and Infrastructure Fund LOB #302.**

DIT is responsible for providing and maintaining all technology **infrastructure** components for Fairfax County agencies and programs. Components include:

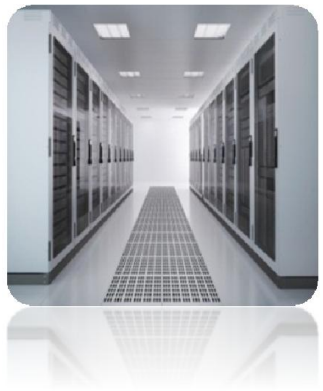
- **Platforms** (HW – PCs, servers, storage, databases, SW licenses in **(LOB 141 and LOB 302)**
- **Data Center (LOB 302)**
- **Network** (Enterprise Data Network and Institutional Network in **(LOB 302)**
- **Radio (LOB 304)**
- **PC Replacement (LOB 305)**

This model is the catalyst to enable changing technology by delivering an enterprise infrastructure that is agile, scalable, dependable, compliant and cost effective using private fiber network and an internal cloud model.

LOB SUMMARY: TECHNOLOGY INFRASTRUCTURE # 141

What DIT does:

Install & maintain applications and data infrastructure for County information and communications systems. Includes servers, data storage systems, databases and database management, enterprise e-mail, calendaring, mobile device management, system back-up & restore; disaster recovery; remote access and telework portal; County Data Center operations (24 x 7).



Who DIT Serves:

County government *and* FCPS (for *FOCUS*)

Saved 12 IT expert positions = $ 1.1 M per year

Benefits and Value of LOB:

Leverage infrastructure and skilled expertise serving a diverse portfolio of systems and applications with a high degree of performance. By consolidating and simplifying IT, implementing shared services, and automating operational processes savings in staff time was achieved. **Green** computing saved operations costs, and telework expansion increased county-wide productivity.

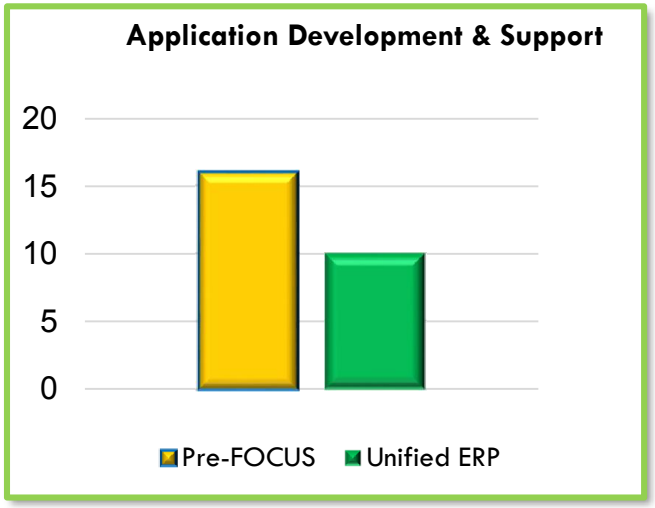
This LOB earned industry awards and accolades for best practices in implementation of standards and processes – within public & private sector peers for private cloud and green computing.

2016 WINNER DIGITAL COUNTIES SURVEY

InfoWorld FROM IDG

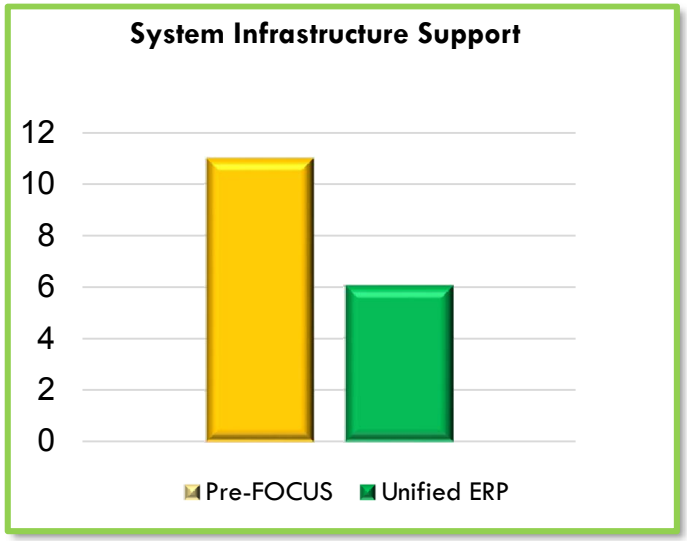
Winner: INFOWORLD Green 15 Award 2011

METRICS: ERP IT OPS EFFICIENCIES



38% less IT FTE requirement to support multiple applications within single SAP app vs the set of individual legacy apps in multiple archaic architectures.

45% less IT FTE requirement to support ERP technology infrastructure.

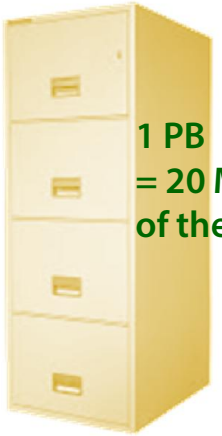


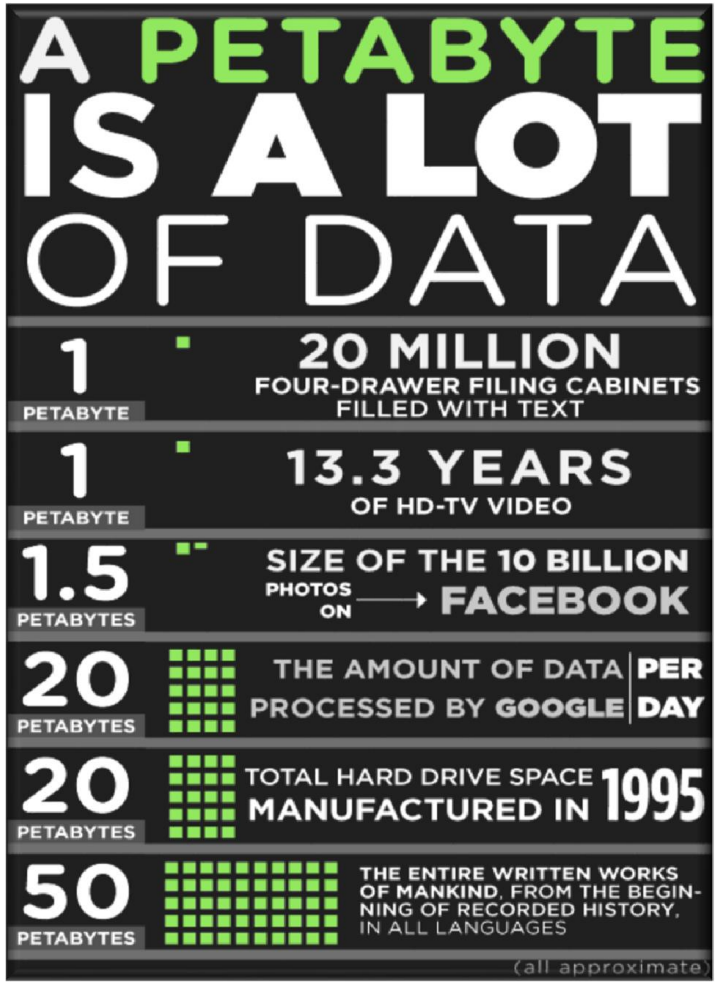
DIT staff have been developed and earned SAP technical certification. As a result, the County has reduced reliance on consultants. This enables a cost avoidance for the next required system upgrade of $3 million.

The FOCUS System is open for use 24 x 7, whereas the 3 legacy MF systems were only available for use 10 hours M-F. And with the new Employee and Manager Self Service Portals, the new technology represents a productivity gain opportunity of 170%.

LOB SUMMARY: TECHNOLOGY INFRASTRUCTURE (#141)

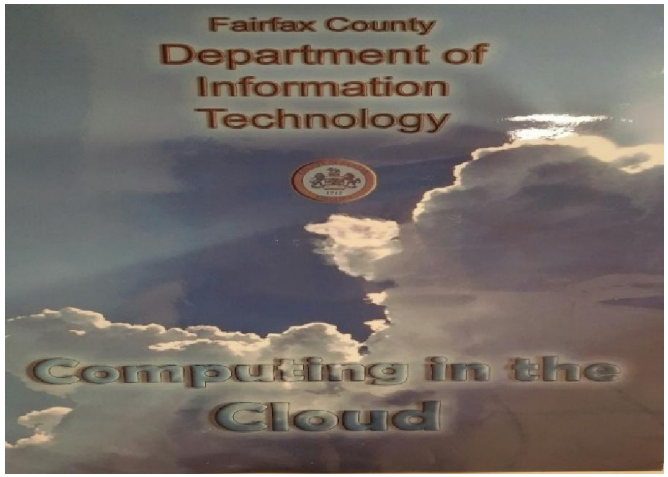
- **Servers** – 60 Physical / 1000+ Virtual
- **Data Storage and Recovery** – (**County has over 3.4 Petabytes of Data**)
- **Databases** for all IT of Agencies & Enterprise systems
  - SQL- Approximately 1000+ Databases
  - Oracle- Approximately 75+ Databases
- **Collaboration Tools** – Office 2013, SharePoint 2013, Skype for Business (Instant Messaging)
- **Mobile Device Management (MDM)** – All County-Issued Mobile Devices

