

FY2023
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FY2025

TECHNOLOGY ROADMAP

Innovation & Technology Services 3-Year Strategic Technology Plan



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ITS Strategic Technology Plan Executive Summary



Keith Todd
Chief ITS Director

Cumberland County is the fifth largest county in North Carolina, with a diverse community and population of over 335,000 residents. The Innovation & Technology Services (ITS) Department, formerly Information Services, implements, and maintains a portfolio of critical technology solutions that support our County employees and provide much needed and valued services to our citizens. The ITS Department, consisting of 49 highly skilled staff members, many with specialized certifications, support more than 30 County departments consisting of over 2300 end users.

We are providing this 3-Year Strategic Technology Plan (STP) as an update on projects that have been completed, as well as ongoing and upcoming initiatives that will support the County's strategic goals and objectives. Our projects focus on technology, business process improvements, and enhanced services for Cumberland County employees, which are essential for an optimized employee and citizen experience. This requires a careful balance of enacting cost saving measures that will accommodate County technology requirements while maintaining a responsible and controlled budget. Our approach is showcased through three important key principles:

1. Effective management of department resources by following a disciplined approach to budgeting;
2. Prioritizing activities and allocating resources accordingly, to ensure the best possible outcomes;
3. Documenting previous efforts to reduce expenditures and streamline processes.

This STP will map out our continued approach to forecasting and preparing for inevitable challenges of major emerging technology needs and trends facing the County over the next 3 years. It reviews the County's technology needs, our ability to accommodate those needs, and a collaborative prioritization of technology efforts.

Our strategic goals and objectives are outlined with key performance indicators and critical success factors that will ensure we achieve success in these areas. This plan will be routinely evaluated and adjusted as needed and will serve as a guide as we continue to define, develop, and maintain our expansive portfolio of modernized technology solutions.

The ITS FY2023 - FY2025 Strategic Technology Plan will further advance our efforts to maintain alignment with County strategic goals and objectives, restructure our department to best support our County employees and citizens, and reinforce our focus on our core mission, vision, and values.

Mission, Vision, and Values

Serving Cumberland County Citizens with **PRIDE**

MISSION

Provide efficient, accurate, reliable secure, and cost-effective technology for Cumberland County in alignment with the County's Strategic Plan.

VISION

Provide progressive leadership and support for Innovation, Technology, and Continuous Improvement to support the County's vision.

VALUES



PROFESSIONALISM

Operate in accordance with the highest ethical standards in all relations with citizens, employees, environment, suppliers, and community. Maintain a proactive approach to citizen safety and services.



RESPECT

Support the County in its efforts to respond to citizens accurately and quickly, showing respect to all encountered.



INTEGRITY WITH ACCOUNTABILITY

Minimize taxpayer burden with innovative technologies and information systems. Assure the safety of all technology assets.



DIVERSITY

Support customer service to our customers, both citizens and employees, recognizing that all people are different.



EXCELLENT CUSTOMER SERVICE

Maintain secure, reliable, efficient, cost-effective information systems, with a focus upon providing excellent customer service to our citizens.

Innovation & Technology Services Overview

To emphasize our focus on and commitment to innovation and to be more inclusive of the broad umbrella of services we provide, our department was rebranded from Information Services to Innovation & Technology Services as of July 1, 2022. As expressed in our mission statement, the purpose of the Innovation & Technology Services (ITS) Department is to provide efficient, accurate, reliable, secure, and cost-effective technology for Cumberland County in alignment with the County's strategic goals and objectives. To achieve these goals, we embrace and implement technology solutions that improve business response to our citizens, streamline internal business processes, and enhance high-quality County services.

ITS delivers critical support services for more than 30 County departments and is organized into seven major functional areas: the ITS Business Office, Application Services, Client Support Services, Enterprise Solutions, Geospatial Services, Infrastructure Services, and Information Security. Further details on each section are provided below.

Due to the continued growth of ITS, as of July 1, 2022, a Business Office was established, the ERP team was transitioned from Enterprise Solutions to Application Services, and the Project Management Office was transitioned to Enterprise Solutions. In addition to these changes, to continue to strengthen the County's security posture, a Chief Information Security Officer (CISO) position was established.

Business Office



The ITS Business office is the back-bone and primary contact of the ITS Department. This unit handles all ITS business operations to include help desk administration, tracking of employee time used and accrued, processing of timesheets, purchases, and contracts, monitoring and maintaining the ITS budget and technology purchases for County departments, County-wide employee notifications and alerts to system maintenance and downtime, coordination of recruiting, onboarding, and offboarding processes, maintaining executive level calendars and ITS resources, managing ITS requests for external department services, and coordinating mass communications between ITS and all County departments.

Application Services



The Application Services section specializes in complex business problems with intelligent, intuitive, and well-designed software solutions. They strategically manage the full lifecycle for systems and applications development. Utilizing a DevOps methodology, this team provides key analyses for build versus buy decisions. Focus areas are real-time, secure, database-driven solutions, enterprise information systems, and mobile applications. They also provide the technical expertise to drive County department business visions to fruition. Responsibilities of Application Services include the administration of web servers, database systems, and content delivery systems to offer data integrity at an enterprise-level and in a secure manner. Their innovative approach helps inspire better business decisions across the County.

Client Support Services



Client Support Services is the first line of response for requests of new hardware or software, and any issues that arise with County end-point devices, such as desktop computers, laptops, tablets, telephones, printers, and related accessories. They are responsible for the evaluation and recommendation of new hardware, software, and other devices, and making sure these technologies are reliable, meet ITS standards, and are compatible with the County network and infrastructure environment. Client Support also manages the lifecycle for all computer hardware used by County employees, and inventory, procure, configure, deploy, replace, and repair various technology products for all County departments.

