



# Cabarrus County, NC Strategic Technology Plan

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## 1. VISION FOR THE FUTURE

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This strategic technology plan represents a common vision and strategy for moving Cabarrus County to the next level in terms of information technology and the way the County utilizes information technology. The plan is intended to guide multiple strategic projects and the tasks necessary for realizing these strategies for the next 3 to 5 years.

All solid structures are built upon a solid foundation. The technology infrastructure provides this foundation for the County. This plan focuses on the enhancement of this foundation to ensure a highly available and resilient infrastructure that supports the County's key systems and technology services. Also, as the technology evolves, so must the organization and the processes utilized by the organization to guide the design, implementation, and management of the technology. This plan also sets forth strategies that focus on continued evolution of the management of technology.

In addition to providing comprehensive enterprise services, this plan also takes into consideration other important attributes of a vision for the future including ensuring these key services are highly available and effectively protected for situations that may constitute a disaster. Consistent with this theme, the plan also addresses contemporary issues prevalent in the world today such as information security and establishing the appropriate protections to ensure the County's information assets are appropriately protected.

Finally, one of the most important services the County can provide are the public safety services. This plan also sets forth regional strategies that encompass Cabarrus County, Town of Kannapolis and the City of Concord. These strategies are focused on moving the region toward a highly integrated, highly available, regional public safety technology platform that support regional public safety operations.

## 2. INTRODUCTION

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### 2.1 PURPOSE OF THE PLAN

Much like buildings and other physical infrastructure, Technology is a critical asset for the County. Also a part of this similarity is the need for effective planning and strategy. As departments within the County continue to demonstrate the need for additional technology services to effectively support citizens of the community, it is critical that effective planning occur to ensure the necessary services can be provided as an enabler of governmental services to the community. As the requirements for technology change, technology itself is changing at a rapid pace. This requires constant monitoring of this change to ensure the County is appropriately aligned with industry best practices for the planning, implementation and management of technology.

This document serves as the County's blueprint for the implementation and management of technology. It is intended to establish a vision for the future along with defining the specific actions that are necessary to realize the vision. In concert with these actions, overall accountability for the actions is also established to ensure County personnel are appropriately aligned with the strategy for realizing the vision.

This plan was developed utilizing an industry standard strategic technology planning methodology that focuses on identification of the business requirements, goals and strategy and then establishes a technology plan that will aid the County in meeting these goals with technology, technology services and appropriate organizational structure for applying the technology. This methodology is

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aligned with current industry trends and best practices to ensure the strategy chosen for the County is consistent with other successful local government organizations and private industry.

## 2.2 CONTENTS OF THE PLAN

This strategic plan document is intended to provide a blueprint for the County for the planning and implementation of technology. This document sets forth the benefits of the strategic planning process along with describing the process that was utilized to develop the plan. The County's technology leadership believes in utilizing industry best practices and proven strategy as a compass for the planning and implementation of technology. As a part of this plan, several of these key best practices and guiding principles that helped shape the plan are identified. In addition, the County has taken these industry best practices and developed specific Guiding Principles that are utilized to guide and shape the planning, implementation and management of technology. These Countyspecific guiding principles are defined in the plan.

The execution plan for moving technology forward within the County is captured in this document in the form of strategies and actions. This section of the plan defines key areas know as focus areas that set forth the specific strategies that will be undertaken as well as the actions that will be performed to accomplish the given strategy.

## 3. STRATEGIC PLANNING PROCESS

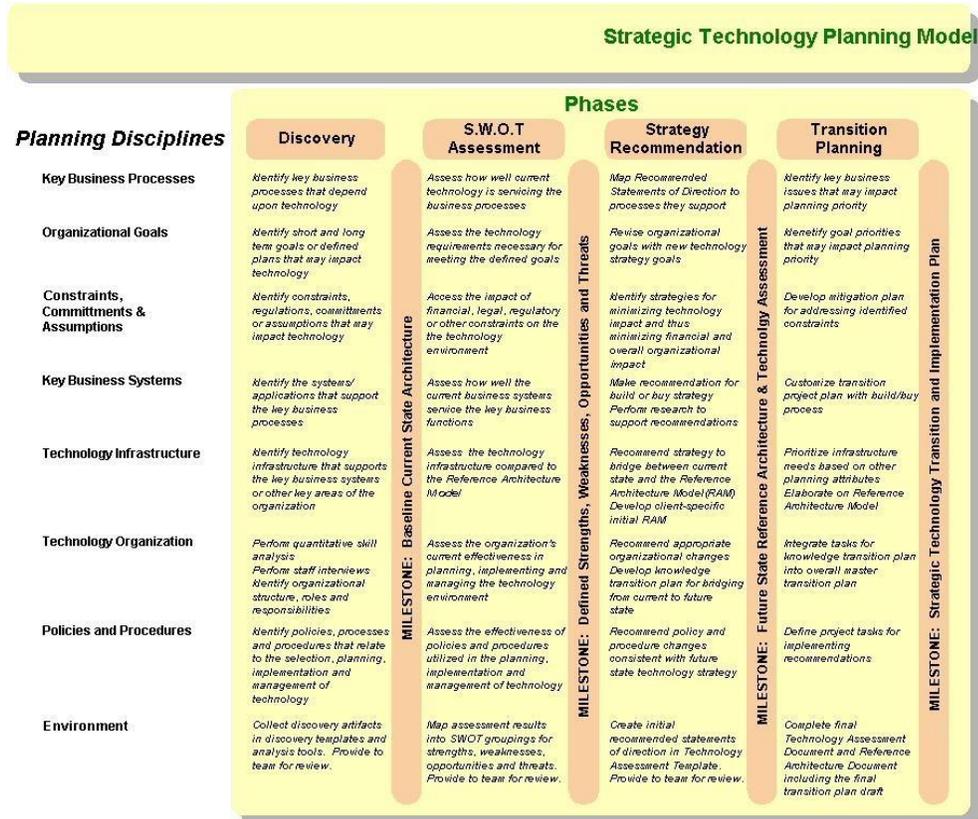
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This section of the strategic technology plan is intended to set forth the process that was utilized for development of the County's future state technology strategy. In addition, this section also sets forth the scope of work that was performed in that initial detailed analysis work was limited to a subset of departments within the County. The process utilized to establish this strategic plan will be utilized to work in further detail with other departments to ensure needs of these departments are effectively met.

### 3.1 PROCESS OVERVIEW

Cabarrus County utilizes a proven model for strategic technology planning. This is a multidimensional model focusing on key technology **Planning Disciplines** and defined **Phases**. The model breaks the strategic planning process into four phases of execution with each providing significant building blocks utilized by subsequent phases. This approach ensures a successful final technology blueprint that represents the true needs of the organization. The following figure provides a visual representation of the Strategic Technology Planning Model that was utilized by the County in the development of the Strategic Technology Plan.

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## 3.1.1 STRATEGIC TECHNOLOGY PLANNING PHASES

This section briefly describes the phases of the strategic planning process that were followed in the development of the strategic technology plan.

### Discovery

In order to effectively plan a future state strategy and technology environment, it is important to first understand where the organization currently stands with respect to the use of technology. In addition, it is critical to understand from a departmental perspective, what each department has defined as goals and needs as they relate to technology. This is an attempt to ensure the future state technology environment is appropriately aligned with the defined needs of the departments. This is accomplished during the Discovery Phase where information is collected through departmental interviews as well as assessment of the current technology environment.