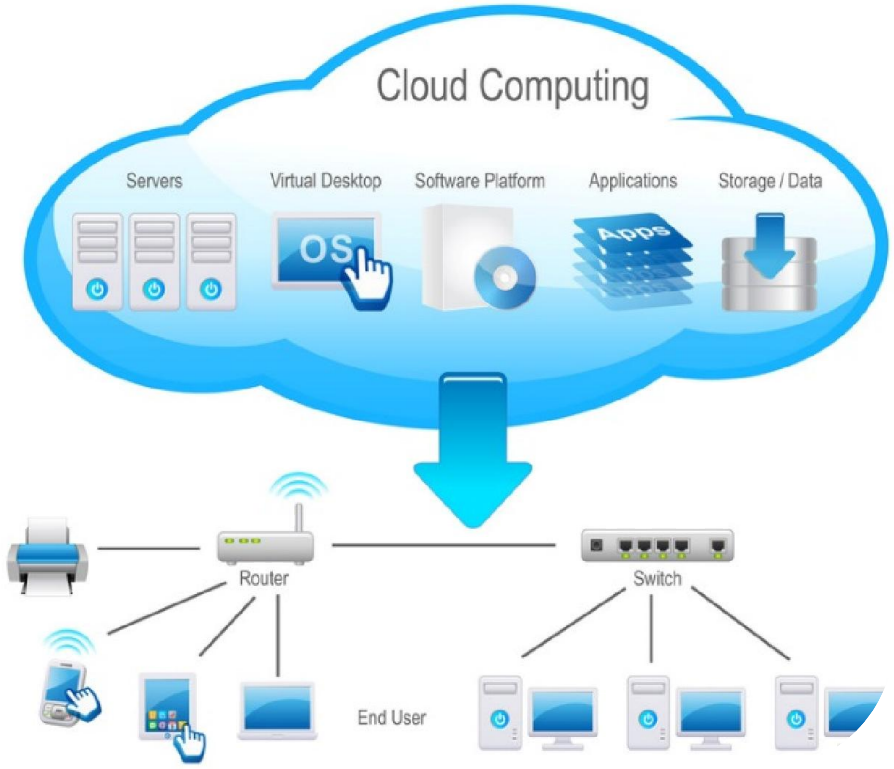




Analogy Diagram for 1 Petabyte of Data

LOB SUMMARY: TECHNOLOGY INFRASTRUCTURE # 141





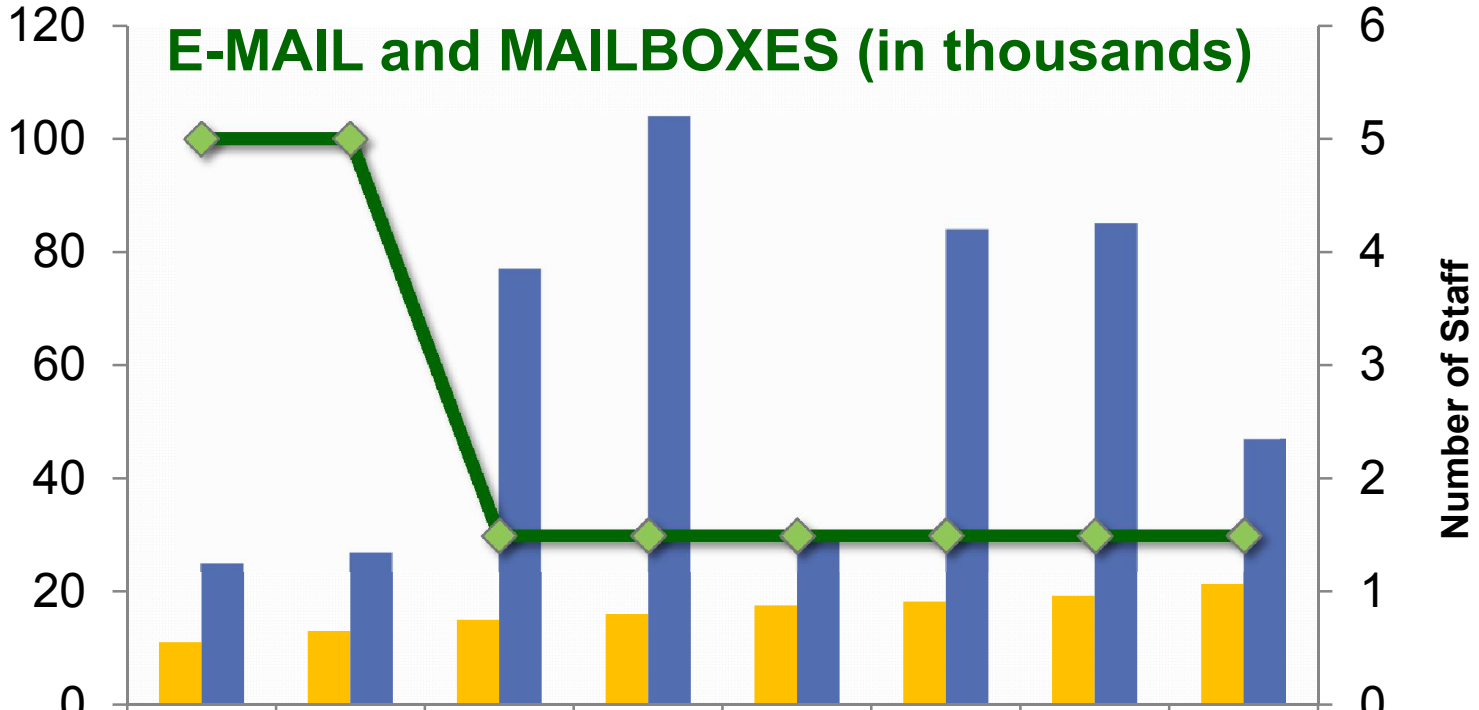
Fairfax County Technology Infrastructure High Level Diagram

LOB SUMMARY: TECHNOLOGY INFRASTRUCTURE # 141

E-MAIL
Mailboxes: 21,000
Per Day: 795,000
Per Week: 3,975,000

Staff Ratio: 1 to 10,500

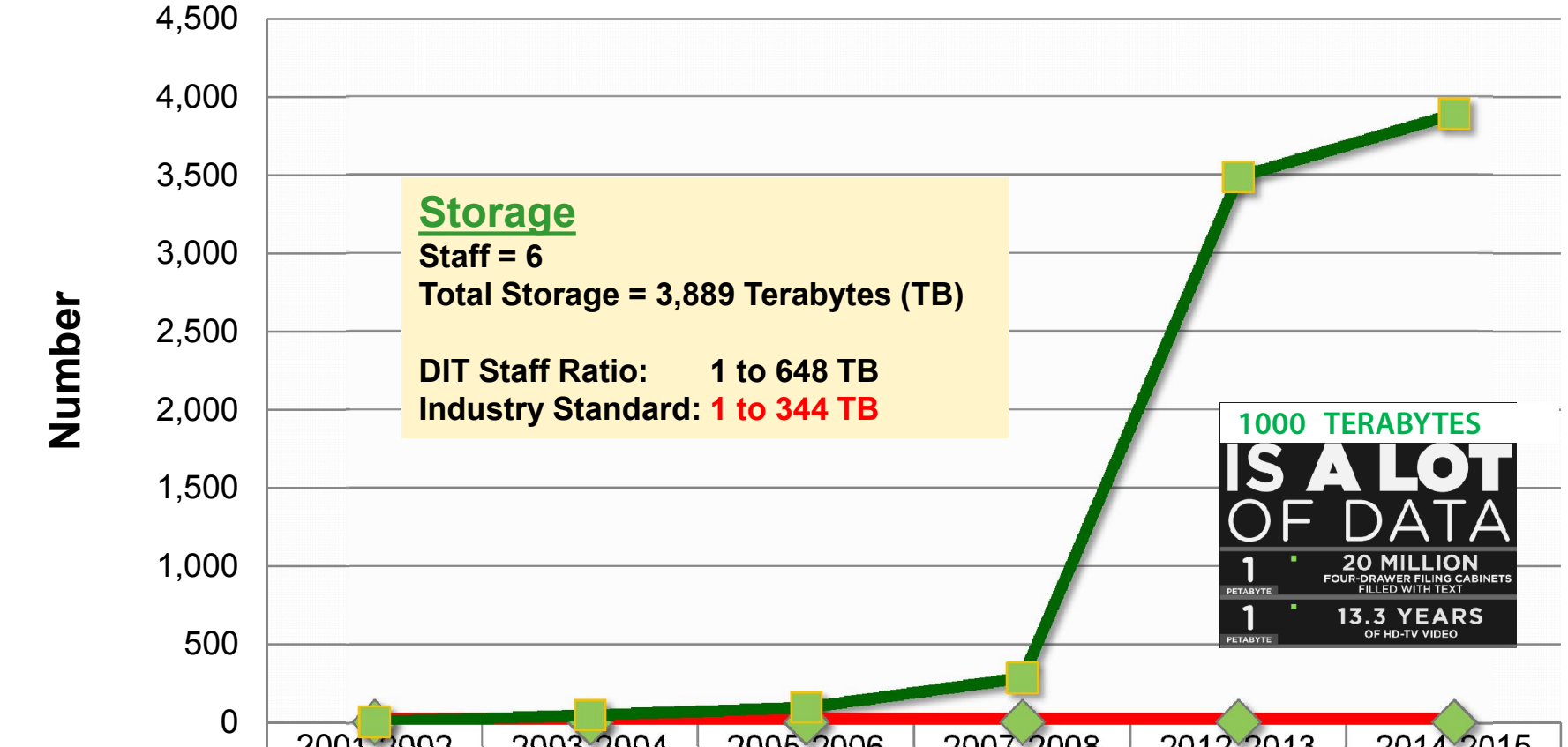
Industry Standard: 1 to 2,000



	2001-2002	2003-2004	2005-2006	2007-2008	2009-2010	2011-2012	2013-2014	2015-2016
Mailboxes	11	13	15	16	17.5	18.2	19.2	21.3
Daily E-Mail	25	27	77	104	30	84	85	47
Staff	5	5	1.5	1.5	1.5	1.5	1.5	1.5

LOB SUMMARY: TECHNOLOGY INFRASTRUCTURE # 141

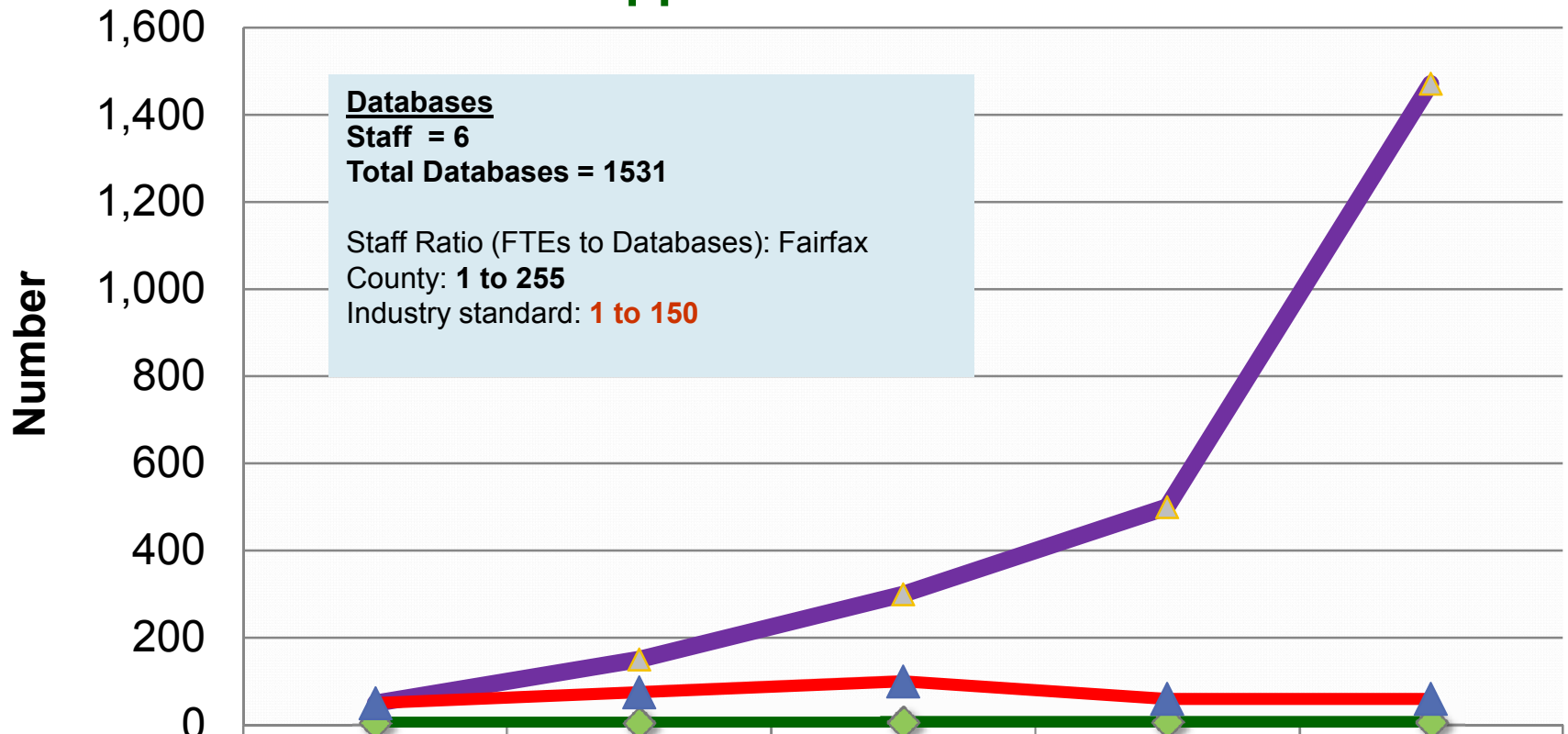
Storage/Backup Services



	2001-2002	2003-2004	2005-2006	2007-2008	2012-2013	2014-2015
Staff	5	5	5	6	6	6
Total Storage	8	50	100	288	3,487	3,889