Enterprise Solutions



Enterprise Solutions encompasses two major functional areas: Business Intelligence (BI) and Project Management. This section establishes and maintains critical partnerships with County departments, and drives strategic, forward-thinking initiatives to foster innovation, continuous improvement, and operational efficiencies on an enterprise, or County-wide level. Through comprehensive business process reviews, key performance indicator (KPI) development and data visualization sessions enabling data-driven decisions, and an established Project Management Office (PMO), this section uses a proactive, holistic approach to cultivate County-wide operational excellence. This approach ultimately results in cost savings for the County, a streamlined and optimized work environment, and enhanced services for our citizens.

Geospatial Services



GIS is a framework used for gathering, analyzing, and managing data. Based on the science of Geography, GIS integrates many types of data which can be used to provide spatial location or organized into visualizations using maps. GIS reveals deep insights into data, such as patterns, relationships, and situations – helping to make smarter, critical, data-driven decisions. The Geospatial Services section of ITS is responsible for the coordination, management, and application of all enterprise GIS functions in Cumberland County (CCGIS). They also provide E911 addresses and management for Cumberland County, excluding Ft. Bragg; and they offer comprehensive spatial data, analysis, and custom maps to businesses, other government agencies, and the citizens of Cumberland County.

Infrastructure Services



The ITS Infrastructure Services section designs, configures, monitors, and maintains all back-end equipment. This foundational section supports servers (virtualized and physical), backup systems, wired and wireless network systems, network security appliances, the County phone system, and disaster recovery plans across the County. The server team leverages high-quality server and storage systems, which can be optimized near real-time, improving performance and minimizing downtime. A significant portion of their efforts include monitoring these systems and strategically planning and implementing the refresh cycle across all of these assets in a cost-efficient manner while improving employee productivity.

Information Security



The Information Security section is led by the newly established Chief Information Security Officer position. This section is responsible for the design, implementation and management of the Information Security program that protects Cumberland County systems, services, and data. The goals of the Information Security section are to protect the confidentiality of data, preserve the integrity of data, and promote the availability of data, while identifying and mitigating risk and implementing procedures to reduce threats. Security Awareness training is conducted quarterly, which enables employees to be more proactive in protecting the County and fosters a positive security culture.

Strategic Planning Process

The ITS strategic planning process consists of seven phases, which utilize a standard methodology to review prior success factors and will provide a technology roadmap for upcoming initiatives.



The **Initial Review & Assessment** phase allows us to review and evaluate the prior 3-year Strategic Technology Plan (STP) to gauge performance and successes, identify critical needs for the department and County, and determine long-term goals to be considered for the new 3-year STP.

The **SWOT Analysis** phase gives our department staff the opportunity to share their input on how we are doing as a department and provide their ideas for improvement. Their input and participation are critical in the strategic planning process and results in a comprehensive list of strengths, weaknesses, opportunities, and threats that provide important business drivers for the STP.

The ITS Directors and Management Team will then begin the phase of **Collaboration & Strategic Planning** to make decisions on and prioritize upcoming initiatives, establish measurable goals, objectives, key performance indicators (KPIs), and critical success factors (CSFs).

All of the collaboration and planning come together in the **Develop Implementation Plan** phase where implementation strategies are established related to governance of the STP and related initiatives. Procedures are implemented to monitor, control, evaluate, and manage performance, timelines, budget, and department and County resources. This phase results in a final STP draft for review and approval.

The new 3-year STP is finalized and approved in the **Adopt Strategic Technology Plan** phase. All members of the ITS Management Team accept and submit the plan to the Chief and Deputy ITS Directors for final approval. The approved STP will be reviewed annually in conjunction with an annual technology report (ATR) that serves to provide a progress report for the prior year's performance and upcoming year's planned initiatives.

During the **Execution** phase, the initiatives identified in the STP are completed. This phase is ongoing throughout the 3-year period and is evaluated and adjusted as needed.

The final phase is the **Evaluate & Improve** phase and occurs at the end of each fiscal year. The previous year is reviewed and evaluated, lessons learned are discussed and opportunities for improvement are identified. This phase supports our department-wide approach to continuous improvement. Metrics are analyzed to determine which strategies worked well, which ones fell short, and which strategies should be considered going forward.

SWOT Analysis

Strengths (Internal factors)

- One of the many strengths of our department is the continued backing from our County Management and Board of Commissioners. With their support, we have made great strides in application and technology modernization, cybersecurity, GIS, disaster recovery, wireless, mobility, centralizing IT operations, and integrating cloud solutions.
- In the past three years we replaced the remaining applications on our mainframe with two major software implementations for Tax Administration and Planning & Inspections. These solutions offer better mobility and integration with GIS and new online services for citizens. The Planning & Inspections system also provides a solution for Environmental Health on-site wastewater services. With these completed, we have successfully transitioned all legacy mainframe applications to modern solutions providing greater functionality for employees and citizens.
- As we moved from the legacy environment, there was a natural progression to expand our Wi-Fi network throughout the County, which was a long-standing goal of our Board of Commissioners.
- We continually enhance the security of the County's infrastructure and data by implementing more SASE cloud-based solutions, investing in mobile solutions, transitioning "in office" centric security systems to "telework" centric systems, and utilizing a cloud-based disaster recovery solution to further secure our environment.
- Through our continuous improvement approach, we strive to identify opportunities to improve efficiencies within our department. We have implemented many industry standard best practices and processes, such as ITIL and COBIT, and DevOps, incorporating greater cross-functional collaboration.
- Through our IT consolidation efforts, the County invested in infrastructure that will not be confined to one facility. This mitigated the discovered risks from IT datacenters located within 1.5 miles of each other, within flood zones, and within a few hundred yards of the same railroad track. We now have a stretched cluster allowing our systems to seamlessly move between facilities, eliminating threats that have caused downtime in our operations. This will also greatly enhance safe keeping of data as it relates to the physical location. Combined with a Disaster Recovery as a Service (DRaaS) provider, it is a major improvement for maintaining operations during a disaster.