### S.W.O.T. Assessment

Once information was collected through the Discovery Phase, the information was evaluated by the County. The S.W.O.T. Assessment process was utilized identify **S**trengths, **W**eaknesses, and **O**pportunities for improvement as well as **T**hreats to future success. This assessment serves as one of the vehicles to bridge the gap between the current state environment and the future state environment and is the basis for developing the future state strategies and actions.

### Strategy Recommendation

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This phase utilizes the information obtained through Discovery as well as the analysis performed during the S.W.O.T. to develop the future state strategies and actions. The goal of this phase is to develop strategies and related actions that will ensure the County can effectively meet the goals defined through the Discovery phase.

## Transition Planning

This phase focuses on taking the strategies and actions along with accountabilities and maps these items into a transition plan utilized for overall execution of the strategies and actions as defined during the Strategy Recommendation phase. This phase results in a milestone-level plan that is then utilized by individual project managers to develop comprehensive project plans for execution of the overall strategy.

### 3.2 SCOPE OF THE PROCESS

The scope of the strategic technology planning process is centered on the following seven key focus areas. These focus areas represent the organizational and technological components that are involved in providing a successful portfolio of services supporting the County's needs.

- 1. Governmental Business Processes:** This focus area addresses strategies for business processes within the County as they relate to the use or application of technology. The County recognizes that technology is put in place to support the key functions the County provides to citizens. As such, it is important that the technology effectively meet the needs of the government business processes. It is also recognized that for technology to effectively and efficiently support the County, the related business processes must be well understood and also be aligned to meet the defined needs of departments and citizens.
- 2. Governmental Systems:** This focus area addresses strategies for key governmental systems that support the County's business processes. This focus area is centered on ensuring the systems supporting the key business processes are effectively aligned to support these processes into the future.
- 3. Technology Policies and Procedures:** This focus area addresses goals and strategies related to policies and procedures utilized to plan, implement, and manage information technology within the County. Technology policies and procedures provide the framework, guidance, and overall governance needed to ensure technology is implemented in a strategic manner through a controlled, managed effort.
- 4. Technology Organization:** This focus area addresses strategies related to the organizational structure utilized to plan, implement, and manage technology within the County. An effectively structured technology organization will play a key role in the success of information technology within the County.
- 5. Network Architecture:** This focus area addresses strategies related to the technology infrastructure utilized to support the key governmental systems and processes within the County. This focus area relates to network infrastructure and services, physical server infrastructure, and other supporting technologies such as network management and proactive monitoring services.
- 6. Application and Data Architecture:** This focus area addresses strategies related to the architecture of the key applications and information utilized by the County. The scope of this focus area includes the general technology and structure of the applications, the methods utilized to develop applications, along with the methods utilized to integrate one system to another. The

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scope of this focus area also addresses the information utilized by these systems in terms of overall structure, storage and retrieval.

- 7. Security Architecture:** This focus area addresses strategies as they relate to information security and the technology utilized to support information security within the County. Like many organizations, the County has a need and responsibility to protect information utilized to run key County business systems. The County's security architecture represents a portfolio of services and technology utilized to protect the County's infrastructure and information assets from unauthorized access. In addition, this security architecture also serves to ensure authorized individuals access only the information they have been authorized to access.

### 3.3 TANGIBLE BENEFITS OF THE PROCESS

The following are anticipated benefits that are expected to be realized by the County as a result of the strategic planning process.

#### **Reduced Technology Risk**

- Ability to obtain external resources at a reasonable cost when needed
- Prevent technology obsolescence which results in high technology risk

#### **More Efficient IT Operation**

- Lower software development, support and maintenance costs
- Ability to address enterprise-wide issues
- Systems work together better and are easier to manage

#### **Better Return on Investment and Reduced Risk for Future Investment**

- Reduced IT infrastructure complexity
- Flexibility to make or buy IT solutions
- Ensure future investments are the "right fit"

#### **Faster, Simpler and Cheaper Procurement**

- Standards are clearly defined
- Technology is readily accessible
- Buying decisions are simplified
- Solutions fit within IT architecture framework

## **Flexibility for Growth and Restructuring**

- Easier to access information across the enterprise
- County-specific business rules are well defined and identifiable making the technology side of revising the business process easier

## **Faster Time to Market**

- “Plugging-in” additional business or technical functionality will be easier and less costly

## 4. GUIDING PRINCIPLES

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Shared principles across all County organizations are a necessity for the most effective use of technology resources. These fundamental principles are used to guide the County's information technology initiatives and investment. These principles closely follow industry best practices and trends along with reflecting the overall technology management posture of the County.

- 1. To partner with our customers in delivering quality technology services that effectively and efficiently align with the goals of Cabarrus County.**
- 2. Create, implement, and maintain a meaningful Strategic Technology Plan and Disaster Recovery Strategy.**
- 3. Consolidate use of resources and implement enterprise technology solutions to reduce duplication, increase integration and reduce cost.**
- 4. Proactively train staff and maintain infrastructure to be positioned to implement new technology.**
- 5. Every technology initiative will have a defined business need and client sponsor.**
  - All technology initiatives will be driven by business requirements and prioritized according to the business need.
  - Business justifications will determine the technology priorities for the Information Technology Department.
- 6. Technology will be shared across departments and applied to common work processes wherever possible.**
  - Technology initiatives will have an enterprise-wide focus when being evaluated, looking for shared applications to reduce redundancy and the inefficient use of resources.
- 7. Every technology initiative will be evaluated for its full requirements and costs, covering the full life cycle of the initiative, before a solution is developed and implemented.**

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- The full cost of an initiative, including the requirements for implementation, operations, maintenance and support will be included when being evaluated.

## **8. Common, shared data will be used across departments to the fullest extent possible.**

- Data will be viewed as an enterprise resource.
- Data will be captured once and shared wherever needed to reduce costs, redundancy, and duplication of effort.

## **9. Movement toward Green Computing with initiatives including:**

- Increased virtualization
- Energy efficient equipment
- Integration of user access controls with building lighting and HVAC systems
- Increased electronic document processing
- Reduction of printing

## **10. Custom application development will be minimized. "Buy" will be the preference versus "build."**

- Commercial off-the-shelf software, with minimal customization, will be acquired and installed to speed the implementation of new business applications and to minimize application development resource requirements.
- The preference will be to modify business processes, when necessary, versus customizing acquired software.

## **11. Proven advanced technologies will be pursued.**

- Technologies implemented will reflect emerging trends that meet business requirements, but will also have a proven track record for quality and support.

## **12. Proprietary technology solutions will be minimized. Open architectures and standards will be followed.**

- Technology solutions will adhere to open standards to facilitate data sharing and system integration, to minimize support costs, and to maintain maximum vendor independence.

## **13. Technology initiatives will adhere to county-wide technology standards.**

- All information technology development and operations will conform to a defined set of standards.
- Standards will be maintained to minimize costs and to ensure systems interoperability.

## **14. Technology projects will be managed using a standard project management methodology.**

- All projects will have a predefined scope, with milestones and deliverables defined.

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- When vendors or contractors are utilized, contract management will be assigned and managed to ensure deliverables are produced within the agreed scope and schedule of the project.

All new technology initiatives and investments will be evaluated and managed in accordance with these principles.

## 5. STATEMENTS OF DIRECTION AND STRATEGIES

This section of the plan defines the Statements of Direction and the strategies for achieving the direction. For each focus area, detailed strategies for achieving the statement of direction are defined along with the timeframe for completion and estimated cost to complete. The phases map to the transition plan which is utilized to manage the activities.