METRICS: GROWTH IN SERVERS AND DATABASES

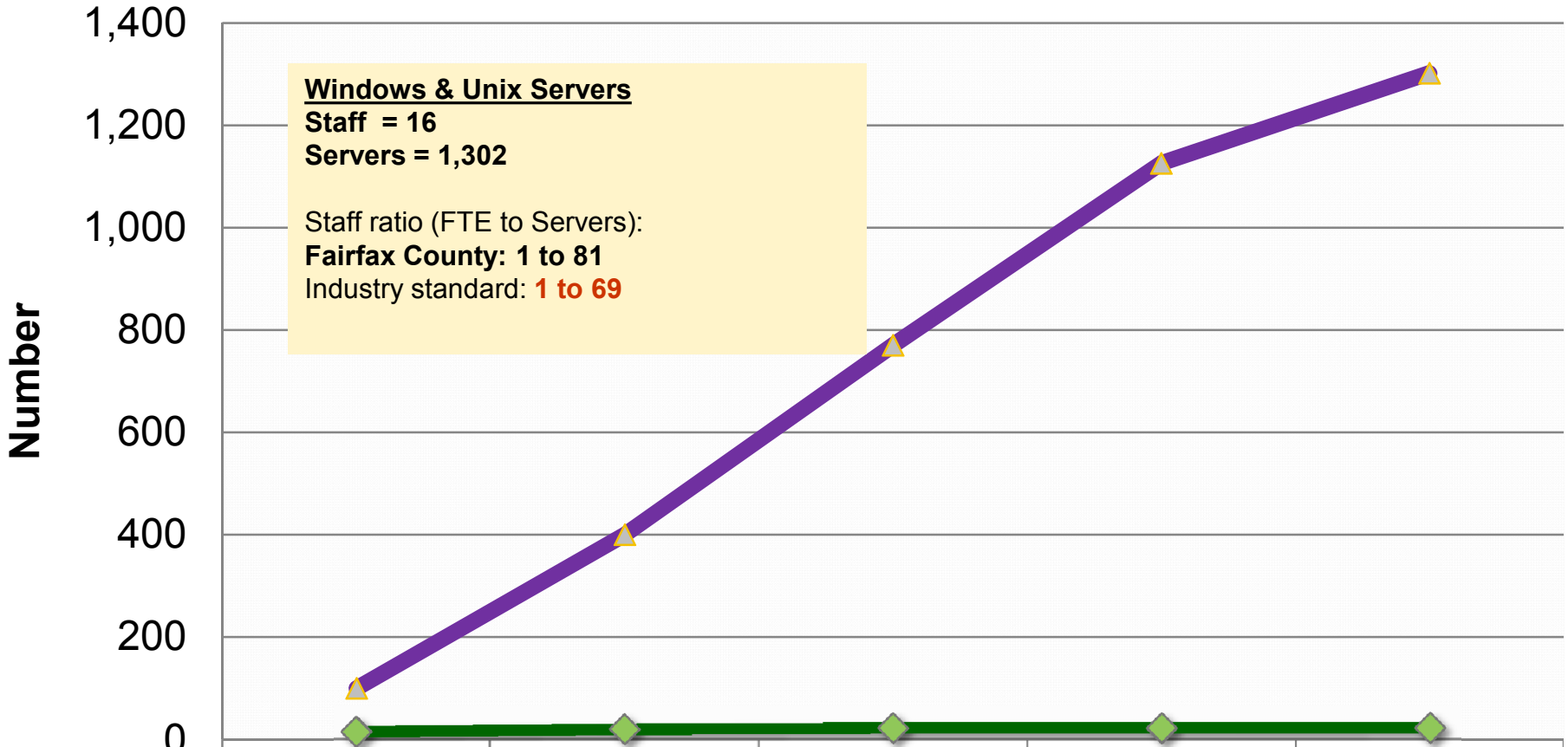
Staff Support for Databases



	2001-2002	2003-2004	2005-2006	2007-2008	2015-2016
Staff	5	5	6	7	6
SQL DB	50	150	300	500	1,471
Other DB	50	75	100	60	60

METRICS: GROWTH IN SERVERS AND DATABASES

Server Support



	2001-2002	2003-2004	2005-2006	2007-2008	2015-2016
Staff	15	20	22	22	23
Servers	100	400	770	1,126	1,302

LOB SUMMARY: TECHNOLOGY INFRASTRUCTURE (#302)

Data Center is host to over 600 applications and 500 databases supporting the County, FCPS, and National Capital Region. This is a 3 shift, 24x7x365 operation with 99.999% performance (virtually no downtime)

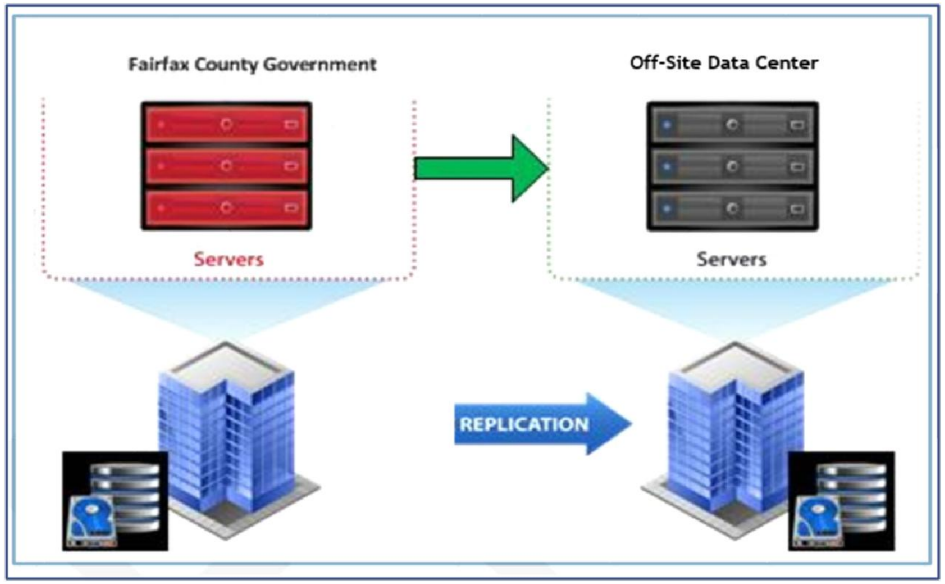
Enterprise Network provides a secure high speed network to 301 County Government locations providing access to County internal applications, external business partners, and the Internet.

The **I-NET** Institutional Network provides fiber optic connectivity as well as cable quality TV content to 430+ County Government and County School locations.

LOB SUMMARY: DISASTER RECOVERY (#303)

Started in 2014, critical services and applications were identified for high availability and for being capable of sustaining unplanned events such as a data center outage. DIT established a fail-over of County critical applications in order to provide High Availability (HA) in the event of an emergency or disaster event. This capability ensures recoverability availability of core applications, data, and high-impact IT services for continuity of business.

- Enables users to continue to access IT services/applications during an outage at Government Center
- Improvement over traditional DR

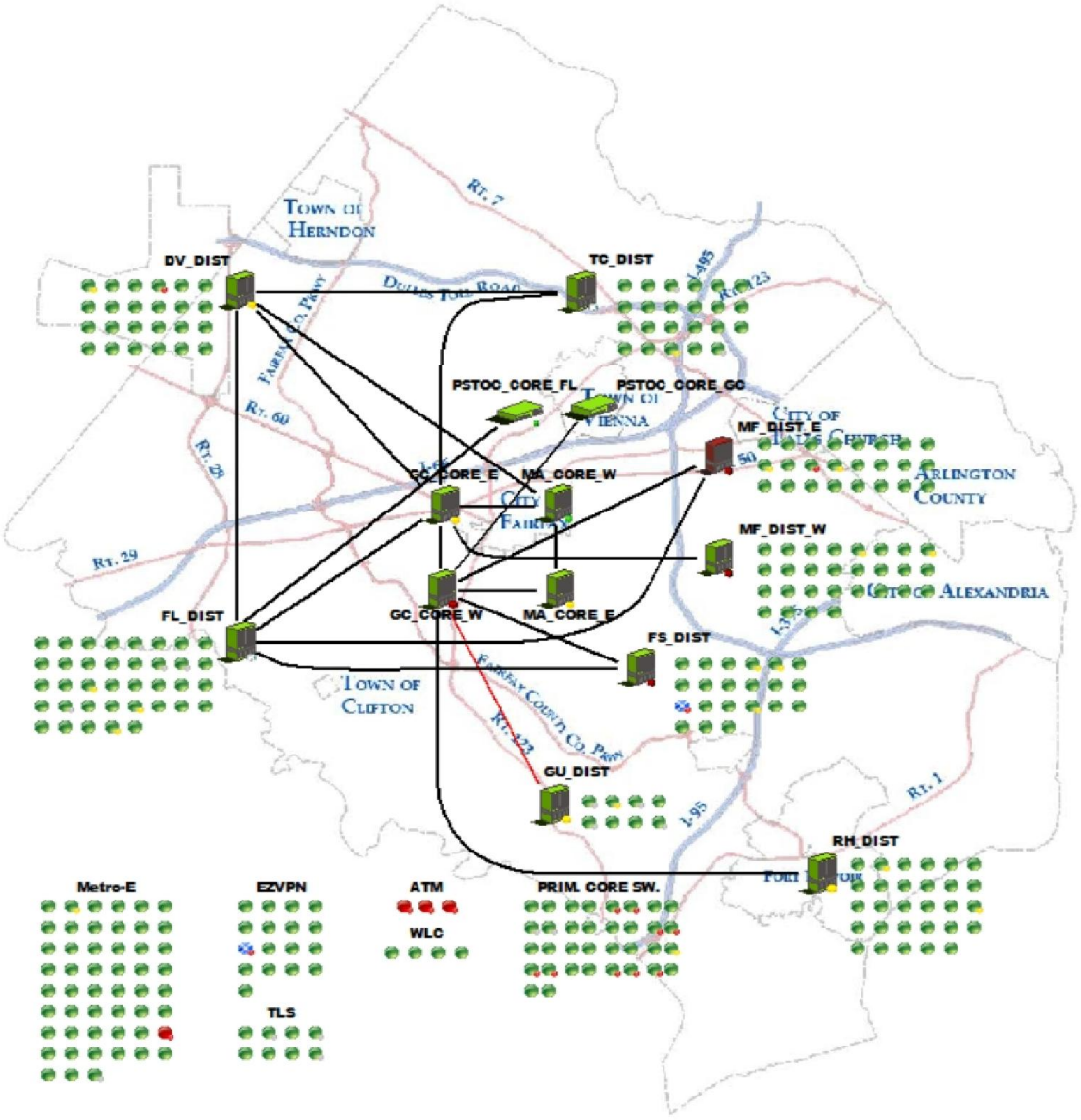


DR/Failover and Replication Diagram from Government Center to Third-Party Data Center

Metric Indicator	FY 2013 Actual	FY 2014 Actual	FY 2015 Actual	FY 2016 Estimate	FY 2017 Estimate
Percent Uptime of FOCUS ERP System	98%	99%	99.99%	99.99%	99.99%
Enterprise Production Applications with DR/Failover	4%	13%	21%	38%	92%

TECHNOLOGY INFRASTRUCTURE LOB # 302: ENTERPRISE DATA NETWORK

- 99.999% (Five Nines) Uptime for Network Backbone
- The I-Net Backbone is 10 GBPS fully redundant
- I-Net connected sites have a 1 GBPS minimum speed
- Network supports internal and external WiFi for Public Safety vehicles
- Network supports NetMotion Wireless VPN for 2500+ devices Public Safety & Public Service
- County WiFi to all Public Safety sites, Libraries, Rec Centers, and numerous Human Services sites.