Weaknesses (Internal factors)

- Although we have centralized IT operations for most County departments, there is still one department that does not fall under the County ITS organization. This limits us in establishing one standardized, holistic, and all-inclusive county-wide technology strategy and roadmap to ensure consistent information security policies and practices, eliminate unnecessary data centers, and adopt and implement one easy to manage and centralized information security solution.
- We find it difficult to recruit certain job vacancies due to a limited applicant pool with the specialized skillsets required. We continue to explore ways to expand our efforts in positive recognition of employees by identifying ways to supplement the current County performance evaluation system with other positive reinforcement options.
- Maintaining consistent end user training is sometimes challenging due to growth in systems and technologies being disproportionate to staff availability.
- Though we have changed many of our practices, policies, and procedures, there is still room for improvement in our strategy and approach to centralized documentation in support of our digital transformation program.
- Other areas of opportunity for improvement include VoIP server support, development testing environments, consistent growth of large applications, and storage requirements.



Opportunities (External factors)

- Several opportunities have been identified that could be leveraged given the right resources. Many County employees have a desire to learn new technologies and the willingness to use these systems. As will be discussed in the Threats section, not everyone is willing to do the same due to fear or reluctance to change.
- Due to our IT consolidation efforts, we now have additional ITS staff and computer training labs that we can leverage to address and greatly enhance end user training and establish a training program aligned with industry best practices. Our goal is to implement a new Innovation & Training Coordinator position to manage all existing and future technology related training.
- GIS has grown exponentially over the past few years due to the insights and analysis that can now be done as a result of consolidation and centralization of GIS operations. After several sessions of GIS Days, departments now see the benefits of supplying data to the Geospatial Services (GS) section, which in turn generates more demand for GIS based information. There are also further opportunities to expand GIS as it relates to the needs of our citizens and through integrations with the new Tax Administration and Planning & Inspections software solutions. Currently, the GS section is made up of only 3 staff members. However, a consistent increase in demand supports the possibility of expansion over the next 3 years.
- The County was in the process of expanding mobility when the COVID pandemic hit. Covid caused a rapid increase in demand to allow users to work from home or in the field, to communicate remotely with customers, and to meet mandated safety requirements. Although COVID has reached a manageable state, there is no sign that the high interest in mobility and telework options will stop being a factor in future technology requirements. Exploring and adopting more flexible and telework options will also assist in our recruitment and retention efforts.



Threats (External factors)

- One of the biggest threats to technology is directly related to organization and technology change management. As with any organization, there are some key users that are not supporters of change. It is critical when implementing new or upgraded systems to ensure users understand the impact to their roles and responsibilities and minimize downtime. For technology change management, an ITS alert notification process was established to prepare end users and schedule system maintenance at a time that is least likely to negatively impact operations.
- Another threat related to change management is the lack of a consistent training approach and plan for end users. The ITS department recognizes this as a major concern and are updating and/or developing comprehensive training plans and materials for all existing technology systems. When users are not confident in their training or knowledge of a technology or system, they often result to developing workarounds or not using the application or technology properly, which ultimately causes more issues for the department and ITS staff. The department may also not be aware of features available or may simply need more user training. This can quickly become expensive, time consuming, and resource intensive, so it is imperative that we understand and ensure end user confidence in their knowledge of the systems and technologies they have to use.
- We support all County departments, and several may have urgent needs at the same time. To ensure fairness and transparency in evaluating priority of department requests, the ITS department has established a weighted criteria-based project prioritization system and is in the process of implementing a method of communication, to include an ITS PMO webpage. This will keep departments informed of technology projects and activities occurring across the County, ensure awareness and impact of project related timelines, and ultimately help County departments better understand and appreciate the prioritization process.



Strategic Goals & Objectives

The purpose of the Collaboration & Strategic Planning phase is to make decisions on and prioritize upcoming initiatives, revise goals and objectives as needed, determine new strategies, and establish SMART goal objectives. We will also consistently evaluate and review the objectives to support our continuous improvement efforts.

These objectives also include the required critical success factors (CSFs) that provide what must be done to achieve the objective, as well as key performance indicators (KPIs) which provide measures that will help us determine if we are on track to achieve the adopted goal and within the allotted timeline. The following outlines the goals and objectives the Innovation & Technology Services Department has adopted for FY 2023 – FY 2025.

Goal 1: Innovative Security & Risk Management



Accelerate innovative strategies that focus on network redundancies, cybersecurity, internal controls, and data governance.