<b>STATEMENT OF DIRECTION:</b>	<b>5.1 <u>IMPROVE INFORMATION TECHNOLOGY SERVICE OPERATIONS</u></b>	
<b>PROBLEM/OPPORTUNITY STATEMENT:</b>	ITS has an opportunity to solidify both project and problem receipt, logging, status reporting, and closure activities as well as clearly articulating and re-iterating problem escalation procedures.	
<b>DESCRIPTION:</b>	Provide more comprehensive problem management, project management, change management, and end user communication on IT environmental events and changes.	
<b>STRATEGIES TO ACHIEVE THE DIRECTION</b>		
<b>STRATEGY</b>		<b>TIMEFRAME FOR COMPLETION</b>
<b>5.1.1</b>	<b>DOCUMENT PROJECT REQUEST, PROJECT HANDLING, AND PROJECT CLOSURE PROCESSES, PROCEDURES, AND TRACKING MECHANISMS</b>  Establish clear steps for: <ul style="list-style-type: none"> <li>Departments to submit project requests,</li> <li>ITS handling of requests,</li> <li>Basic ITS project management, and □ ITS reporting on status of projects.</li> </ul> Prepare and publish steps for County departments to reference and utilize for future project requests.	FY11  Updated FY16 Work plan Executive Report

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<p><b>5.1.2 DEFINE AND IMPLEMENT ITS PROBLEM HANDLING AND SERVICE REQUEST PROCEDURES</b></p> <p>Formalize and document ITS problem handling and service request processes and procedures, including:</p> <ul style="list-style-type: none"> <li>• receipt of problem report or service request,</li> <li>• prioritization of problem or service request,</li> <li>• assignment of responsibility for resolution,</li> <li>• escalation procedures, including after-hours escalation processes and procedures (both for departments and for ITS staff) and</li> <li>• closing problems.</li> </ul>	<p>FY11 Updated FY13</p> <p>Updated FY15 Added Formal On Call Policy</p>
<p><b>5.1.3 DESIGN AND IMPLEMENT CHANGE MANAGEMENT PROTOCOLS AND PROCEDURES</b></p> <p>Begin to position ITS to better manage and implement changes to technical environment. Introduce concept of change management for any changes made to technical environment (software or hardware). Establish internal review of planned changes, with user signoff on changes. Establish time windows for changes and publicize changes to County staff. Gradually increase sophistication over time, maintaining a commitment to better management and communication of changes to the environment.</p>	<p>FY12</p> <p>Updated FY15 Added formal user testing plans for software upgrades</p> <p>Updated FY16 Remedyforce Templates</p>
<p><b>5.1.4 ESTABLISH CLEAR PROCEDURES FOR SCHEDULED AND UNSCHEDULED OUTAGES</b></p> <p>Document and publicize criteria and communication protocols for scheduled and unscheduled outages for specified systems, for specified devices, and for specified telecommunications capabilities. Establish plan for defining rules, working from most critical items to least critical items, and update departments and management as plan progresses</p>	<p>FY11 Updated FY13</p> <p>Update FY15 Added Notification for Hosted /Managed Services</p> <p>Updated FY16 Added additional Managed Services</p>
<p><b>5.1.5 IMPLEMENT CHANGE LOGS, PROBLEM LOGS, PROJECT LOGS FOR INQUIRY</b></p> <p>Along with clarifying and publicizing project and problem reporting, ITS will provide an online repository for changes, problem and project status, enabling County departments and management to understand inventory of projects and problems, work-in-process as well as accomplishments of the ITS department.</p>	<p>Fy11</p> <p>Updated FY13 Remedyforce ticketing system</p> <p>Updated FYxx Annual Workplan</p>

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<b>STATEMENT OF DIRECTION:</b>	<b>5.2 <u>IMPLEMENT PROCESSES TO ENHANCE EFFICIENCY OF USE OF EXTERNAL TECHNOLOGY SERVICE PROVIDERS</u></b>	
<b>PROBLEM/OPPORTUNITY STATEMENT:</b>	The County is increasingly dependent on vendor provided technology for devices and systems. A repeatable process for vendor and vendor offering evaluation and procurement as well as explicit vendor expectations and vendor policies will provide a solid basis for County-vendor relationships. Additionally, this will provide departments with clear expectations and relationship guidelines expected by ITS.	
<b>DESCRIPTION:</b>	This direction and related strategies will focus on formalizing processes and procedures for use of external technology service providers. Through these strategies, ITS will reduce complexities related to utilization of external providers and enhance overall efficiency of utilizing external providers.	
<b>STRATEGIES TO ACHIEVE THE DIRECTION</b>		
	<b>STRATEGY</b>	<b>TIMEFRAME FOR COMPLETION</b>
	<b>5.2.1 ESTABLISH RULES FOR VENDORS ACCESS TO COUNTY INFRASTRUCTURE</b>  Formalize and publish rules and regulations for vendor access to County hardware and software, including definition of expected Testing, QA, and Production environments.	FY11
	<b>5.2.2 DEVELOP PROCUREMENT PROCEDURE FOR FUTURE TECHNOLOGY ACQUISITIONS</b>  Formalize and publish to departments expected process and steps for procurement of technology devices, software, and services. This needs not be an exhaustive, complicated set of activities, but should be formalized and straightforward.	FY12
	<b>5.2.3 DEVELOP CORE SET OF VENDOR RELATIONSHIP PROCEDURES AND DOCUMENTATION</b>  Develop core set of vendor procedures and documentation (contract, definition of contract cycle, Service Level Agreement, escalation procedures, and communication plan) for each vendor and contract.	FY13
<b>STATEMENT OF DIRECTION:</b>	<b>5.3 <u>ENHANCE INFORMATION SECURITY POSTURE</u></b>	

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<b>PROBLEM/OPPORTUNITY STATEMENT:</b>	<p>There is an opportunity to develop a comprehensive information security policy and to implement additional technology to continue to enhance the County's overall security posture. This type of policy is critical for ensuring there are established security practices which users are aware of and which they follow. Additionally, the County is committed to protection of data at all times, especially on mobile devices. Protection of data involves validating that backups are occurring, access to devices is protected, and policies and procedures are detailed for data users to follow.</p>	
<b>DESCRIPTION:</b>	<p>This direction will focus on strategies designed to enhance the overall information security posture of the County. At the heart of this direction will be a comprehensive Information Security Policy that clearly defines the rules of engagement for managing information and the technology utilized to manage and access that information within the County. In addition, there are strategies defined in this direction that will focus on specific information security protections that will be implemented to continue to enhance the ability to detect and protect against potential threats.</p>	
<b>STRATEGIES TO ACHIEVE THE DIRECTION</b>		
	<b>STRATEGY</b>	<b>TIMEFRAME FOR COMPLETION</b>
	<p><b>5.3.1 DEVELOP INFORMATION SECURITY POLICY</b></p> <p style="text-align: center;">This strategy will focus on the development of a comprehensive Information Security Policy that encompasses standards and</p>	FY11
	<p>requirements for security as well as defines procedures that will be followed for overall security operations. This should include guidance to laptop users on backup of data consistent with technologies provided by ITS. This may involve ITS providing some form of automatic backup capability.</p> <p>In addition, this policy will also encompass wireless technology to prevent the County from having to develop and maintain a separate wireless policy.</p>	<p>Update FY16</p> <p>Security Position Added to create formal Security Oversight</p> <p>FY 16 Additional endpoint protection and threat detection and response added</p>

