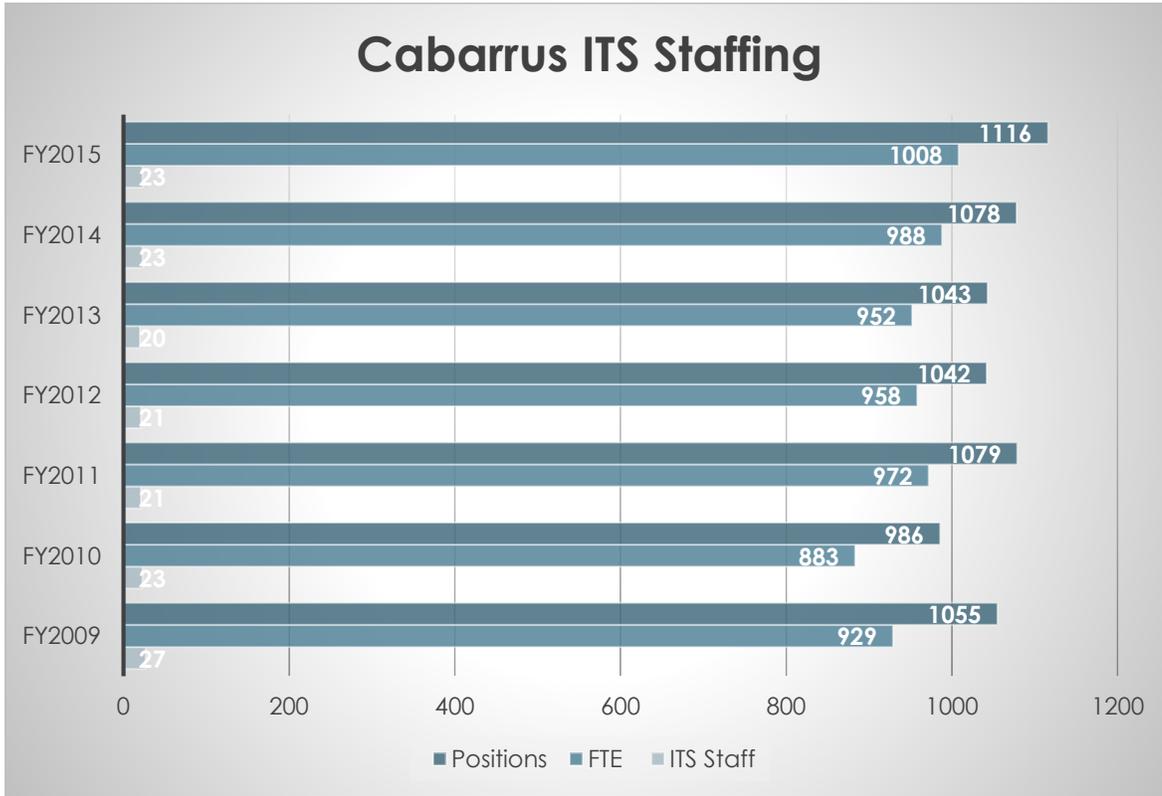


Cabarrus County ITS In Review

ITS Staff per County FTE and Positions

- In FY2009 ITS had 27 Employees supporting 929 FTEs and 1055 Positions
- In FY2015 ITS has 23 Employees supporting ~1008 FTEs and ~1116 Positions



*Source Cabarrus County Budget Documents with FY2015 estimated.

ITS Staff projections based on County Population

2013 Cabarrus Estimated Population 187,226

	2008	2010	2015	2020	2025
Forecast Model(3)					
County Population	163,804	177,879	200,025	223,201	247,329
Ratio to 10,000 Population					
(a) Average Ratio 1.49	24	26	30	33	37
(b) High Ration 1.63	27	29	33	36	40
Average Model 3a 3b	25	27	31	34	38

*Source Cabarrus County Facilities Assessment and Space Needs Employee Forecast April 7, 2008

Cabarrus County ITS In Review

ITS Budget Measurements

ITS budget measurements changed to measure how our customer's perceive services provided by ITS and to reflect technology value to other departments, municipalities and citizens.