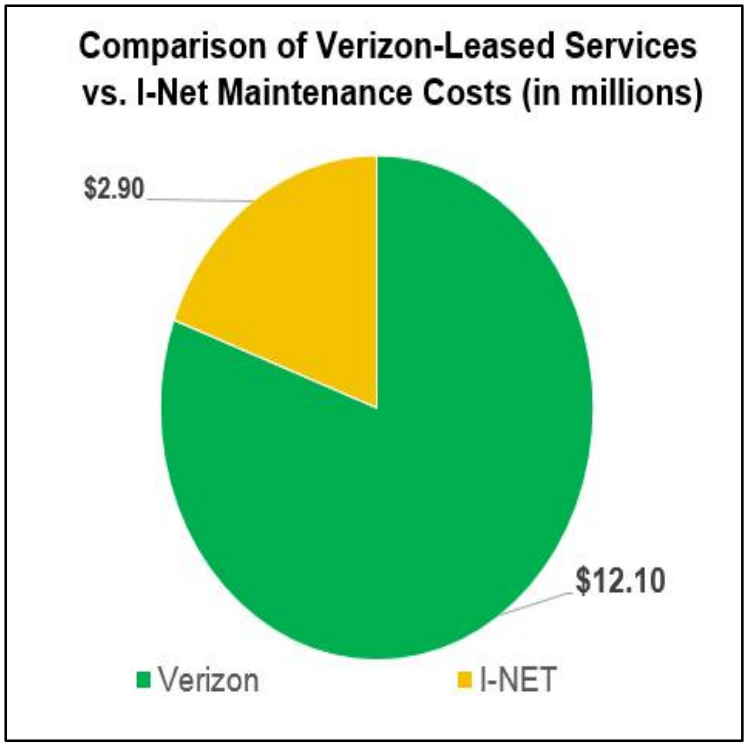
Network Diagram

I-NET VALUE

I-Net support costs including 24hr monitoring, hardware and staff augmentation for 420 sites with 1 gigabit of bandwidth each.
Paid from Cable Fund

Verizon network services
1 gigabit circuit only to 420 sites with no monitoring.
Paid from General Fund

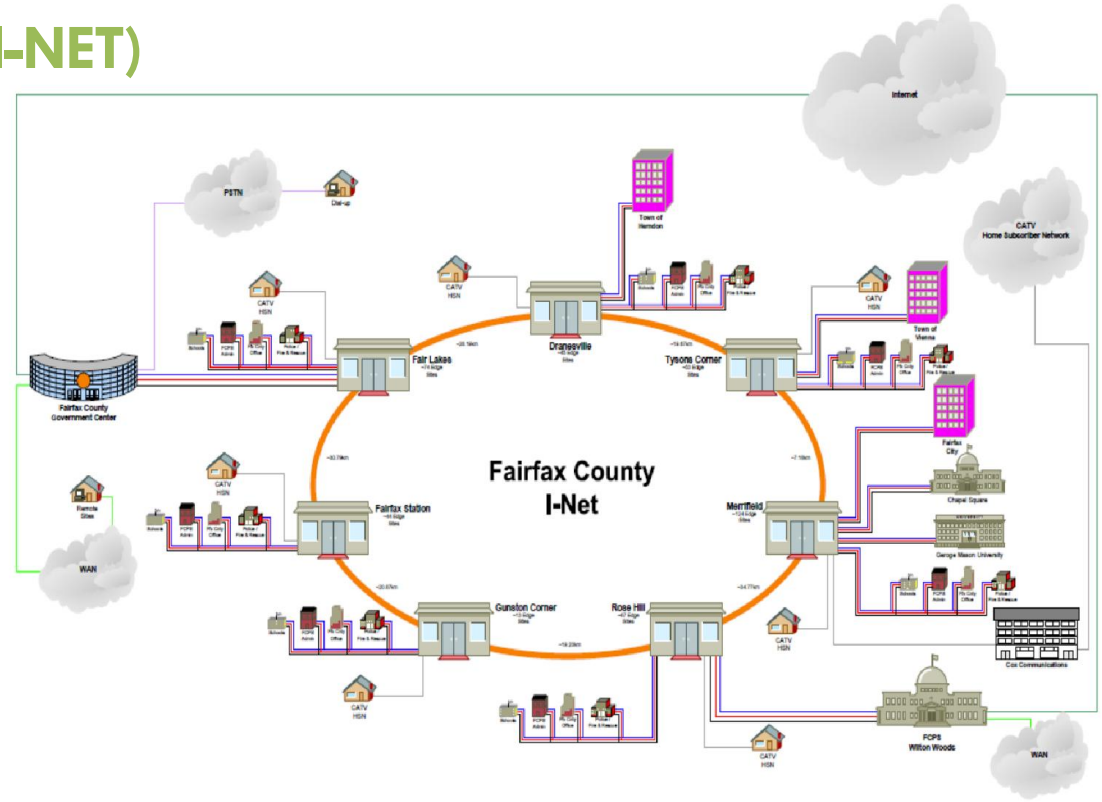
Savings of about $9.2 million annually.

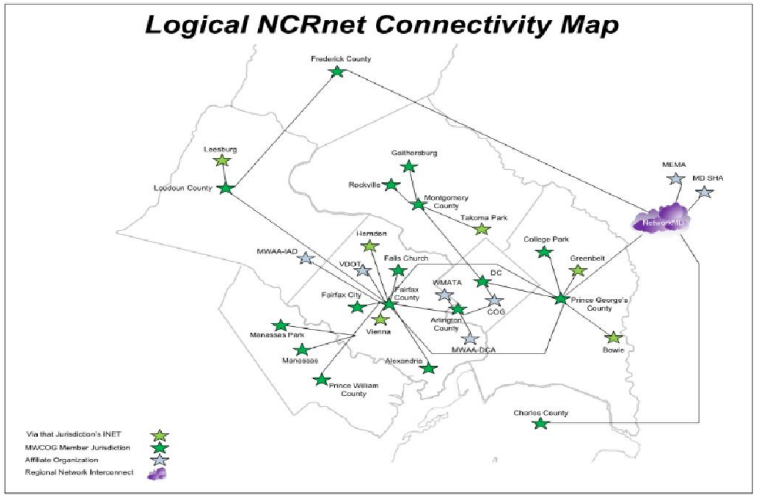


Verizon annual cost per employee:	$972
Monthly	$81
I-Net annual cost per employee:	$233
Monthly	$19

INSTITUTIONAL NETWORK (I-NET)

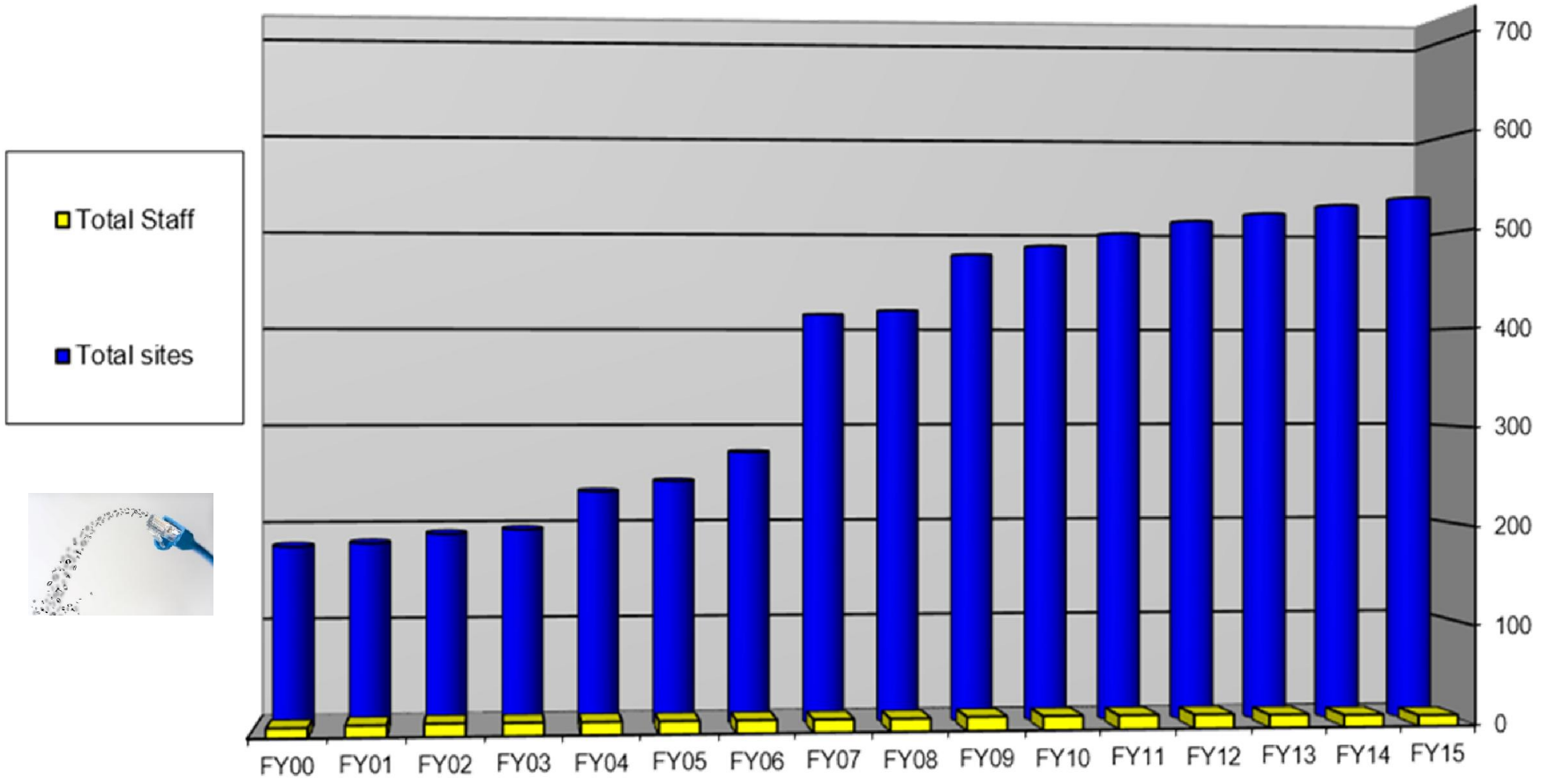
- Installed at 208 FCG facilities, 213 FCPS locations, and 10 FCWA sites.
- Consist of over 4000 fiber strands that span over 3485 miles through out Fairfax County.
- Used for the delivery of high speed data, internet access, corporate server access, digital and HD TV video, and telephone services.
- Delivers 92 analog, 95 digital, and 43 HD TV channels including training to 437 FCPS and FCG sites.