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<p><b>5.3.2 IMPLEMENT PROTECTIONS FOR MOBILE DEVICES</b></p> <p>This strategy will focus on the implementation of specific protections for mobile computing devices to specifically enhance the information security of information being stored and transported on these devices as well as the mechanisms that are supported to allow these devices to access County systems.</p>	<p>FY13</p> <p>Update FY15 – MDM</p> <p>FY16 – Combined MDM and IAM</p>
<p><b>5.3.3 MIGRATE TO MULTI-FUNCTION SECURITY APPLIANCE FOR PERIMETER SECURITY</b></p> <p>This strategy will focus on migrating to a multi-function security appliance. This will provide greater perimeter security capability for the County along with ensuring current technology is utilized for providing key security functions. In addition, implementation of this platform will also provide for significant protection and control at the network perimeter.</p>	<p>FY12 Update</p> <p>Upgrade FY16</p>
<p><b>5.3.4 TERMINATE FOREIGN NETWORK CONNECTIONS IN EXTRANET DMZ NETWORK</b></p> <p>The County has external network connections to other localities including the City of Concord and Town of Kannapolis. These connections will be moved into an extranet DMZ network where appropriate security monitoring and access control lists can be applied. This strategy will enhance the County's ability to manage who can access the County's internal network along with providing the ability to manage what resources within the network can be accessed.</p>	<p>FY14</p>
<p><b>5.3.5 MONITORING OF NETWORK PERIMETER</b></p> <p>With the implementation of new perimeter security appliances, additional perimeter monitoring as well as intrusion protection and notification will be implemented to enhance overall perimeter security.</p>	<p>FY13 Upgrade FY15 FY16</p>

<b>STATEMENT OF DIRECTION:</b>	<b>5.4 <u>IMPLEMENT CONSOLIDATED WEB PORTAL PLATFORM</u></b>
<b>PROBLEM/OPPORTUNITY STATEMENT:</b>	The County has an opportunity to implement a technology platform which will support both internal intranet needs as well as the external public web site.
<b>DESCRIPTION:</b>	Microsoft's Office SharePoint Server(MOSS) will provide a technology platform that can support internal needs as well as support the needs with respect to a public Internet platform. By implementing a common technology platform to serve both of these needs, the County will be able to gain efficiencies in terms of infrastructure, personnel and licensing.

# Strategic Technology Plan

STRATEGIES TO ACHIEVE THE DIRECTION	
STRATEGY	TIMEFRAME FOR COMPLETION
<p><b>5.4.1 IMPLEMENT SHAREPOINT 2010 INTERNET AND EXTRANET TECHNOLOGY PLATFORM</b></p> <p>This strategy will focus on the implementation of Microsoft Office SharePoint Server(MOSS) 2010 to support the County's public web site and an external partner/citizen extranet. This is an industry standard strategy for utilizing MOSS to support these needs. By utilizing a combined platform for this purpose, the County can leverage a single technology solution to meet many needs. In addition to leveraging a common technology, utilizing MOSS for these purposes will also provide for efficiencies in technical resources to implementing and maintaining this strategy.</p>	<p>FY11</p> <p>Upgrade FY15 to Sharepoint2013</p>
<p><b>5.4.2 MIGRATE TO SHAREPOINT FOR DEPARTMENTAL DOCUMENT STORAGE</b></p> <p>Many departments continue to have challenges locating and retrieving documents. This strategy will focus on the implementation of a departmental taxonomy within the MOSS environment that will enhance document storage and retrieval. By migrating to MOSS for primary departmental document storage, departments will have a more effective structure for storing document along with having the advanced search capability of MOSS available to aid in locating and retrieving these documents.</p>	<p>FY12</p> <p>Update FY15</p> <p>Migration to new Sharepoint Intranet Site</p>
<p><b>5.4.3 SUPPORT MULTI-LINGUAL CONTENT FOR INTERNET PORTAL</b></p> <p>With the growth in the Hispanic community in Cabarrus County, DSS (and other departments) are seeing increasing need for Spanish translation of web content. This strategy will focus on providing web content in additional languages where applicable.</p>	<p>FY16</p>

<b>STATEMENT OF DIRECTION:</b>	<b>5.5 <u>ENHANCE ENTERPRISE REPORTING CAPABILITY</u></b>
<b>PROBLEM/OPPORTUNITY STATEMENT:</b>	Departments depend on ITS for fulfilling reporting requirements. ITS has an opportunity to implement technology and to provide training to enable departments to handle self-service reporting needs.
<b>DESCRIPTION:</b>	This direction will focus on strategies for clearly defining enterprise reporting needs and requirements. Based on these requirements, a decision will be made to select and implement an enterprise reporting strategy that can be implemented and supported by ITS and utilized by departments to handle self-service reporting.

# Strategic Technology Plan

STRATEGIES TO ACHIEVE THE DIRECTION	
STRATEGY	TIMEFRAME FOR COMPLETION
<p><b>5.5.1 SURVEY DEPARTMENTS FOR MOST SIGNIFICANT REPORTING NEEDS</b></p> <p>Identify departments with most immediate and significant reporting needs by reviewing requests to date along with performing an electronic departmental survey.</p>	<p>FY12 Update FY15</p>
<p><b>5.5.2 SELECT ENTERPRISE REPORTING PLATFORM BASED ON IDENTIFIED REQUIREMENTS</b></p> <p>Utilize the information obtained through the previous items along with measurement of the existing technical architecture and select an enterprise reporting platform that will be utilized to support enterprise reporting needs. Based upon the existing technical footprint, Microsoft SQL Reporting Services will likely make the most sense. However, existing vendor reliance on Crystal Reports may necessitate utilizing a combination of strategies.</p>	<p>FY12 Update FY15 SQL Reporting Services</p>
<p><b>5.5.3 IMPLEMENT ENTERPRISE REPORTING SHAREPOINT SITE(S)</b></p> <p>This strategy will focus on the implementation of an Enterprise Reporting SharePoint Site. This site will house a report registry to allow the County to effectively manage a master list of reports and their respective attributes. Also from this site, departments will be able to access and utilize the enterprise reporting tools which will most likely be SQL Reporting Services. Through SQL Reporting Services SharePoint integration, users can access their reports through SharePoint as an interface.</p> <p>Another component of this strategy will be to implement departmental reporting sites/libraries. Each department that has reporting needs will have a SharePoint site which will have document libraries. Reports will then be published to these libraries for retrieval. Users can subscribe to reports so that when a report is published, they will receive notification that a report is ready.</p>	<p>FY13 Update FY15</p>
<p><b>5.5.4 DEVELOP AND CONDUCT REPORTING TRAINING</b></p> <p>Develop and conduct departmental reporting training for identified departments and assist users with initial attempts to develop required reports. As a part of this strategy, users will be introduced to their respective departmental SharePoint reporting site along with how to use this site to view and retrieve reports. In addition, this training will also cover basic use of SQL Reporting Services to design and implement custom departmental reports.</p>	<p>FY13</p>