	FY 2014 ACTUAL	FY 2015 ESTIMATE	FY 2016 TARGET
# Electronic documents maintained in Laserfiche	7,128,977	8,146,000	9,100,000
# Departments using Laserfiche	19	19	19
# Employment applications received in MUNIS	3,925	6,000	7,000
# Contracts processed in MUNIS	295	325	300
# Sheriff incident and accident reports accessed by public online	19,596	20,000	20,000
% Public class reservations made online	70%	75%	75%
# Clients in DSS case management system	132,911	145,000	155,000
# DSS programs using case management system	49	49	49
# Technology work tickets completed	16,736	19,000	21,000
# Hosted services for external partners	7	8	8
# E911 calls presented to PSAPS	123,058	125,000	126,000
# Library patron internet sessions	65,953	66,000	70,000
# Completed inmate video visitation sessions	17,836	18,000	18,500
# Permit and inspection revenue collected online	643,470	710,000	770,000
% Customers rate service desk performance on handling request extremely well or very well	95%	95%	95%
% Customers extremely satisfied or very satisfied with assistance provided by ITS	96%	96%	95%
% Customers rate the ITS service desk as extremely or very responsive	94%	95%	95%
% Customers rate the ITS staff knowledge and attitude a 4 or 5 on a scale of 1-5	97%	98%	95%
% Citizens aware of opportunities for involvement in decision-making on County issues	49%	49%	50%
# Outreach and emergency phone messages - based on calendar year	56,709	57,000	57,000
% Webpages updated	75%	78%	80%
# Youtube views	80,441	85,000	85,000
% of E-Newsletters delivered and opened	26%	28%	30%

Cabarrus County ITS In Review

ITS Revenue Generation

- Cost Avoidance for Citizens of Cabarrus County
 - City of Concord MOU for Accela Hosting
 - Shared Datacenter Infrastructure with Schools
 - Joint Blackboard Contract with Municipalities
 - Volunteer Fire Department Mobile Computing
 - Consolidated E911 Infrastructure for Geographically dispersed PSAPs
 - Providing KPD E911 PSAP a temporary location
 - School Elementary Park Online Reservations
- Cost Reductions
 - Switch to TW data services Increased bandwidth at reduced price
 - Data connection to GSA via City of Concord dark fiber
 - MCNC Fiber and Internet Connection
 - TW iNet Fiber Resurrection
 - MFP - \$41,000 annual savings, increase printing awareness - reduction in paper usage
 - Scanning – reduction in space required for paper storage, space reallocated for other needs
 - Desktop and Server virtualization – longer hardware life reduction in power usage
 - 3 – 5 year Contract Maintenance Negotiations control and reduce percentage of annual increase
- Revenue Generated from Services Provided – FY16 Total \$266,695.00
 - KCS Managed Network Services \$72,000.00
 - KCS Managed Infrastructure Services \$78,000
 - Health alliance ERP Hosting services \$60,850.00
 - City of Concord Accela \$14,424 Hosting Services
 - City of Concord Accela \$41,421 License Maintenance
- Revenue Generated Via Online Payments - FY14 Total -\$5,946,306.47
 - Tax Vehicles - \$ 1,788,999.97
 - Tax Real Estate - \$ 3,197,825.00
 - Sheriff Gun Permits – \$ 108,615.00
 - Parks Registration and Reservations - \$ 207,396.50
 - Permits and Inspections - \$643,470.00

Technology is used to

generate, collect and or account

for every dollar of revenue in Cabarrus County

Cabarrus County ITS In Review

Efficiencies and Cost Savings

Efficiencies and cost savings that should be reflected in other areas based on projects implemented and supported by ITS