Objective 1.1	Critical Success Factors	KPIs
Track ongoing efforts through KPIs and KRIs to secure 99% network availability rate.	Implement performance measures to monitor, track, and alert.	# of devices on the network to be tracked.
	Reduce risk of vulnerability exploits with vulnerability scans and management.	# of devices fully patched and up to date. # sites blocked.
	Define all audits referenced to cybersecurity and internal controls and define individual owners and schedule for collection of audit results and corrections.	# audit items with category. % Pass/Fail. # items to correct and # corrected. % audit sample to supporting help desk tickets.
	Maintain and monitor intrusion detection systems.	# unidentified devices on the network. # of intrusion attempts. # of times information assets or network breached.
	Ensure Incident Response Plan is routinely reviewed and updated.	Mean Time Measures: Mean Time to Detect (MTTD). Mean Time to Resolve (MTTR). Mean Time to Contain (MTTC).
	Maintain updated versions of Disaster Recovery and Business Continuity planning documents and DR annual testing.	# DR tests. Review/Update Completed (Y/N). Pass/Fail. # Systems Tested.
	Automate disaster recovery and business continuity procedures.	# Services. # Systems. # Services with Automated Notifications. # Systems with Automated Notifications.
	Monitor and maintain data and voice internet capacities to maintain business requirements.	Call path utilization rates. Internet utilization rates.
	Provide a core technology infrastructure with high availability and fault tolerance that can meet the needs of the County departments.	Mean time between failures. Unplanned downtime due to hardware failure.
	Improve access management control and administration.	# inactive users.
	Ensure Vendor Management Plan is routinely reviewed and updated.	Mean Time for vendor response to breaches.

Objective 1.2 Establish redundancies to critical elements of all systems.	Critical Success Factors	KPIs
	Define criteria to be considered critical.	# of critical elements identified.
	Define criteria to be considered redundancy.	# of critical elements without redundancies.
	Identify all critical elements of our systems.	# of redundancies implemented.
	Develop timeline and implementation plans.	# of redundancies behind schedule.
Ensure proper technology and staffing resources available to complete.	# of issues resulting from lack of redundancies.	

Objective 1.3 Implement program to track policy compliance.	Critical Success Factors	KPIs
	Perform security audits with 3rd party.	Security ratings.
	Perform internal audits monthly.	Compliance scores. Monthly record of internal audits.
	Map policies to controls and ensure controls are meeting business requirements.	# of mapped policies to business required controls.

Objective 1.4 Formalize internal controls for 100% of critical systems.	Critical Success Factors	KPIs
	Identify, document systems needing ITGC.	# of systems identified.
	Identify system admins and SMEs for each.	# of IT General Controls (ITGC) completed.
	Develop timeline for completion.	# of systems without formalized ITGCs.
	Obtain sign-off from related department heads.	# related department heads. # department head signoffs received.

Objective 1.5 Implement data governance plan.	Critical Success Factors	KPIs
	Finalize Data Governance Plan.	Data Governance Plan finalized (Y/N).
	Identify all sources and silos of data.	# of data sources to be addressed.
	Develop implementation plan and timeline.	# of data source silos.
	Obtain full buy-in from all data owners.	# of data sources we can connect to.
	Obtain sign-off from department heads.	Amount of storage required for each data source.
	Implement necessary user roles to accommodate a true program.	# of data sources integrated into the DGP.
Consolidate data silos into the ITS data warehouse.	# of data sources consolidated.	

Objective 1.6 Adopt and implement best practice change management plan to vet and document all technology changes.	Critical Success Factors	KPIs
	Compile list of all changes to be vetted and categorized.	# of changes to be vetted and categorized. # of changes vetted and categorized.
	Define criteria to be pre-approved, normal, and emergency change.	# of changes approved for pre-approved list. # of changes categorized as normal. # of emergency changes completed.
	Identify all systems requiring a test environment and implement test environments so changes can be thoroughly tested prior to moving into production. (BI Tool, Laserfiche, Website, GIS, etc.)	# of systems requiring test environment. # of systems with test environment established. # of systems pending test environment.
	Obtain buy-in and adoption by all ITS staff.	# of staff trained on change management process. # of changes submitted through the process. # of changes that circumvented the process.

Goal 2: Quality & Service Delivery



Adopt ITIL to modernize and standardize our IT Service Management (ITSM) processes, maintain positive relationships with County departments, support continuous improvement, and ensure service continuity.

Objective 2.1	Critical Success Factors	KPIs
Implement ITIL best practices that will result in a 2-hour response time and less than 2-day resolution time for 98% of ITS support requests.	Perform maturity assessment of current state of ITSM and reassess at the end of each year.	# support tickets submitted vs. # completed. # support tickets within response time. # support tickets within resolution time. % first-contact resolution.
	Connect current help desk system to BI tool.	Connection established (Y/N).
	Select and purchase ITSM solutions that meet ITIL requirements for managing and tracking servers and network asset management, licenses, hardware, and devices.	# requirements identified vs met. # Servers. # Network Assets. # Licenses by Type, %. # Laptops, Desktops. # Devices by Type, %.

Objective 2.2	Critical Success Factors	KPIs
Implement ITIL-based Service Level Management, Application Portfolio Management, and Service Catalog processes.	Identify and categorize all service providers, define services and levels for each, and assess against required targets.	# providers. # and % of categories. # of services covered and % by agreement. # service levels defined and % per agreement. % required targets met.
	Ensure all service agreements and contracts are correct and up to date.	# service agreements / contracts. # and % correct and up to date. # and % not correct and up to date.
	Set clear business-based targets for service performance, so that the delivery of a service can be properly assessed, monitored, and managed against these targets.	# and % of monitored services where weak spots and countermeasures are monitored and reported. # and % of services regularly reviewed. # and % of services where the agreed service levels are met and not met.
	Monitor and track issues until resolved.	# of issues in service provision, identified, and addressed in an improvement plan. # of issues resolved. # of issues unresolved.
	Develop SOPs around SLAs to identify how they are being used and reviewed.	# SLAs breaches. Average time to first response (business hours). Average time to resolution (business hours).
	Implement a full service, application centric, Application Portfolio Management system to include Technology Portfolio and Data Portfolio. Needs to include dependencies mapping (Potentially LEAN IX or similar).	APM system implemented by FY25? (Y/N).
	Implement a full service-level catalog, to include processes to qualify and demonstrate IT Services Value.	Full Service-Level Catalog implemented by FY25? (Y/N)
	Complete a full application review and consolidate applications based on department business needs and eliminate redundant applications.	Full application review completed by FY25? (Y/N) # applications consolidated. # applications eliminated.