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<b>STATEMENT OF DIRECTION:</b>	<b>5.6 <u>IMPROVE HIGH AVAILABILITY FOR KEY SYSTEMS AND</u></b>	
	<b><u>TECHNOLOGY SERVICES</u></b>	
<b>PROBLEM/OPPORTUNITY STATEMENT:</b>	The County is utilized a solid foundation of solutions to support high availability of specific technology components. However, currently all key systems run within the primary data center at the Government Center. In the event this facility is severely damaged or destroyed, it would significantly impact the County's ability to continue to operate key systems and technology services within a reasonable time frame.	
<b>DESCRIPTION:</b>	This direction will focus on defined strategies that will establish a comprehensive high availability and disaster resilience strategy. Collectively, these strategies will implement a co-location model which will allow the County to operate key governmental and public safety systems in parallel at two different sites thus significantly reducing the risk of a localized disaster rendering key systems and technology services inoperable.	
<b>STRATEGIES TO ACHIEVE THE DIRECTION</b>		
	<b>STRATEGY</b>	<b>TIMEFRAME FOR COMPLETION</b>
<b>5.6.1</b>	<b>IMPLEMENT CO-LOCATION SITE</b>  This strategy will focus on the implementation of co-located data center site. The overall disaster recovery architecture will utilize an active active site architecture where the data center and the co-location site will run key applications and services in parallel. This means that each of these sites will host applications and services on an on-going basis. In the event of a failure at either site, the technology and services will be designed to fail over to the alternate site to continue operation.	FY11  Update FY16 Replace UPS
<b>5.6.2</b>	<b>IMPLEMENT STORAGE AREA NETWORK(SAN) HIGH AVAILABILITY STRATEGY</b>  This initiative focuses on the high availability of the storage area network(SAN). Currently, a primary and replica SAN are deployed at the primary and secondary data center sites respectively. This strategy will focus on the upgrade of the SAN at the co-location site in order to allow this SAN to support production applications and services which will run in this data center as their primary home. In addition, this strategy will also support necessary upgrades which will allow the SAN at the co-location site to run ALL key government applications and technology services in the event of a catastrophic event at the primary data center.	FY11 Update FY14  Upgrade FY17

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<p><b>5.6.3 IMPLEMENT VIRTUALIZATION FOR HIGH AVAILABILITY STRATEGY</b></p> <p>The County relies heavily on virtualization platform. This strategy will focus on enhancing the overall availability of virtual platforms to support the ability to run parallel virtual platforms at the primary and co-location data centers. The goal of this strategy will be to have parallel virtual platforms diversified between the two data centers. In a disaster situation at either center, the other center virtual platform will then</p>	<p>FY11 FY12 FY13</p>
<p>assume responsibility for running all of the County's virtual guest server instances. The following are key aspects of this strategy.</p> <ul style="list-style-type: none"> <li>• Run production virtual hosts at both the data centers.</li> <li>• Evaluate technology to support real-time replication of the virtual guests between virtual hosts at alternate sites.</li> <li>• Evaluate whether to utilize the current manual process to bring up the virtual guests in both sites or to use a third party product for handling the automatic replication.</li> <li>• Implement a solution to allow for virtual to support real-time replication of virtual guests between the two data centers.</li> </ul>	
<p><b>5.6.4 IMPLEMENT SQL SERVER HIGH AVAILABILITY STRATEGY</b></p> <p>The County relies heavily on Microsoft SQL Server as the data storage and retrieval platform. This strategy will focus on implementing a strategy that will significantly enhance the high availability of the SQL Server platform and will fit into the overall co-location disaster recovery strategy. The following is a summary of key aspects of this strategy.</p> <ul style="list-style-type: none"> <li>• Parallel instances of SQL Server running at both data centers.</li> <li>• Implement database mirroring for geographic high availability and automatic application failover.</li> </ul>	<p>FY13 FY14</p>
<p><b>5.6.5 ESTABLISH HIGH AVAILABILITY FOR INTERNET CONNECTIVITY</b></p> <p>This strategy will focus on the implementation of an additional Internet connection at the co-location data center. This will provide the County with redundant connections to the Internet through diverse carriers. This connection will be a real-time connection supporting both incoming and outgoing Internet services through the co-location data center.</p>	<p>FY14</p> <p>Update FY15 F5</p>

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<p><b>5.6.6 ESTABLISH REDUNDANT SITE TO DATA CENTER CONNECTIVITY</b></p> <p>This strategy will focus on establishing redundant access to key systems and technology services residing at both data centers from remote sites. This strategy will focus on a transition from a hub and spoke network architecture where all connections terminate in the primary data center to a redundant multi-point architecture where connections from a remote site have immediate termination points in the carrier MPLS cloud. This will allow these remote connections to reach either data center in the event either of these data centers is unavailable due to a catastrophic event.</p>	<p>FY12 FY13 FY14</p>
<p><b>5.6.7 IMPLEMENT STRATEGY FOR ACTIVE DIRECTORY/DNS HIGH AVAILABILITY</b></p> <p>Microsoft Active Directory(AD) is a key technology service for the County serving as the primary mechanism for handling authentication to the network for County network users. In addition, AD also supports internal domain name services(DNS) which handles internal</p>	<p>FY11 Update FY15</p>
<p>name resolution for computers on the County network. This strategy will leverage co-location and the Hyper-V high availability strategy to diversify AD and DNS services to the co-location data center. This strategy will ensure that AD is available at both data center sites running in parallel.</p>	
<p><b>5.6.8 IMPLEMENT HIGH AVAILABILITY FOR EMAIL SERVICES</b></p> <p>This strategy will focus on ensuring high availability of email services. This will include high availability of the County's Microsoft Exchange environment as well as email services that supporting sending and receiving of email from the public Internet. This strategy will leverage data center co-location to diversify the County's incoming and outgoing email such that the County will be able to continue to send or receive email should either of the data centers be unavailable. In addition, Microsoft Exchange will be deployed across both data centers ensuring that users will be able to access email in the event either of the data centers is unavailable.</p>	<p>FY15  Update FY16 MSO365</p>
<p><b>5.6.9 IMPLEMENT REDUNDANT ACCESS CONTROL SERVERS</b></p> <p>This strategy will focus on the implementation of additional Cisco Access Control System(ACS) servers to support authentication of wireless access, VPN and other remote access connections requiring RADIUS or TACACS+ for authentication. Servers will be deployed in a co-located manner to ensure redundancy across data center environments.</p>	<p>FY14</p>

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<p><b>5.6.10 IMPLEMENT REDUNDANT EXTERNAL DNS SERVICE</b></p> <p>This strategy will focus on replication of the external DNS function between the primary and secondary data center. With the server supporting this function residing at each data center in concert with redundant Internet connections, the external DNS services will be made highly available protecting against an outage at either of the data center environments.</p>	<p>FY11 FY12</p>
<p><b>5.6.11 IMPLEMENT BACKUP ARCHIVE STRATEGY</b></p> <p>A data retention policy will be implemented and published to address persistent data that will be archived as well as how long the data will be kept.</p> <p>As a part of the overall high-availability architecture, immediate availability of systems and technology services will be addressed. However, it is also important to provide the ability to restore information from a past period. Currently, the existing backup strategy only supports reaching back in time for a limited period. In addition, the current strategy does not provide for "application consistent" backups where the integrity of the data is ensured.</p> <p>This strategy will focus on implementing a solution that will support the ability to reach back in time and retrieve information from an "application consistent" backup. This will be an independent backup that is not dependent upon the overall real-time high availability architecture. By implementing such a strategy, this will provide the</p>	<p>FY11 Update FY12 Update FY13 Update FY14</p>
<p>County with a multi-layer strategy for ensuring the availability of key information at a point as well as supporting the ability to reach back in time to retrieve and access the information.</p>	
<p><b>5.6.12 IMPLEMENT REDUNDANT WIRELESS ACCESS CONTROLLER</b></p> <p>This strategy will leverage the deployment of core switch technology at the secondary data center. The core switch deployed at the secondary data center will have a wireless access controller blade implemented within the switch. The blade will provide the ability to handle authentication of wireless access for all County sites which have wireless access deployed.</p>	<p>FY12 Update FY15  FY16 Expansion and Upgrade</p>