- Schools – Improved datacenter operations, KCS improved network operations
- Sheriff - Gun Permit Conceal to Carry Processing – reduce time to process permit, improve customer service
- Sheriff – Video Visitation – Improved customer service for attorneys, reduction in prisoner movement, improved security
- Sheriff – EMS - Automatic Vehicle Locator – Improved emergency dispatch and response times
- Sheriff – In Car Cameras – Improved officer and citizen safety
- EMS – 12 Leads – Improved Heart Attack Survival Rate
- EMS – Tablets – Access to forms and information in field – reduction of paper, improved processes
- EM – Firehouse for Volunteer Fire Dept and integration with OSSI – Improved reporting for Fire Marshall
- Courts - Video First Appearance – Improved court processes and reduction in prisoner movement, improved security
- DSS - CRC Database – No wrong door for community, improved customer service
- DSS – Northwoods Training and Process Improvements – improved customer services
- DSS – CoPilot Mobile iPad – improved employee access in field, improve customer service and processes, reduce paper
- Elections - Polling place finder – reduced public calls to BOE, improved customer service
- Active Living and Parks - Parks Finder – increase park usage, improve customer service
- Enterprise - New employee orientation – reduce time to get new employees productive, increase security awareness
- Enterprise – Finance – HR – IAM – Risk Mgt - MUNIS ERP System Modules
 - Employee Self Service – Improve HR customer Service and provide employee access to payroll information
 - Vendor Self Service – Improve Finance customer service and processes
 - Contract Processing – Improve contract approval workflow process
 - FMLA Processing – Improve HR and PR processes
 - Substance Abuse Testing – Improve HR processes
 - Online Employment Applications and Applicant Processing - Improve applicant access to jobs and HR process
 - Fleet Management – Integrated fleet inventory and accounting
 - Work order and asset management – Improved processes and communication
- Finance - TylerForms GoDocs - reduce printing of with electronic PO, invoices, PR and AP checks, reduce postage
- Enterprise – Constant Contact – Electronic Newsletter – Improved customer communication and measurement
- Enterprise – Survey Monkey – Surveys improved communication, measurement and program improvement
- Enterprise – Mass Notification Services – Blackboard connect and Desktop Alertus – Emergency Alert and Public Message
- Enterprise – MFP Secure Release Print Services – Reduction in printing and paper expense, ability to release at any printer
- Enterprise – HR – PR - Annual Performance Appraisal Notification – Increase number of on time employee appraisals
- Enterprise – New and improved Intranet – Improved employee's ability to find forms, policies, and procedures
- Enterprise – Event Management System – Centralized event management with ability to feed both intra and internet
- Enterprise – GIS Maps and Aps Portal - Public access increase transparency and citizens interaction with departments
- Enterprise - Co-location datacenter. Operating key governmental and public safety systems in parallel at two different sites significantly reduces the risk of a localized disaster rendering key systems and technology services inoperable.
- IAM – Secure Door Badge Access – Reduce expenses for rekeying doors when keys are lost
- Communication and Outreach – Facebook and Twitter and Youtube – improved citizen communication and awareness
- Planning – Electronic Plan Review – Improved customer access and service, reduce paper storage requirements
- Planning – Construction Standards Table Field Application – Improved process and customer service
- Planning – Citizen Access provided for Online Permitting and Inspection – Improved process and customer access
- Revaluation – Tablets – Access to GIS and Reval data in field – reduction of printing and paper, improved processes
- Emergency Management – Integration of Volunteer Fire Departments with Firehouse and mobile access
- Emergency Management – Upgrade video wall – Improve usage
- Transportation – Tablets in VAN for AVL / Routematch software routing for improved mileage
- Library - integrated library software with CTY for automated calling for books on hold and overdue books – save staff time

Cabarrus County ITS In Review

New ITS Responsibilities

- Social Media
- KCS Managed Network Services
- KCS Managed Infrastructure Services
- Tablet Deployments
- Mobile Device Management for tablets – required for security and data encryption
- Employee Wireless for all County Buildings
 - Courthouse public wireless access for attorneys
 - Library public wireless access for patrons
 - Arena and Events Center wireless access for customers
- City of Concord Accela Hosting Services
- Courts Audio Visual Equipment
- Sheriff Master Control PCs, Doors controls, Security monitors, Security Cameras, DVRs
- Cloud and Software as a Service Management
- DSS after-hours support

Technology Meetings

MUNIS – HR, Finance, IAM, CHA - Third Wednesday – 2:00 PM – ITS Training Room

ACCELA – Planning, COC, Fire Marshall, Harrisburg - First Thursday 10:00 AM – ITS Training Room

Northwoods – Fourth Thursday – DHS – Room 307

Kannapolis City Schools - Third Tuesday – 9:00 AM – KCS Superintendent Conference Room

Bitek - Tax – First Wednesday – 10:30 AM – ITS Training Room

Sheriff - First Monday – 9:00 AM – ITS Training Room

DSS SMT Staff Meeting – First Wednesday – 2:00 PM – DHS Room 307

ITS Weekly Meetings

- Supervisor Meeting – Weekly Tuesdays 2:00 PM – ITS Training Room
 - Helpdesk Team Meeting - Weekly Friday 9:30 AM – ITS Training Room
 - BSADS Team Meeting – Weekly Tuesday 10:00 AM – ITS Training Room
 - NACS Team Meeting – Weekly
 - TAS Team Meeting – Weekly Monday 11:00 AM – ITS Training Room

Meetings with Departments based on their current technology project implementation or issues.

- Northwoods Standard operating procedure development and appointment training
- Cabarrus County Schools and ALPS - new registration software
- KPD E911 temporary relocation to DHS site
- Union County E911 Backup Agreement
- Library Staff Meeting – on invitation and project requirements – Concord Library

Cabarrus County ITS In Review

Sheriff Security and Technology – Request 1 Technical Specialist

The Cabarrus County Detention Center's current CCTV Security System configuration consists of

- 22 Pelco DX8100 series digital recorders
- 4 Pelco DS-SRV digital recorders
- 443 analog cameras in Detention Center and Annex
- 16 Cameras Courthouse
- At the Detention Center the camera system is utilizing a Pelco CM-9760 analog switcher for camera call-up and live viewing
- Master control computers running XP and 27 video screens are used to view cameras and control doors.