Objective 2.3	Critical Success Factors	KPIs
Enhance focus on employee and citizen experience by increasing and maintaining satisfaction rates at 90% or greater.	Establish plan for employee and citizen surveys to gauge satisfaction of services provided and input on services to add.	Survey plans established by end of FY23? (Y/N)
	Survey users to gauge satisfaction with ITS services for baseline and obtain input on additional services they recommend.	# users submitting survey. % satisfaction by category. # recommended services.
	Survey citizens to gauge satisfaction with County provided online services and additional services they are interested in.	# citizens submitting survey. % satisfaction by category. # instances for each additional service request.
	Implement requested services if possible (employee and citizen).	# and % services requested by employees, citizens. # and % requested services implemented.
	Survey users and citizens at least annually to track overall ITS satisfaction and value of added services.	Same as all the above.

Goal 3: Enterprise IT Asset Management



Adopt ITIL best practices to modernize IT support and standardize our IT Asset Management (ITAM) processes.

Objective 3.1	Critical Success Factors	KPIs
Implement ITIL-aligned solution for asset lifecycle management, to include contracts, purchases, and licenses.	Identify, inventory, and assess all assets to be implemented into new solution.	# assets. # locations. # and % of all asset and types by location.
	Submit estimated total cost of product into budget, to include system requirements, storage, and licenses.	Estimated up-front costs. Estimated annual maintenance costs. # licenses required. # users.
	Submit purchase of new solution into project prioritization process through selection and implementation of product.	New solution implemented (Y/N).

Objective 3.2	Critical Success Factors	KPIs
Establish a device life-cycle management / refresh program.	Identify, inventory, and assess all devices to be included in the program.	# devices. # users.
	Identify criteria for refresh.	Age of devices. # devices meeting refresh criteria per year.
	Develop, communicate, and implement roadmap for implementation.	# devices past refresh cycle. # devices to refresh per month. Total cost of refresh per year.

Goal 4: GIS Systems & Tools



Implement strategies that standardize, optimize, and continuously improve the usage and availability of the enterprise GIS platform.

Objective 4.1	Critical Success Factors	KPIs
<p>Implement infrastructure to support high availability of GIS systems and tools and move all users to ArcGIS Pro.</p>	Identify, inventory, and assess all GIS systems and data sources.	# data sources, types, layers. # departments utilizing GIS. # use cases, applications.
	Determine technology resources required to allow for high availability.	# servers. Increase in storage needs. Total costs involved.
	ParcelSync integration with ArcGIS Pro.	Is the integration completed? (Y/N).
	Move all users to ArcGIS Pro and implement Enterprise Portal.	Total cost vs benefit. # users. % usage.
	Determine impact to current processes and workflow.	# processes, users impacted. # process improvements.
	Monitor and assess benefits realization of consolidation.	# issues reported, resolved. % user satisfaction. Total savings (time, cost, steps)

Objective 4.2	Critical Success Factors	KPIs
<p>Provide self-service to real-time analysis of GIS data.</p>	Identify and prioritize all use cases that demand geospatial exploration and self-service of GIS related data. (i.e., Public Health, disease outbreaks, disaster/emergency management, etc.)	# use cases. # completed. % completed.
	Identify users and permissions required.	# users. # data layers accessed.
	Implement solutions for use cases based on priority.	# solutions implemented. Usage rates.

Objective 4.3	Critical Success Factors	KPIs
<p>Explore possibility of interagency collaboration with all 9 County municipalities.</p>	Identify and survey municipality contacts and external agencies (i.e., PWC, HUD, etc.) to gauge interest.	# municipalities, external agencies. # surveys distributed vs. received. % municipalities contacted vs participating. % external agencies contacted vs participating. % non-response. # and % overall interest.
	Outline strategy to collaborate, share data.	# GIS systems, data sources, shareable layers. # issues/concerns/roadblocks. Strategy, approach documented (Y/N).
	Establish interagency team led by the County to conduct feasibility study and draft implementation plan.	# stakeholders. Total costs– licenses, technology, time. Feasibility Study completed (Y/N). Implementation Plan drafted (Y/N).
	Research participation in or initiation of Community of Practice in geospatial analytics and location intelligence.	# existing Communities of Practice. # local government agencies participating. # non-government agencies participating.

Goal 5: Business Intelligence



Cultivate business intelligence and data analytics strategies to build a County-wide culture of continuous improvement and performance management to guide data-driven decision-making and drive operational excellence.

Objective 5.1	Critical Success Factors	KPIs
<p>Complete KPI workshops and dashboards for 95% of all County departments.</p>	Identify all KPI workshops and dashboards completed per department.	# KPI workshops completed. # of departments completed. # dashboards planned vs implemented vs usage.
	Review KPI workshop results and revisit as needed.	# months since KPI workshops. # KPIs to be reassessed.
	Collaborate with BAs and ERP Team to assess current need.	# KPI workshops from Business Process Reviews. # KPI workshops from Laserfiche workshops.
	Develop roadmap and timeline of workshops and dashboards to be completed.	# new KPIs identified. # new KPI workshops. # new dashboards.
	Develop schedule of continuous review of KPIs to ensure value.	# reviews completed. # dashboard users. Average use of dashboards/specific widgets.
	Leverage the collective features and benefits of data, analytics, and artificial intelligence to deliver business value.	# alerts automated. # reports automated. Improvements vs benefits realization.
	Establish measures to identify wastes eliminated from automation.	Decreases in error rates, duplicated efforts, repetition, wait time, process steps, paper usage, staff time.