<p><b>STATEMENT OF DIRECTION:</b></p>	<p><b>5.7 <u>PROACTIVELY MONITOR KEY SYSTEMS AND TECHNOLOGY SERVICES</u></b></p>
<p><b>DESCRIPTION:</b></p>	<p>This direction will focus on strategies that will allow Cabarrus County to proactively monitor key systems and technology services to ensure these services are consistently available. In addition, this direction will focus on identification of issues prior to having the issue create a system or service outage.</p>

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<b>PROBLEM/OPPORTUNITY STATEMENT:</b>	There is an opportunity to implement technology that will allow for proactive monitoring of applications and the technology services that support these applications to allow IT personnel to respond proactively to issues and prevent possible outages.	
<b>STRATEGIES TO ACHIEVE THE DIRECTION</b>		
<b>STRATEGY</b>		<b>TIMEFRAME FOR COMPLETION</b>
<b>5.7.1</b>	<p><b>IMPLEMENT INFRASTRUCTURE MONITORING SOLUTION</b></p> <p>This strategy will focus on implementation of a solution that will allow ITS to monitor technology infrastructure. Specifically, this solution will monitor infrastructure from a hardware perspective as well as a service availability perspective to ensure key infrastructure is available. In addition, this solution will also provide the ability to collect historic information to provide ITS with the ability to identify trends that could potentially result in an outage. This type of trend analysis will aid in addressing an issue before it becomes an outage.</p>	<p>FY11 Update FY14 Update FY16</p>
<b>5.7.2</b>	<p><b>IMPLEMENT APPLICATION MONITORING SOLUTION</b></p> <p>This strategy will focus on the implementation and use of a monitoring solution that can complement the infrastructure monitoring solution to monitor key applications and their respective components. Effective application monitoring includes monitoring individual processes and functions as well as performing end to end monitoring "as if" on behalf of the user. This type of monitoring strategy will allow ITS to proactively monitor availability of applications as well as to quickly troubleshoot and identify root cause failures.</p>	<p>FY12 Update FY14 Update FY16</p>
<b>5.7.3</b>	<p><b>IMPLEMENT ENVIRONMENTAL MONITORING IN DATA CENTER SITES</b></p> <p>This strategy will focus on the implementation of monitoring within both primary and secondary data center sites. This monitoring will aid ITS in ensuring these facilities are operating appropriately to support the technology. Monitoring within each of these sites will monitor for the following:</p> <ul style="list-style-type: none"> <li>• Temperature</li> <li>• Humidity</li> <li>• Water</li> </ul> <p>In addition, the technical solution chosen will can also be utilized to perform video surveillance of these sites as well to enhance site physical security.</p>	<p>FY11</p>

# Strategic Technology Plan

<b>STATEMENT OF DIRECTION:</b>	<b>5.8    <u>ENHANCE ELECTRONIC COMMUNICATIONS AND ACCESS</u></b>	
<b>PROBLEM/OPPORTUNITY STATEMENT:</b>	The County relies heavily on electronic communications with County employees needing access to various County systems and services both from within the County network as well as remotely. In addition, the need to collaborate with external parties including citizens, vendors and other localities continues to grow. The County has an opportunity to implement technology to continue to enhance this electronic communication.	
<b>DESCRIPTION:</b>	This direction will focus on the implementation of new technology to support electronic transfer of information as well as extending existing technology such as Microsoft Exchange to provide for greater accessibility. In addition, the strategies defined below will also position the County to provide enhanced, comprehensive and secure access to key government systems both from within the County's private network as well as providing this access remotely to employees, other localities and business partners.	
<b>STRATEGIES TO ACHIEVE THE DIRECTION</b>		
<b>STRATEGY</b>		<b>TIMEFRAME FOR COMPLETION</b>
<b>5.8.1    IMPLEMENT SECURE FILE TRANSFER TECHNOLOGY</b>	FY13 Upgrade FY16  MSO365	
This strategy will focus on implementing technology to support secure file transfer for large files. Currently, anonymous FTP or email is utilized for this purpose. Implementing a solution focused on secure file transfer will improve the County's information security posture and will also provide a more effective mechanism for County users to collaborate with external users and vendors.		
<b>5.8.2    ENHANCE EMAIL CLIENT ACCESS</b>	FY12  Upgrade FY16 MSO365	
This strategy will focus on improving access to County eMail for County employees. This strategy will focus on implementing the ability for users that are outside the County's network to utilize Microsoft Outlook to access County eMail without the need for a web browser. Users will be able to access all Exchange messaging functions from outside the network in the same manner in which they are able to access these functions from within the County's network.		

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<p><b>5.8.3 IMPLEMENT DESKTOP VIRTUALIZATION TO SUPPORT REMOTE APPLICATION ACCESS</b></p> <p>This strategy will focus on implementing a desktop virtualization solution which will be utilized to accomplish three key goals as follows:</p> <ul style="list-style-type: none"> <li>• Provide a mechanism for supporting remote access to government systems and applications.</li> <li>• Provide a platform to support virtualization of the desktop environment.</li> <li>• Provide a mechanism for controlling and securing remote desktops</li> </ul>	<p>FY12 FY13 FY14</p>
<p><b>5.8.4 IMPLEMENT DESKTOP FAXING</b></p> <p>This strategy will focus on leveraging the existing multi-function printers/copiers which the County has deployed. These devices not only support printing/copying but they also support inbound/outbound fax capability as well. This strategy will focus on configuration and deployment of this capability such that it is available to all County users.</p>	<p>FY11 Update FY14</p>
<p><b>5.8.5 IMPROVE WIRELESS ACCESS CAPABILITIES</b></p> <p>This strategy will focus on providing additional wireless access for County departments. This strategy is intended to address the need for departments that have a requirement for mobile access to County systems and technology services. This strategy will focus on the communications access and transport, security and system access technologies required to provide comprehensive wireless access.</p>	<p>FY13 FY14</p> <p>FY16 Expansion and Upgrade Libraries</p>

<b>STATEMENT OF DIRECTION:</b>	<b>5.9 <u>MIGRATE TO COMMON VOIP TELEPHONY ARCHITECTURE</u></b>
<b>PROBLEM/OPPORTUNITY STATEMENT:</b>	The County currently has a combination of technology utilized to support telephony including analog voice, Centrex and voice over IP(VoIP). The County has an opportunity to move to a single platform for telephony services. This will provide for standardization of technology, more efficient support and a reduction of overall communication costs.
<b>DESCRIPTION:</b>	This opportunity can be realized by migrating the existing remote sites to an integrated communication architecture which will then allow the extension of VoIP to these sites. Overall, this will reduce the phone system complexity, possibly reduce communication cost and provide better telephony service to these sites.
<b>STRATEGIES TO ACHIEVE THE DIRECTION</b>	