Major connection point for the National Capital Region Network (NCRNet)

I-NET SITE GROW COMPARED TO STAFF



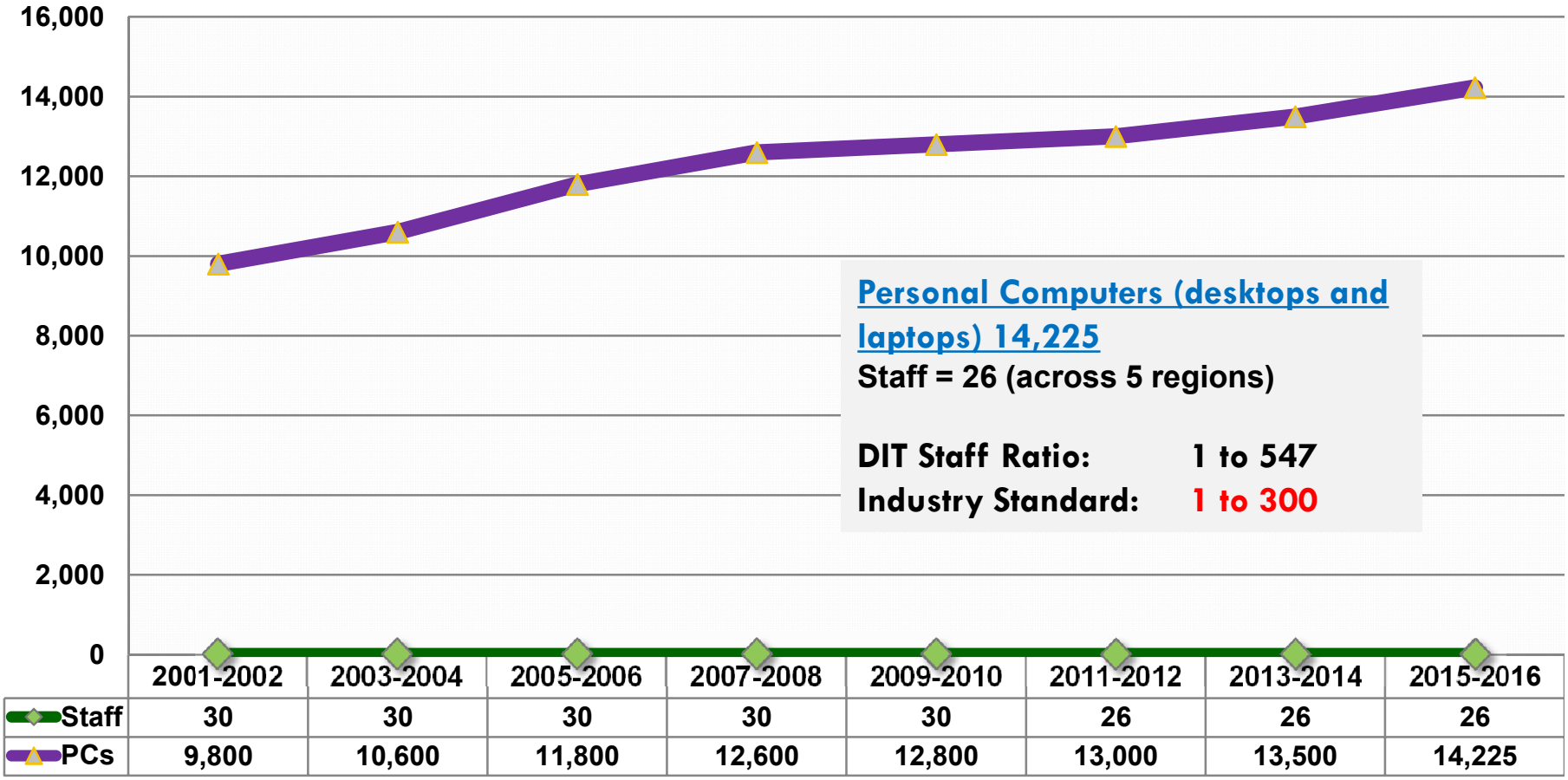
**** Staff size maintains an average of 12 each year***

LOB SUMMARY: PC REPLACEMENT (#305)

Provides a funding mechanism and asset management for the regularly scheduled replacement of end-user devices (desktop PCs, laptop and tablets) and associated software and support for all county agencies.

- Ensures that County agencies have supportable equipment designed to use the County's enterprise-wide and agencies' specific software applications with adequate performance and **securely.**
- Includes Microsoft licenses to include cost effective transition to user vs devices based plan with MS 365 (5 per user).

METRICS: PC REPLACEMENT (LOB #305)



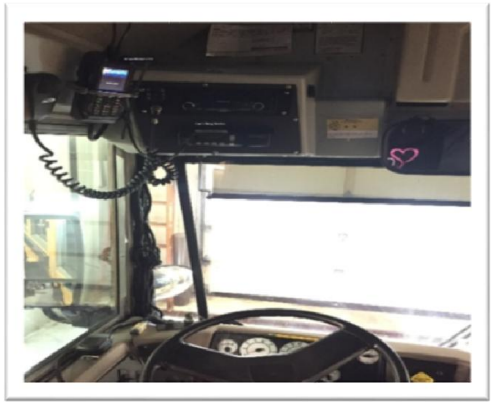
	2001-2002	2003-2004	2005-2006	2007-2008	2009-2010	2011-2012	2013-2014	2015-2016
Staff	30	30	30	30	30	26	26	26
PCs	9,800	10,600	11,800	12,600	12,800	13,000	13,500	14,225

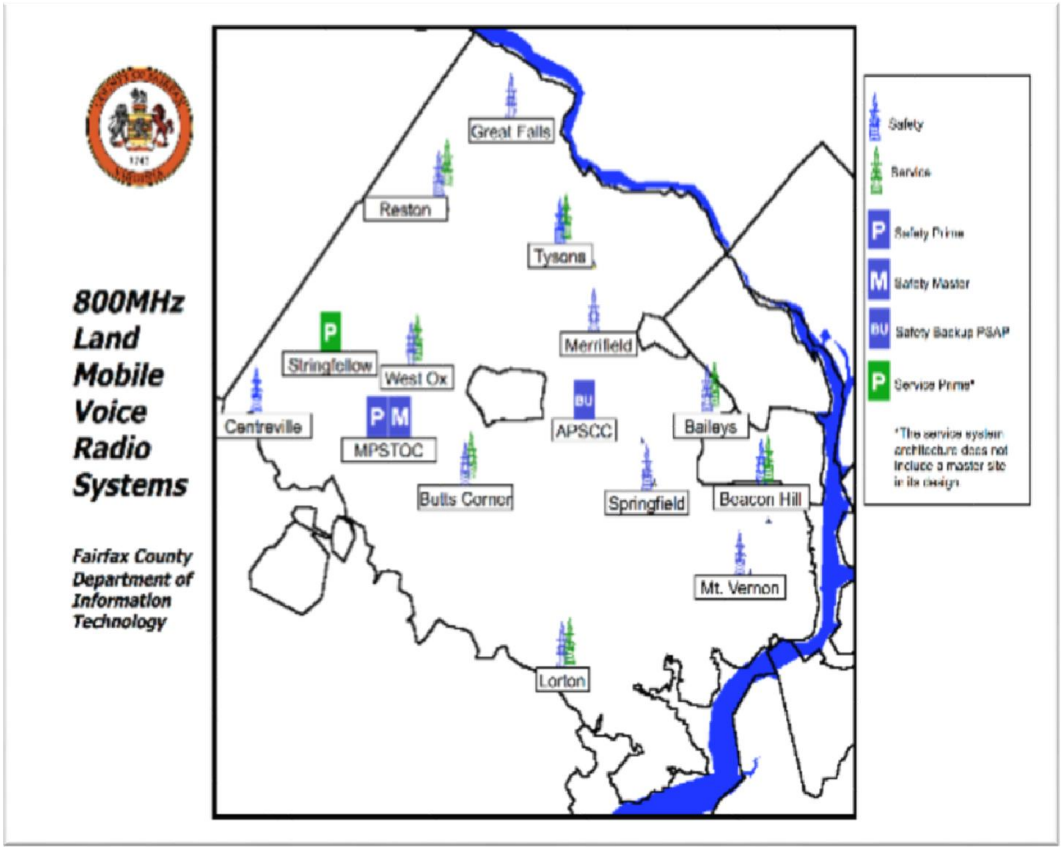
FY 2015 Program modification net annual savings of $375,000

LOB SUMMARY: RADIO COMMUNICATIONS (#304)

County's critical dedicated wireless communications infrastructure and radio systems serving Fairfax County government, Schools and interoperability with the 23 localities in the National Capital Area.

Footprint includes Public Safety and Public Service 800 MHz radio systems with 19 tower sites and 22 transmit antennas.





NCR HOMELAND SECURITY PROGRAM LEADERSHIP

National Capital Region (NCR) Homeland Security Program supports 23 localities across the District of Columbia, the State of Maryland, the Commonwealth of Virginia, area local governments working in partnership with non-profit organizations and private sector interests. Fairfax County DIT manages the NCR Interoperable Communications Infrastructure (ICI) which consists of several award-winning IT and security projects:

- **NCRnet,** a high-speed, multi-jurisdictional fiber network that interconnects all jurisdictions in the NCR (DC-metropolitan) area and plays a critical role in ensuring that public safety personnel are not dependent on commercial carrier or service provider networks during widespread emergency events.

- **Identity and Access Management Service (IAMS),** a regional authentication and assertion service for end user access to public safety regional applications. **Recipient of 2014 Virginia Governor's Technology Award.**

- **Fire and Rescue (FRD)CAD2CAD,** a service that allows fire dispatchers to expeditiously request non-local fire resources to an event from within their Computer Aided Dispatch (CAD) systems. **Recipient of 2010 Virginia Governor's Technology Award and Best of NIEM 2011.**

- **Geospatial Data Exchange (GDX),** allows partners in the region to securely share geospatially referenced data through dynamic web services for consumption in regional situational awareness applications. **Recipient of 2013 / URISA / Exemplary System in Government Award - Distinguished System**

Fairfax County DIT has a leadership role on regional committees:

Chair of MWCOG CIO Committee (W. Gibson)

Chair of MWCOG CISO Subcommittee (M. Dent)

DIT DOCUMENT SERVICES LOBS AT A GLANCE

#300
Multi-functional Devices

#301
Print Shop

DIT DOCUMENT SERVICES RESOURCES

LOB #	LOB Title	FY 2016 Adopted Disbursements	FY 2016 Adopted Positions
300	Multi-functional Devices	$2,679,862	0
301	Print Shop	3,068,905	10
Total		**$5,748,767**	**10**

Category	FY 2014 Actual	FY 2015 Actual	FY 2016 Adopted
FUNDING			
Expenditures:			
Compensation	$591,278	$584,843	$721,994
Benefits	217,077	232,636	249,043
Operating Expenses	4,575,395	4,763,853	4,777,730
Capital Equipment	0	29,995	0
Total Expenditures	**$5,383,750**	**$5,611,327**	**$5,748,767**
Revenues:			
Multi-functional Devices	$382,243	$321,607	$248,574
Print Shop	2,340,817	2,418,331	2,723,120
Total Revenue	**$2,723,060**	**$2,739,938**	**$2,971,694**
Transfers In:			
Transfer In from General Fund	$2,407,383	$2,398,233	$2,278,233
Total Transfers In	**$2,407,383**	**$2,398,233**	**$2,278,233**
POSITIONS			
Authorized Positions/Full-Time Equivalents (FTEs)			
Positions:			
Regular	10 / 10	10 / 10	10 / 10
Total Positions	**10 / 10**	**10 / 10**	**10 / 10**

LOB SUMMARY: MFD (#300) AND PRINT SHOP (#301)

Multi-Function Devices (#300)

MFD Program manages the County's 500 authorized fleet of centralized managed, networked, large to mid-sized enterprise class of print/copy/fax and scanning hardware, with job-based accounting and tracking software:

- **Directly contributes County goals of reducing paper, reduced number of individual printers, scanners and fax machines acquired independently by county agencies.**
- **Increased security of printing and availability**

Print Shop (#301)

Responsible for providing responsive, high quality documents and related services for all county agencies and Fairfax County Public Schools system