Objective 5.2	Critical Success Factors	KPIs
<p>Perform comprehensive business process reviews (BPRs) of at least 80% of all County departments.</p>	Identify all BPRs that have been completed and when.	# BPRs completed. # months since completion. # reviews completed on schedule. # reviews currently behind schedule.
	Conduct assessment of proposed improvement recommendations and action items.	# recommendations proposed. # and % recommendations approved. # and % recommendations implemented. # action items determined. # and % action items completed.
	Fully assess benefits realization.	Total cost savings. Total time savings. # steps eliminated. # hand-offs eliminated. # processes eliminated. # processes automated.
	Develop roadmap and timeline for all remaining departments to be reviewed, revisited, or evaluated.	# departments needing another BPR. # departments planned for 1 st BPR. # departments on schedule for quarterly evaluation.

Goal 6: Application Modernization



Continue to advance application modernization strategies that leverage new technologies to create modern experiences for departments and the end users.

Objective 6.1	Critical Success Factors	KPIs
Develop roadmap and obtain approval to terminate all mainframe access and decommission mainframe.	Identify mainframe data and services needed by Tax and Finance.	# mainframe data/screens still being referenced. # users impacted.
	Modernize repositories of the legacy data in structured databases to report out of based on verified business need.	# business needs verified. # legacy data sources identified. # and % repositories modernized.
	Create final backups of all data.	# files/tables/records/file size.
	Establish deadline dates and communication plan in collaboration with impacted users.	Deadline dates determined (Y/N). Communication Plan established (Y/N).
	Coordinate removal of mainframe and all remaining equipment so floor space can be reallocated.	# equipment/items to remove. # and % equipment/items removed, remaining. # sq. ft. floor space gained for workspace.

Objective 6.2	Critical Success Factors	KPIs
Establish a single reporting hub for all County systems.	Identify systems that provide reporting services	# systems.
	Develop new Central Reporting Server Hub for all Reporting Services and all Apps that allow such reports.	# reports. # systems migrated.
	Additional storage and processors requested in FY24 budget.	Storage capacity vs. use.

Objective 6.3	Critical Success Factors	KPIs
Redesign or modernize all ITS developed applications.	Inventory and review all applications within the Application Life Cycle Management. Complete a full inventory and review of all applications in Cumberland County, to include the DSS merger	# applications. # users. Average use.
	Convert all in-house applications to new industry standards.	# applications needing conversion. % completed converted applications.
	Complete a full website redesign to add ADA compliance and implement mobile friendly website for citizens of Cumberland County.	# pages. # clicks, visits.

Objective 6.4	Critical Success Factors	KPIs
Add mobile application development to the ITS services provided.	Invest and train in the necessary technologies to develop, implement, and deploy mobile applications in both Android and Apple devices.	# current mobile applications. # new mobile applications.
	Develop or implement a mobile application management system.	# users and average usage.
	Develop internal controls for MAM system.	Controls developed (Y/N) # of Controls developed

Goal 7: Training and Innovation



Enhance strategies that focus on training and innovation and leverage the functionality of existing and cutting-edge technologies.

Objective 7.1	Critical Success Factors	KPIs
<p>Establish an internal training program to support ITS employee and organizational development.</p>	<p>Identify and develop database of all positions that require or benefit from specialized certifications or pointed training.</p>	<p># positions with required certifications. # and % employees compliant. Cost to obtain and maintain required certifications. # employees with non-required certifications. # of each certification.</p>
	<p>Allocate training budget based on number of ITS staff to sustain continuing education requirements and keep up to date on current systems, new functionalities, and upcoming innovative technologies.</p>	<p>Total amount budgeted for travel and training. # and % ITS staff vs # budgeted for training. # trainings budgeted. # and % trainings completed. # and % certified staff vs # certification trainings budgeted and completed. # continued education credits earned.</p>
	<p>Leverage cross training opportunities to enhance job satisfaction, increase communication and improve operational redundancies.</p>	<p># and % staff to be cross-trained. # and % of staff with no similar positions. # hours of training provided.</p>

Objective 7.2	Critical Success Factors	KPIs
<p>Develop a comprehensive training program for all critical ITS supported technologies and applications.</p>	<p>ITS position dedicated to training.</p>	<p>ITS position established dedicated to training (Y/N).</p>
	<p>Determine criteria to be "critical".</p>	<p>Criteria defined to be determined critical (Y/N).</p>
	<p>Identify and categorize all existing technologies and applications.</p>	<p># of technologies and applications by category. # and % of critical technologies and applications.</p>
	<p>Prioritize each and develop timelines based on criticality.</p>	<p># of technologies/applications by priority.</p>
	<p>Identify training available for all existing technologies and applications.</p>	<p># with, without established training by category.</p>
	<p>Collaboration with SMEs to develop training for all existing technologies and applications, to include initial, refresher, and retraining.</p>	<p># and % with newly established training. # and % of users to be trained. # and % completed. # and % of pass/fail rate.</p>
	<p>Identify and document all related processes and procedures and maintain in central repository.</p>	<p># processes/procedures identified. # processes/procedures documented. # processes/procedures pending due to change.</p>
	<p>Add training to LEARN library for on-demand learning and refreshers.</p>	<p># of courses to be added, by category. # and % of courses added. # and % of courses completed by users per month. # and % Pass/Fail rate.</p>
	<p>Incorporate into Change Management process so all trainings can be reviewed and updated as needed.</p>	<p># of trainings maintained. # and % of trainings reviewed. # of updates due to changes. # and % of updates completed.</p>
	<p>Develop process to request training for new employees.</p>	<p>Training request process implemented (Y/N). # requests submitted. # and % new employees and trainings.</p>

Objective 7.3	Critical Success Factors	KPIs
Utilize the training program for all new projects.	Collaboration with PMO to develop training on new technologies and applications.	# related projects implemented. # trainings completed. # of technology/application users to be trained. % of training completed with pass/fail rate.
	Add to training plan of existing technologies and applications.	Added to training plan for existing technologies and applications (Y/N).