The current analog security camera network and door access control systems were installed as part of the Jail construction project in 2010 and was managed by an outside vendor as part of a comprehensive outsourced facilities management contract. The outsourced facilities management contract was not renewed in 2012 and maintenance of the security camera and door access control systems were transferred to the ITS department. The additional duties were absorbed by ITS with no additional staff to the detriment of other county departmental support due to high priority and criticality of these systems. The proprietary design of the current system offers no upgrade path and the current equipment is at end of life. The security computers cannot be upgraded due to the proprietary software integration with door and camera controls. The hardware, operating system, and control software needs to be replaced and integrated with door access and security camera controls. The analog DVRs and cameras have multiple failures per month and are being maintained with replacement parts found online. DVR storage is located in multiple areas on failing DVRs and should be centralized on the Storage Area Network for increased reliability and easier search and retrieval of video incidents. The analog camera system should be replaced with an IP system with all analog cameras transitioning to IP cameras over the next 3 years.

The total for this CIP project is an estimated at almost \$900,000. An additional ITS Technician is essential in order to ensure that this project is successful and this high profile security system is properly maintained.

Security – Request 1 System Admin – 1 Programmer Analyst

New Vulnerabilities

Perimeter Network Security using a firewall is no longer effective. We now need to analyze and monitor data coming into and going out of our systems. It is no longer a question of if we get a virus but when we get a virus or security breach. With the ever increasing cyber security threats we must move to a Protection, Detection and Response security posture.

Recent Known Incidents and Security Issues

- CryptoLocker Ransomware Infections encrypted files on users computers and all network shares they had access to
- Email zip file from escrow provider containing Malware proliferated across internal and external network
- Mt. Pleasant email spoofing using Cabarruscounty.us email domain
- Daily malware and adware infections of machines from web and email
- Lost and or stolen equipment
- Employees working around our email encryption by using their personal email accounts
- Employee termination without notification to IT to disable account access
- Employee personal equipment used for email and file storage, discarded or traded in without being wiped
- Employee unauthorized use of cloud services for processing or storing county information

Cabarrus County ITS In Review

Varrow Security Assessment

Cabarrus County technology personnel recently meet with Varrow to conduct a State of IT Security analysis. The report is attached with key findings and recommendations are listed below. Many of the Recommendations are already being addressed or are budgeted for in FY16.

Security Concerns

- Maintain compliance – HIPAA, PCI, CJIS
- Breaches – phishing emails, URLs
- Data Loss & Security - inc. mobile devices
- BYOD – users using personal devices
- Publicly accessible systems
- Web applications
- Vendor applications
- Onboarding / Off boarding

Sensitive Data

- ePHI
- Credit Card via swipe terminals
- HR/employee PII
- Source Code
- Legal
- Economic development
- Video Recordings

No Dedicated personnel for security team. Leveraging current network, system architects and operations team members to support security. There is not enough time to properly maintain security policies, processes and controls. Potential conflicts of interest between primary duties and security controls.

Recommend to hire a Security Architects that can focus on the security architecture as part of the over IT and work with departments and customers to:

- Enhance current security processes and develop new processes
- Manage, utilize and monitor current and future security controls
- Provide incident response to identified malware and security breaches
- Review and conduct formal security awareness program
- Perform Cloud Risk Assessment for current and future cloud usage
- Define requirements for Identity Management solution
- Implement and manage Identity Management solution and validate integration with systems
- Monitor database administrator access and maintain security patches
- Develop a Risk Acceptance program
- Develop a Data Loss Prevention Solution to document sensitive data and monitor outbound traffic
- Develop Data Governance for who should have access to what data
- Enhance Endpoint Protection to reduce risk of breaches
- Security Log Monitoring
- Review and update security policies and procedure.
- Ensure proper policies in for all compliance regulations – HIPAA, PCI, CJIS
- Create an Incident Response Plan
- Extend Mobile Device Management to BYOD and Personal devices
- Implement Application Security Testing software.
- Train developers on best practices secure coding.
- Develop a solution that can tokenize or replace sensitive data used during development and testing.

Additional Resources Attached

NATIONAL ASSOCIATION OF COUNTIES Cyber for Counties Guidebook
Preventing, Detecting and Defending against Cyber-attacks

Cyber-Security Essentials for State and Local Government