- **Services include high speed/high quality duplication, transactional printing, bindery/finishing, imaging, and consulting.**
- **Costs for Print Shop and services are below market costs**
- **Over 7000 printing jobs/projects are produced each year.**

EVOLUTION OF MULTI-FUNCTION DEVICES

~~Old Problems~~

Inherited vendor managed program

1. **Inaccurate Inventory**
   - Number of devices and location
   - Usage and contact information
2. **Not Centrally Managed**
   - Devices not connected to network
   - Physically visit each MFD to configure
3. **Just a Copier**
   - Not connected to County network
   - No print queues
   - No scan software
   - No fax lines
4. **Security Vulnerabilities**
   - No encryption or data overwrite
   - Confidential docs left in output tray
   - No audit trail or compliance check

New Solutions in Place

DIT Took ownership, practicing good stewardship

1. **Preformed comprehensive inventory**
   - Location, make/model, S/N, usage
   - Collected usage and contact information
2. **Installed Fleet Management Tool**
   - Connected MFDs to network, collecting data
   - Remotely configured
3. **Utilize True Potential (Print/Scan/Copy/Fax)**
   - Connect to network
   - Install secure pull print software
   - Install document capture solution
   - Leverage existing fax server environment
4. **Implement Security Measures**
   - Installed encryption and data overweight
   - Physical access cards used for logical access
   - Eliminated costly fax lines and fax machines
   - Faxes sent/received electronically w/ audit trail

METRICS: MULTI-FUNCTIONAL DEVICE COST EFFICIENCIES

- Reduced number of devices in program from 616 to 500 and reduced annual expenditures by $475,000

- MFD Print On-Demand saves:
  - Time – Minutes/Hours per job versus days via outsourcing
  - Money – No transportation costs for Pickup/Deliver

PRINT ON DEMAND

- Change in paper manufacture resulted in greener product and 20% cost reduction

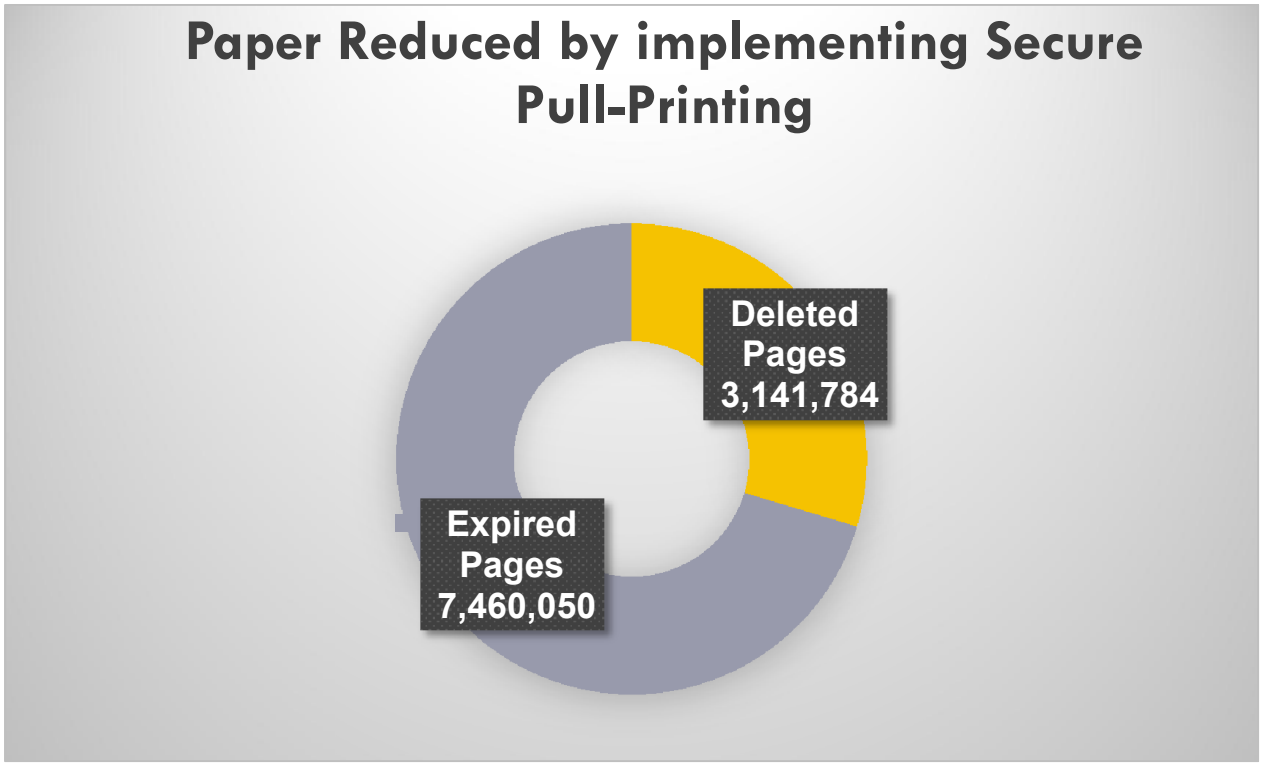
- Implemented operational efficiencies allowing end-user to select finishing options and number of copies from any MFD rather than having to return to their desk and reprint with these options

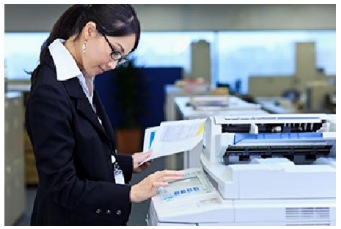
- Eliminated independent FAX machines

- Eliminated hundreds desk-top and network printers

- Added scanning so agencies do not need to buy individual scanners

METRICS: MULTI-FUNCTIONAL DEVICE COST EFFICIENCIES





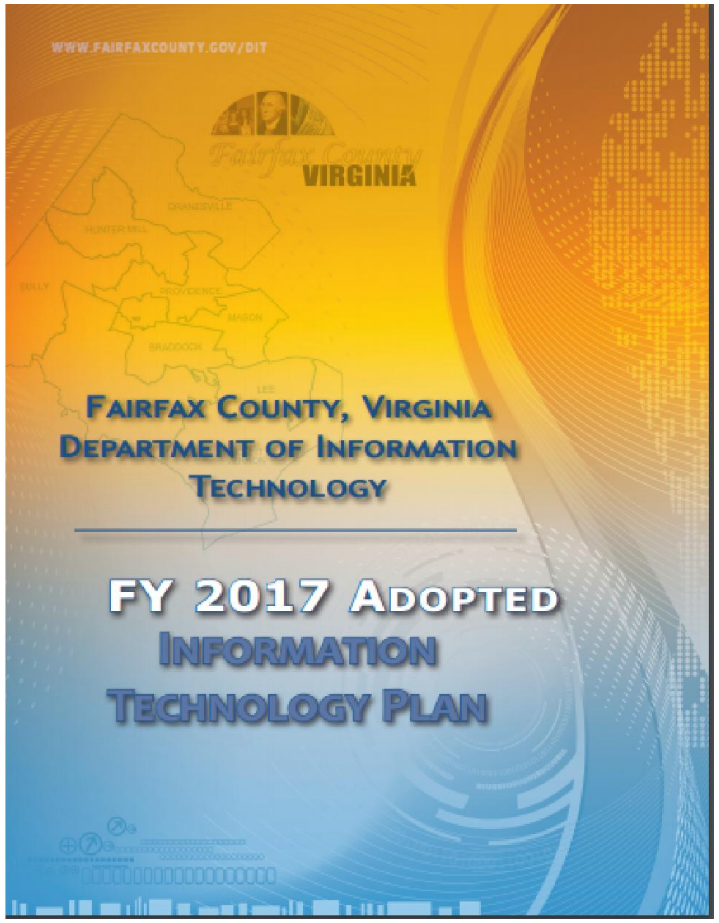
Annual paper reduction originating solely from unclaimed/unwanted print jobs is averaging 2.1 Million pages per year over the past 5 years.

Reams of Paper Saved	Dollars Saved n Paper not Purchased	Acres of Forest Saved	Gallons of Wastewater Prevented	Tons of CO2 Equivalents Prevented	Garbage Trucks not Sent to Landfill
21,200	$68,221	4.3	3,297,281	561	10

DIT INFORMATION TECHNOLOGY INITIATIVES- LOBS AT A GLANCE

#253
Information Technology Initiatives

LOB: INFORMATION TECHNOLOGY INITIATIVES (# 253)



Information about County IT strategies, investments, standards and governance can be found online in the published DIT IT Plan

INFORMATION TECHNOLOGY INITIATIVES

LOB #	LOB Title	FY 2016 Adopted Disbursements	FY 2016 Adopted Positions
253	Information Technology Initiatives	$6,424,000	0
Total		**$6,424,000**	**0**

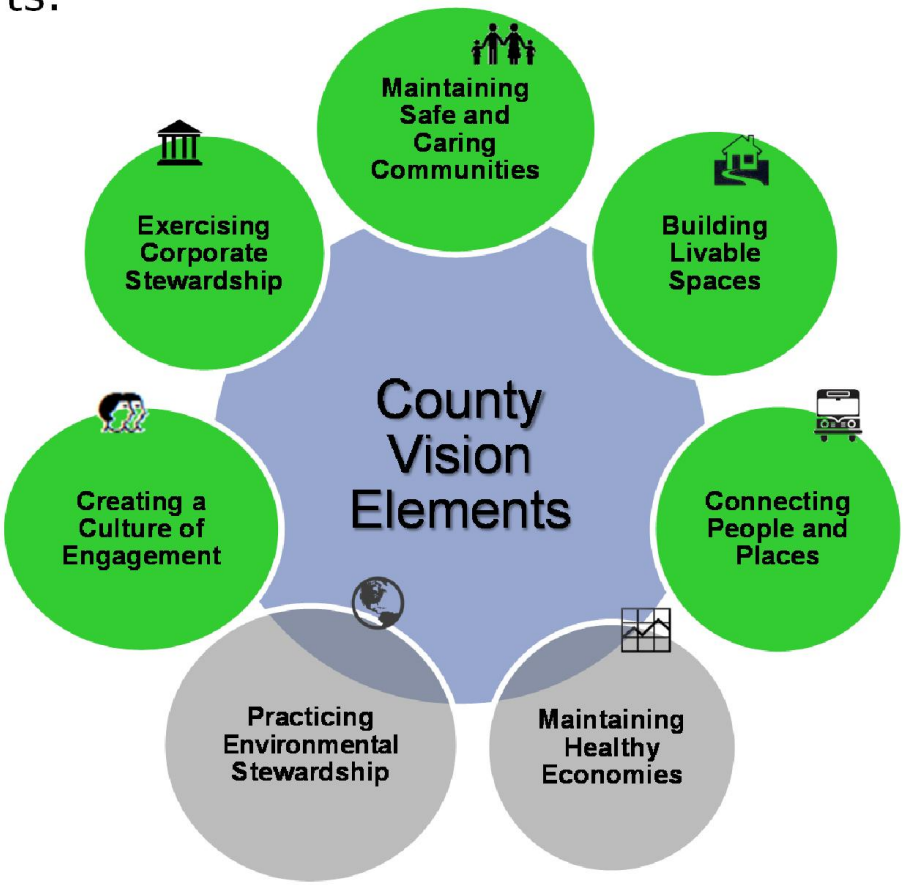
Category	FY 2014 Actual	FY 2015 Actual	FY 2016 Adopted
FUNDING			
Expenditures:			
IT Projects	$15,371,563	$11,220,925	$6,424,000
Total Expenditures	**$15,371,563**	**$11,220,925**	**$6,424,000**
Revenues:			
Interest	$33,171	$36,487	$43,760
Other Revenue	957,950	1,526,258	0
Total Revenue	**$991,121**	**$1,562,745**	**$43,760**
Transfers In:			
Transfer In from General Fund	$9,763,280	$11,251,260	$2,700,000
Transfers In from Other Funds	2,900,000	2,900,000	3,680,240
Total Transfers In	**$12,663,280**	**$14,151,260**	**$6,380,240**

COUNTY VISION ELEMENTS

The IT Investment Fund supports:

Signifies support of Vision Element

Does not directly contribute to Vision Element



LINES OF BUSINESS SUMMARY: IT INITIATIVES (#253)

Fund 10040 is a capital fund established to promote and support technology innovation county-wide under centralized management, authority and oversight of DIT.