Objective 7.4	Critical Success Factors	KPIs
Establish an ITS position to lead the development and direction of strategic innovation initiatives to advance and accelerate the mission of the Innovation & Technology Services (ITS) Department.	Establish an ITS Innovation Strategist position to accelerate and guide innovation initiatives.	ITS position established (Y/N).
	Integrate innovation into the strategic management process and align innovation to strategy by developing and adopting a Strategic Management Maturity Model for Continuous Innovation.	Maturity Model developed and adopted (Y/N).
	Develop comprehensive innovation plans that include all recommended ITS provided services, and technology training needs.	# plans completed, # departments, divisions, units, and processes impacted. Expected benefit realization measures.
	Collaborate with business units, recommend business priorities, advise on technology requirements, and develop 1, 3, and 5-year innovation driven technology roadmaps for strategic budgeting and execution.	# technology roadmaps completed by time period. # of resulting innovation initiatives by year. Expected benefit realization measures.

Goal 8: Budget and Cost Control



Enhance budget and cost control enforcement strategies that will allow us to strengthen governance around County technology-related purchases, remain agile in providing the County’s overall growing technology needs, and enforce fiscal responsibility.

Objective 8.1	Critical Success Factors	KPIs
Formalize a standardized Build vs. Buy framework for all new software purchases.	Establish and routinely review a formalized Build vs Buy framework.	Build vs Buy Framework established (Y/N).
	Incorporate build vs buy framework into product selection process.	# vendor products vetted. Build options vetted (Y/N).
	Identify decision points such as: Cost of deployment, time to market, maintenance and support costs, user impact, urgency, etc.	# ITS staff/users/departments impacted. # hours estimated. Total cost of server equipment / storage required. Total cost of client-side system requirements. Total upfront and annual costs. Total cost of license fees. Total months to go live. # months before deadline requirement.
	Digitize selection process with automated workflow and collection of data.	Selection process digitized (Y/N).

<p>Objective 8.2</p> <p>Maintain a fiscally responsible ITS Environment.</p>	Critical Success Factors	KPIs
	Continue cost savings initiatives through continuous review of our technology spend and leveraging bulk purchasing when possible.	Total cost of technology purchases. Total savings from bulk purchasing.
	Consolidate overlapping technologies and optimize operational efficiencies to increase scalability through standardization of equipment and processes and PC life cycle cost management.	Total savings from contract reviews. Total savings from consolidation efforts. Total savings from equipment standardization.
	Consolidate data centers to reduce cost and floor space requirements.	# data centers. # products at end of support or out of warranty. Sq Ft of data center space required. Total costs of current data centers. Total savings from consolidation.
	Eliminate data center infrastructure no longer under manufacture warranty.	# servers currently out of warranty. Total cost savings for removal.
	Ensure telephony cost savings while promoting mobility by moving from “land line” telephones to WebEx Teams calling, reducing SIP trunk costs, normal desk phone replacements, and eliminating the need to replace outdated telephones due to upcoming upgrades.	Total cost of break/fix replacement phones. Total savings of retainer hours. Total savings in SIP vs Internet cost. Total savings in required call manager upgrades.
	Leverage County server infrastructure to greatly improve DSS application performance.	Difference in time to open apps. Different in time to perform queries. CPU and memory usage rates. Network performance measures on current and new servers.
	Review DSS Microsoft agreement to determine if can leverage for County ITS operations.	Total cost savings of MS licenses.
	Work with various departments to fund personnel and technology training.	Total savings from sharing training expenses.
Improve enforcement of the established technology budgeting and procurement process to ensure all technology purchases are being vetted and approved by ITS.	# technology purchase requests submitted. # technology purchases approved. # technology purchases rejected. # technology purchases that circumvented process.	

Goal 9: Monitor, Control, and Promote the ITS Strategic Technology Plan



Establish strategies to share the STP and accomplishments with County Management and employees.

<p>Objective 9.1</p> <p>Conduct quarterly reviews of the STP and incorporate updates into the ATR each FY.</p>	Critical Success Factors	KPIs
	Maintain a 3-year Strategic Technology Plan, collaborating with all departments.	# reviews completed. # updates identified. # new objectives identified. # upcoming initiatives planned.
Produce annual technology report (ATR) to communicate progress.	# FY ATRs completed. # and % objectives met. Total % goals met. # and % initiatives completed.	

Objective 9.2	Critical Success Factors	KPIs
Increase ITS socialization efforts.	Provide quarterly updates to County management, staff, and citizens via automated reports, custom dashboards, County social media platforms, and a dedicated web page.	# reports distributed. # dashboards created and usage. Social media stats. Web page stats.
	Gauge employee awareness of ITS vision and provide solutions to weak areas.	# surveys distributed. # and % employee responses. % awareness.

Goal 10: Execute the ITS Enterprise Vision through Innovation



Establish strategies to create information and technology operating models that are agile, responsive, and innovative, and that recognize the value of citizen and employee experience in the business value of ITS services.

Objective 10.1	Critical Success Factors	KPIs
Socialize the rebranding of the IS Technology (IS) Department to Innovation & Technology Services (ITS).	Publish announcements through County social media and internal communication avenues.	# communication channels. # publications/posts.
	Assess the success of the rebranding through surveys and focus groups.	# surveys distributed. # survey responses. % unaided awareness. Perception rate. Satisfaction ratings. Net Promoter Score.