# Strategic Technology Plan

STRATEGY	TIMEFRAME FOR COMPLETION
<p><b>5.9.1 MIGRATE REMOTE SITES TO VOIP</b></p> <p>The County has several remote sites which still utilize Mitel SX2000 dedicated switches at their respective locations. The County can realize efficiencies by migrating these sites to VoIP and leveraging the existing VoIP switches deployed at the Government Center and DSS sites. As a part of this strategy, the network connections to these remote sites will be migrated to MPLS connections to standardize on the connectivity and to provide redundancy for telephony services at the remote sites allowing the respective site to access either the Government Center or DSS sites to obtain telephony services.</p>	FY14 FY15 FY16
<p><b>5.9.2 IMPLEMENT REDUNDANT VOICE MAIL CONFIGURATION</b></p> <p>A solution will be implemented to support a redundant configuration for the County's voice mail platform to allow the platform to function at either the primary or secondary data center site.</p>	FY16
<p><b>5.9.3 DIVERSIFY PRI PROVIDERS FOR INBOUND/OUTBOUND CALL TRAFFIC</b></p> <p>This strategy will focus on diversifying the PRI providers at the key telephony hub sites including Government Center, DSS and Sheriff. By splitting the inbound/outbound channels across multiple providers, this will create diversity and protect the County from a single telephony provider outage. The County will leverage VoIP technology in the form of external SIP trunks to better diversity outbound calling.</p>	FY15

<b>STATEMENT OF DIRECTION:</b>	<b>5.10 <u>ESTABLISH HIGH AVAILABILITY ARCHITECTURE FOR PUBLIC SAFETY SYSTEMS</u></b>
<b>PROBLEM/OPPORTUNITY STATEMENT:</b>	There is an opportunity to enhance the availability of the platform which hosts the CAD, RMS, and Message Switch functions. By implementing the strategies as defined below, this will significantly enhance the availability of these key public safety platforms.
<b>DESCRIPTION:</b>	This direction sets forth the strategies that will be utilized to improve the overall redundancy and availability of the County's public safety systems. Through these defined initiatives, the County will focus on removing single points of failure to significantly reduce the risk of an outage of the public safety systems. These strategies will leverage the common co-location architecture to run parallel systems and communications to ensure high availability.
<b>STRATEGIES TO ACHIEVE THE DIRECTION</b>	

# Strategic Technology Plan

STRATEGY	TIMEFRAME FOR COMPLETION
<p><b>5.10.1 IMPLEMENT DIVERSE COMMUNICATION PATHS</b></p> <p>Key public safety systems including CAD and related applications with leverage the overall co-location strategy. In order to take advantage of this strategy it will be necessary to have diverse communication paths to allow users of these systems to continue to access the systems in the event of a site-wide catastrophe. This strategy focuses on the implementation of diverse communication paths to both the primary and secondary data center sites to allow Sheriff dispatch, Town of Kannapolis and City of Concord to access key systems as well as ensuring the ability to access 9-1-1 call taking and routing functions.</p>	FY11
<p><b>5.10.2 Co-LOCATE KEY PUBLIC SAFETY APPLICATIONS</b></p> <p>This strategy will leverage the County's co-location strategy along with other high availability strategies to co-locate key public safety applications. Currently, the CAD, RMS, and Message Switch functions are running in a Hyper-V host. This strategy will focus on co-locating these applications at both the primary and secondary data center sites and focus on a strategy to fail over from one site to the other in the event of a catastrophic failure at a given site.</p>	FY12
<p><b>5.10.3 IMPLEMENT REDUNDANT NETMOTION VPN SERVER</b></p> <p>This strategy will focus on implementing a strategy to support redundancy for the VPN solution which provides remote connectivity for public safety mobile data terminals. This strategy will replicate the server infrastructure supporting this function at both the primary and secondary data center and make this function accessible through the Internet connection at either site.</p>	FY14  Upgrade FY16
<p><b>5.10.4 MIGRATE ANI/ALI FUNCTION TO TCP/IP</b></p> <p>The current ANI/ALI function is running on a workstation class machine with limited redundancy. The County has an opportunity to migrate this function to utilize TCP/IP as a protocol which would allow the application to be virtualized and thus provide the ability to replicate the VM to the alternate data center.</p>	FY13  Upgrade FY16

<b>STATEMENT OF DIRECTION:</b>	<b>5.11 <u>PROVIDE COMMON REGIONAL 911 TECHNOLOGY ARCHITECTURE</u></b>
<b>PROBLEM/OPPORTUNITY STATEMENT:</b>	There is an opportunity for the County to provide the necessary leadership and technology to support a regional 911 technology implementation. An opportunity exists to work with the Town of Kannapolis and City of Concord to establish redundancy for 911 technology as well as network redundancy and interoperability to support the 911 call taking and routing.

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	<p>In addition, as part of the disaster recovery planning process, the County has an opportunity to integrate these two entities into the overall strategic disaster recovery architecture to support redundancy of 911 technology and functions.</p>	
<b>DESCRIPTION:</b>	<p>This direction outlines technology strategies that have been defined to move forward with achieving a regional 911 technology implementation. Cabarrus County will facilitate this overall effort and will provide the core technology and communications architecture necessary to support a regional 911 technology architecture.</p>	
<b>STRATEGIES TO ACHIEVE THE DIRECTION</b>		
	<b>STRATEGY</b>	<b>TIMEFRAME FOR COMPLETION</b>
	<p><b>5.11.1 PROVIDE HIGHLY AVAILABLE TECHNOLOGY PLATFORM TO SUPPORT 911 CALL TAKING AND ROUTING</b></p> <p>This strategy will focus on the implementation of a redundant Positron VIPER solution at the secondary data center. This solution will support the ability to failover 911 call taking ability and routing from primary County PSAPs at the Sheriff’s Office, Town of Kannapolis and City of Concord to the alternate PSAP at the secondary data center site.</p> <p>Along with the implementation of the VIPER solution to handle the inbound calls, this strategy also focuses on definition and implementation of the strategy to reroute the inbound 911 calls from the primary PSAP locations to this alternate site.</p>	<p>FY12</p> <p>Update FY16 E911 Regional Backup for Union County</p>
	<p><b>5.11.2 PROVIDE DIVERSE COMMUNICATION PATHS FOR ACCESS TO PUBLIC SAFETY TECHNOLOGY</b></p> <p>This strategy will focus on the tasks necessary to provide for diverse communication paths to support access to the alternate PSAP located at the secondary data center from the Sheriff’s Office, City of Kannapolis and City of Concord. These communications paths will ensure that should it be necessary to fail over to the alternate PSAP due to a catastrophic failure of the public safety technology located in any of the primary PSAP locations, that dispatch personnel will have the ability to access 911 call taking capability as well as having access to CAD and other key public safety systems at the secondary data center.</p>	<p>FY12</p>
	<p><b>5.11.3 PROVIDE COMMON ALTERNATE SITE FOR 911 DISPATCH FUNCTIONS</b></p> <p>This strategy focuses on implementation of technical resources at the alternate PSAP site at the secondary data center to support the ability for dispatchers to reside at this site to perform 911 call taking and administration of public safety functions from this alternate site.</p>	<p>FY11</p>