- **Budget support:** Primarily in Fund 10040 an annual General Fund transfer, revenue from the State Technology Trust Fund *(supporting the Circuit Court), Cable Fund, and other. The E 9-1-1 fund is for* eligible projects supporting public safety communications, also part of the DIT IT Projects oversight. Sponsors and DIT provide required staff time.
- **Management**: established governance, technical design approval, project management oversight, and expenditure authorization. Fund is optimized for more effective use.
- **Submission and Recommendation process**: DIT and DMB coordinate the annual IT Project submission process that begins with proposals from agencies.

Currently there are 50+ active projects supporting multiple strategic priorities:

- **Transformation of business processes to support strategic initiatives and promote operational efficiencies**
- **Improve access and use of data**
- **Transition of legacy systems to modern technologies**
- **Enable quality customer service, 24x7 online access to information and services**
- **Provide secure, supportable, agile, and sustainable IT infrastructure.**

GOVERNANCE

ITPAC Information Technology Policy Advisory Committee of 15 Board appointed IT expert citizen that advise on technology trends, strategy, and review projects.

Senior IT Steering Executive Committee of CEX, DCEXs, CFO, CTO, OPA director provides guidance for county-wide IT policy, investments, projects portfolio. scope and related issues.

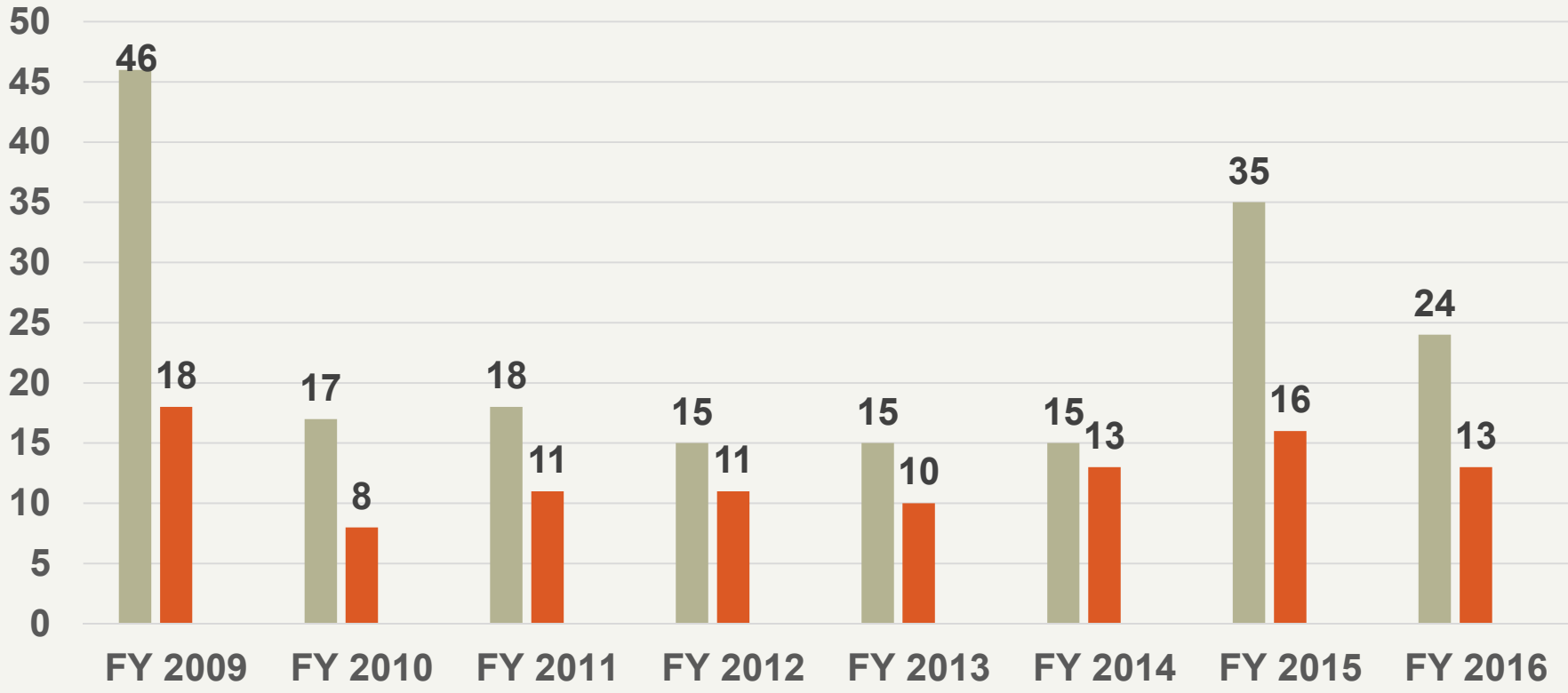
Project Governance
Sr. official sponsor(s)/stakeholders of projects, on-going business area and/or enterprise-wide and cross-agencies initiatives

Project Management Office
Supports governance processes, conducts project and spend review

Fairfax approach to IT Investment is a nationally recognized Best Practice by Gartner Research, Center for Digital Government, &

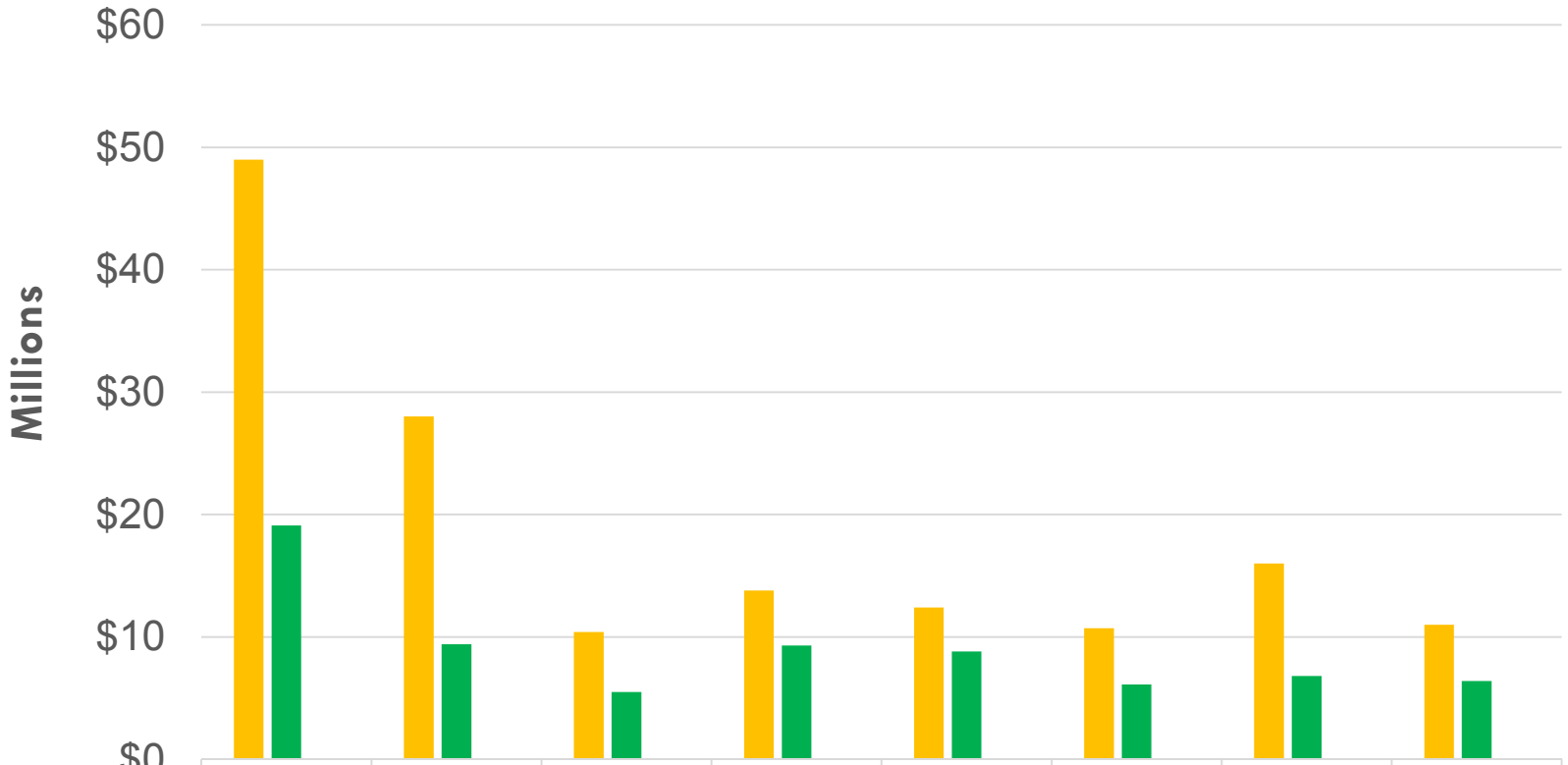
NACO National Association of Counties
The Voice of America's Counties

FY 2009 – FY 2016 Number of IT Project Requests vs. Approved in the Adopted Budget



FY 2009 – FY 2016 Average Percentage of Projects Approved for Funding: 59%

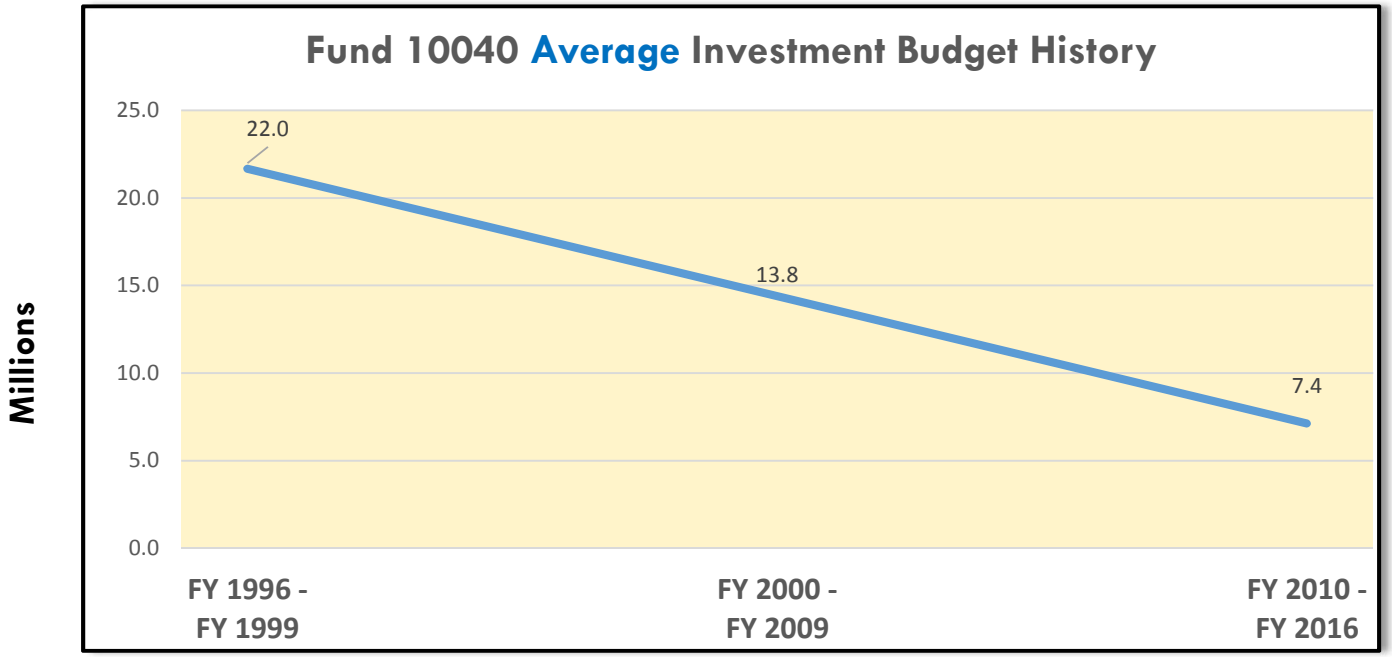
Percentage of Project Funding Requests vs. Adopted Project Funding



	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Total Amount of Project Requests	49.0	28.0	10.4	13.8	12.4	10.7	16.0	11.0
Total Amount of Funded Projects	19.1	9.4	5.5	9.3	8.8	6.1	6.8	6.4
Total Percentage Funded	38.98%	33.57%	52.88%	67.39%	70.97%	57.01%	42.50%	58.18%

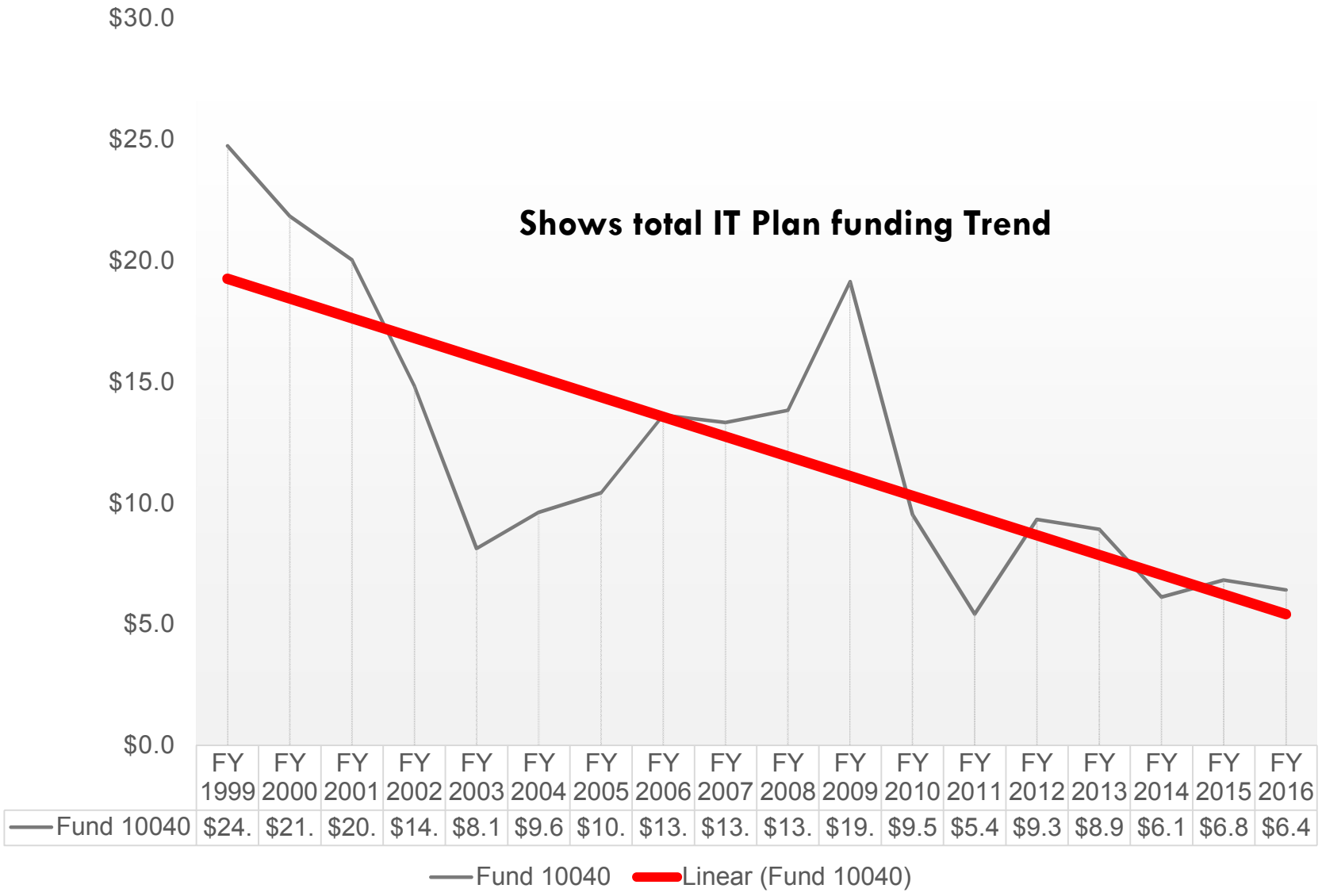
Total Amount of Project Requests Total Amount of Funded Projects

Total Percentage Funded



- **FY 2013 – FY 2016; average investment is 36% of the $20M annual investment recommended by ITAG (1994)**
- **FY 2009 – FY 2016 Total Requests $151 M vs Total Funding of $ 71 M for an average 47% of demand funded**
- **$20M a year investment = .07% of the County's $3.0 billion annual budget.**

IT INVESTMENT BUDGET HISTORY (IN MILLIONS)



SUMMARY IT INVESTMENTS

Fairfax IT Initiatives program has been successful due to up front review, governance, fluidity and agencies' commitment while industry average failure rate experience of over 30%.

Essential to invest in technology even in tough times to gain necessary long term operational cost efficiencies and realize new opportunities

Plans for *living* five year plan capturing county IT portfolio to predict funding requirements and rationalize solutions lifecycles

NATIONAL RECOGNITION

Over the last 15 years Fairfax County has built a nationally recognized and award winning IT program, putting Fairfax County in the forefront in IT both nationally and across the globe for use of IT in municipal government.

COVITS 2014

pti Public Technology Institute

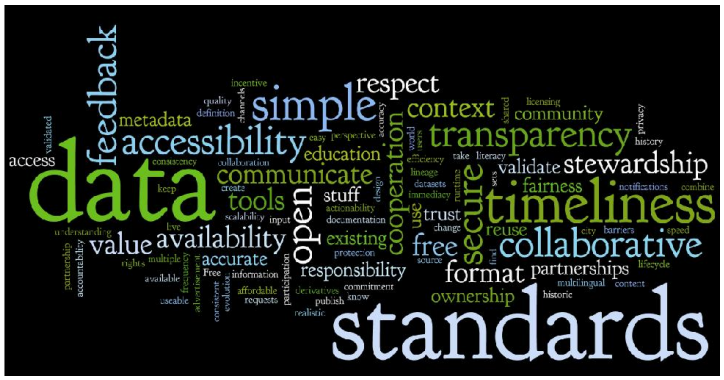
2016 WINNER DIGITAL COUNTIES SURVEY

Virginia Association of Counties ACHIEVEMENT AWARDS VACo

TRENDS AND CHALLENGES - DIT

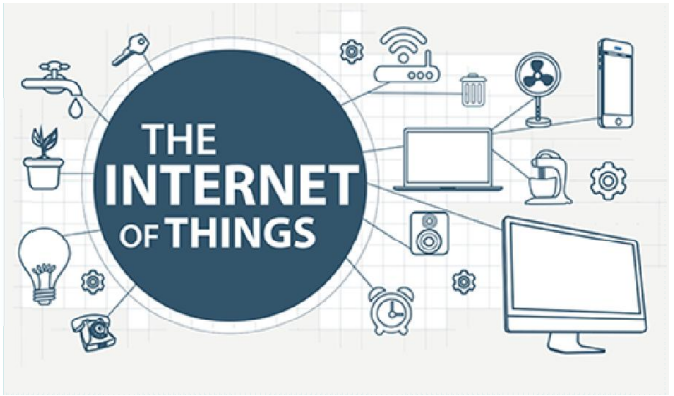
Rapid Expansion:

- Growth and use of data including expansion of video services and video storage
- Digitization of records and information
- Open Data
- Costs associated with data expansion and required retention schedules



IT demand out-pacing resources

- Availability of IT expert talent



Regulatory requirements: federal and state policy changes

CHALLENGES

Funding Capacity

Fiscal constraints inhibit investment capacity against escalating need for technology. Substantial investments required in the near future to replace key applications. Latent eventual replacement = more cost in implementation and operating - impedes opportunities for consolidation, business process reengineering, and innovation.

Regulatory

Data Sharing and process integration rules outdated. Independent agency implementation: duplication of efforts, redundant systems

Scope & Risk Management

Often times during an approved project, the scope may change due to a variety of circumstances.

Industry

Keeping pace with the fast, dynamic changes in IT industry trends, solutions and capabilities. Market place solution availability - timing of industry offerings and future. Shift in industry competition dynamic.

Change /Adoption

Need for business process change to take full advantage of new technologies vs fitting new technology into existing business process

Agile Provisioning

Adaptive sourcing - opportunities to modernize IT procurement processes to avoid project delays

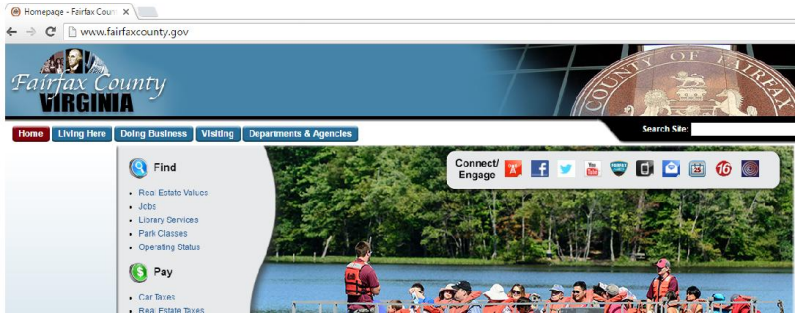
LOOKING FORWARD

Over the last few years Fairfax County has built a nationally recognized IT organization. DIT seeks to continue increased efficiencies for Fairfax County agencies and citizens.

- High demand exists for technology, applications, and IT mobility from departments, agencies, and citizens.
- Continue moving the County's IT enterprise towards a more elastic, scalable, and resource efficient cloud computing model.
- Increase efficiencies of business processes and increased citizen/user satisfaction through consolidation, automation, virtualization, and technology maturity.
- Find ways to continue doing more with less, and increasing agency and user satisfaction.
- Manage on-going security risks and vulnerabilities.

LOOKING AHEAD IN INFORMATION TECHNOLOGY

- Website re-design
- Establish cross-cutting data strategy to harness county data – Big Data
- Look for opportunities to further partner with other governments to further leverage common IT solutions and lower costs of IT commodities
- Update policies related to solution lifecycles
- Establish 3 to 5 year plan for IT
- Adopt clouds with caution
- Modernize and consolidate audio/visual teleconferencing capabilities countywide
- Modernize IT positions and better leverage IT positions countywide
- Smart buildings
- Continued focus on Cyber Security



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