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<b>STATEMENT OF DIRECTION:</b>	<b>5.12 <u>IMPLEMENT ENTERPRISE DIGITAL PHYSICAL SECURITY ARCHITECTURE</u></b>	
<b>PROBLEM/OPPORTUNITY STATEMENT:</b>	The County continues to have a need to implement access control and video surveillance technology to protect the physical security of County buildings and property. There is an opportunity to select and implement an enterprise solution for meeting this need instead of continuing to implement point solutions to address specific situations. Taking advantage of this opportunity will provide longterm cost saving and ensure enterprise manageability of the County's physical security.	
<b>DESCRIPTION:</b>	This direction focuses on strategies for implementing digital physical security solutions to support integrated access control and digital video surveillance.	
<b>STRATEGIES TO ACHIEVE THE DIRECTION</b>		
<b>STRATEGY</b>		<b>TIMEFRAME FOR COMPLETION</b>
<b>5.12.1 EVALUATE AND SELECT ENTERPRISE VIDEO SURVEILLANCE PLATFORM</b>		
This strategy will focus on the evaluation and selection of video surveillance software, storage and camera endpoints that will be utilized consistently across County facilities. This strategy will leverage existing technology architecture and standards to ensure an appropriate fit into the County's overall technology footprint.		FY14  FY1617 CIP Jail Housing
<b>5.12.2 EVALUATE AND SELECT ENTERPRISE ACCESS CONTROL SOLUTION</b>		
This strategy will focus on the evaluation and selection of an enterprise access control solution that will be utilized across all County facilities. As a part of this strategy, the County will also assess the feasibility of implementing an integrated access control solution that integrates physical access and access to computer systems and technologies.		FY13  FY16

<b>STATEMENT OF DIRECTION:</b>	<b>5.13 <u>COMPLETE KEY SYSTEM AND TECHNOLOGY UPGRADES</u></b>
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# Strategic Technology Plan

<b>PROBLEM/OPPORTUNITY STATEMENT:</b>	One of the aspects of technology portfolio management is to ensure currency with respect to technology infrastructure and the governmental applications and technologies that support key functions within the County. It will be important for the County to maintain currency of the technology portfolio through recommended software and system upgrades.	
<b>DESCRIPTION:</b>	This direction defines several strategies for strategic system and software upgrades which will be important for the County to complete over the course of this strategic plan.	
<b>STRATEGIES TO ACHIEVE THE DIRECTION</b>		
<b>STRATEGY</b>	<b>TIMEFRAME FOR COMPLETION</b>	
<b>5.13.1 UPGRADE TO WINDOWS SERVER 2008 SERVER OPERATING SYSTEM</b>  This strategy will focus on the upgrade of Windows servers to the Windows Server 2008 operating system. Many of the County's existing Windows servers are currently running Windows Server 2003 or a previous version of Windows. This strategy will ensure the County maintains currency with respect to the Microsoft server operating system.  Mainstream Support for Windows Server 2003 will end in July 2010 with Extended Support retired in July of 2015.	FY11	
<b>5.13.2 UPGRADE TO WINDOWS 7 DESKTOP OPERATING SYSTEM</b>  This strategy will focus on the upgrade of Windows desktops to the Windows 7 desktop operating system. Currently, most of the County's desktop computers are running the Windows XP operating system. This operating system continues to serve the need for the current and shortterm future needs of the County. The main concern for the County is to ensure the desktop operating system can continue to operate and run needed applications within the County. Secondary to this concern is to ensure the County remains on an upgrade path for desktop technology.  Extended Support for Windows XP will be retired in April of 2014. As the County replaces existing desktop or laptop computers, these computers will be replaced with the Windows 7 desktop operating system. Windows XP will only be deployed to replace existing Windows XP computers that have a need to continue to run Windows XP.	FY13 FY14  FY16 Windows 10	
<b>5.13.3 UPGRADE BI-TEK</b>  The County utilizes Bi-Tek to support several key tax administration and billing functions. This strategy focuses on the upgrade of Bi-Tek to the Windows platform allowing the County to discontinue the operation of the current HP3000 platform.	FY11 FY12 FY13 FY14 FY16	

# Strategic Technology Plan

<p><b>5.13.4 UPGRADE MUNIS TO WINDOWS AND SQL SERVER PLATFORM</b></p> <p>The County is currently running the Tyler Munis platform to support many financial, HR and tax applications. This strategy will focus on the transition of this platform to the Windows and SQL Server platforms which will more effectively align the application with the County's overall technology footprint.</p>	<p>FY11</p> <p>Upgrade FY15</p>
<p><b>5.13.5 MASTER ADDRESS DATABASE MIGRATION</b></p> <p>This strategy will focus on transition of applications to utilize the enterprise master address database. An interface will be exposed to allow for validation of address information through a common enterprise solution.</p>	<p>FY12</p>

<b>STATEMENT OF DIRECTION:</b>	<b>5.14 <u>DEFINE AND IMPLEMENT STRATEGIC GRAPHICAL INFORMATION SYSTEM(GIS) PLAN</u></b>	
<b>PROBLEM/OPPORTUNITY STATEMENT:</b>	Graphical Information Systems or GIS is a strategic application for all local governments. GIS is utilized for many purposes within the organization including public safety, transportation, land management, community development and many other functions. Cabarrus County has begun to move from a stand-alone GIS into an enterprise GIS where many applications, departments, users and other localities are beginning to depend upon the information and functionality that is provided by GIS. This need presents an opportunity for the County to establish a strategic direction for the business use of GIS along with the technology services that will be required to meet these business needs.	
<b>DESCRIPTION:</b>	The County will define a strategic direction for the implementation and use of the County's enterprise GIS. A strategic GIS plan defines the information or "layers" that will be included as part of the County's geo-database. The plan also defines who will utilize the information and how they will utilize the information. The plan then defines the technology architecture, applications and infrastructure that will be utilized to support the GIS functions.	
<b>STRATEGIES TO ACHIEVE THE DIRECTION</b>		
<b>STRATEGY</b>		<b>TIMEFRAME FOR COMPLETION</b>

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<p><b>5.14.1 COMPLETE GIS NEEDS ANALYSIS</b></p> <p>This strategy will focus on completing a needs analysis of information that will be part of the County’s enterprise GIS. This process will focus on working with departments and other localities to clearly identify what information is needed in the enterprise GIS. In addition to information required, the needs analysis will also clearly identify the users and administrators of the information in order to allow the County to effectively identify the appropriate roles and responsibilities for the enterprise GIS.</p> <p>The County utilizes ESRI as the strategic GIS technology platform. The needs analysis will allow the County to modify or extend this technology platform to meet the defined needs.</p>	<p>FY11</p>
<p><b>5.15 <u>DEVELOP GEO-SPATIAL LAYERS AND ATTRIBUTES</u></b></p> <p>Based upon the completed needs analysis, this strategy will focus on the development of the information that will be included in the enterprise GIS environment. This will be a continuous process in that there will continue to be requirements for additions to the information to be</p>	<p>FY12 FY13</p>
<p>included in the model. As a part of this strategy, the County will prioritize the development and implementation of these layers based on input obtained through the needs analysis.</p>	
<p><b>5.16 <u>DEVELOP AND IMPLEMENT GIS TECHNOLOGY ARCHITECTURE</u></b></p> <p>This strategy will focus on both current, short-term initiatives for implementing a best practices deployment of the ESRI GIS platform as well as considerations based upon the GIS needs analysis. In the shortterm, the GIS platform will be migrated to a best practices architecture in terms of the servers, roles and positioning of these items for both internal access, Internet access and access by other localities.</p> <p>The architecture will then be expanded to address any specific requirements which are driven through the GIS needs analysis in terms of additional features or functionality.</p>	<p>FY13  Upgrade FY16</p>