Objective 10.2	Critical Success Factors	KPIs
Implement Next Gen Wi-Fi that will maintain a 90% or lower utilization rate for all access points.	Replace outdated Wi-Fi Access Points (AP), wireless LAN controllers, and Network Management and Command Center.	Measures that monitor high availability feature to determine need for expansion.
	Perform a Wi-Fi coverage assessment / scan of coverage and signal strength in all County buildings.	# areas scanned. # scanned areas needing Access Point(s).
	Add Access Points to cover blind spots or low coverage areas.	# identified areas where Access Point(s) added.
	Leverage solution features such as artificial intelligence (AI) and machine learning to proactively monitor, troubleshoot, and optimize our wireless networks county-wide.	AP utilization rate. % Uptime. # Users per Access Point.

Objective 10.3 Develop and implement a comprehensive ITS Technology Roadmap that identifies strategic and technology goals of each business unit by Sept 30 each FY.	Critical Success Factors	KPIs
	Establish engagement strategy for department technology roadmapping.	# surveys distributed. # and % department, citizen responses. # department goals/initiatives identified. # and % goals/initiatives completed.
	Implement a Business Relations Management program that will continue to enhance critical partnerships and collaboration with County departments.	# helpdesk satisfaction questionnaires distributed. #, % helpdesk satisfaction questionnaires returned. # complaints received, resolved. Average time of resolution. Satisfaction scores (employees and end-users).
	Accelerate innovations in digital government, emerging smart technologies, and employee enablement that focus on employee and citizen experience.	Increased cost due to new technologies needed. Cost savings due to process improvements. # citizen services available online.

Objective 10.4 Implement a sustainable strategy that will support the off-site County workforce.	Critical Success Factors	KPIs
	Draft and approval of telework strategy.	Strategy developed (Y/N). Strategy approved (Y/N).
	Draft and approval of telework technology and support strategy.	Strategy developed (Y/N). Strategy approved (Y/N).
	Provide robust collaboration system that users can utilize to share ideas, manage their own conference calling, and communicate effectively.	# employees with WebEx Teams, WebEx Meetings. % WebEx usage. % downtime.
	Implement a telework approval process to track requests and enable users and business units to telework as needed.	# telework requests by business unit. # and % approved, denied. # and % implemented.
Active monitoring, tracking and assessment of progress, issues, and benefits realization of teleworking.	# employees teleworking. # devices required and related costs. # telework related issues reported. Citizen satisfaction impact due to teleworking.	

Objective 10.5 Maintain 90% or better project success rate.	Critical Success Factors	KPIs
	Continuously improve established project management approach to mitigate forecasted challenges and drive innovative technology projects.	# projects, # completed, # cancelled, # stakeholders # and % projects completed within constraints. (time, cost, scope, risk, quality, benefits). # unresolved issues.
	Continue to implement agile approaches to projects and initiatives and reassess the use of DevOps.	# projects using agile approach. Average # of sprints per project. Average timeframe per project.
Fully adopt new portfolio and project management solution to enhance team collaboration and status reporting.	# active projects. # and % active projects tracked in PPM. # active users by type. % usage.	

Planned Initiatives for FY 2023 – FY 2025

Information technology capabilities are essential for efficient, productive staff, and to support the County's strategic goals and objectives requiring a focus in technology, business process improvements, and enhanced services for Cumberland County employees and citizens. To strengthen and support the financial sustainability of the County, the innovations, initiatives, and projects below will be considered or implemented during the upcoming FY 2023 – 2025 Strategic Technology Plan period.

1. Implement Positive Reinforcement Evaluation System for ITS Staff.

- Support County's goal to improve retention and recruitment.
- Provides acknowledgment and award system for employees.
- Boosts employee engagement and ITS employee experience efforts.

2. Consolidate Asset Management.

- Implement centralized refresh cycle.
- Better Inventory management.
- Cost savings by redistribution of existing assets vs new purchase.

3. Consolidate Software License Management.

- Cost savings by shifting licenses to new employees from prior employees.
- Meet recommended targets for outside software audits.
- Identify outdated software with users.

4. Implement GIS Enterprise Portal.

- Will open our GIS catalog to many, enabling users to integrate different data types from different sources and turn them into useful information products.
- Should make workflows more efficient and support time sensitive decision making.
- Will allow us to create a private secure way to disseminate sensitive or proprietary data to authorized users.
- This will also allow us more flexibility to customize our web applications and geoprocessing services.

5. Move All ArcMap Users to ArcGIS Pro.

- ESRI's newest desktop version that will be replacing ArcMap.
- Would like to have everyone using this in the next three years as ArcMap support will be discontinued in 2026.
- ArcGIS Pro will offer the ability to edit and view 3D scenes.
- Offers the ability to edit published feature services.

6. Continue Ongoing GIS Initiatives.

- Continue to create web applications, dashboards, and story maps.
- Continue to use ArcGIS Online to publish public data and enhance the use of our Open Data site.

7. Socialize the Rebranding of GIS to Geospatial Services (GS).

- Increase County employee and citizen knowledge of the true purpose and value of Geospatial Services and how it can help them.
- Communicate the power of advanced capabilities such as spatial analysis and location intelligence to visualize trends, make critical data-driven decisions, create shared information, facilitate collaboration, improve business practices, and support transformation and innovation.
- Spotlight innovative geospatial initiatives in the areas of spatial analysis, easy-to-use web apps and maps, field mobility, real-time GIS, big data, mapping and visualization, imagery and remote sensing, 3D, CAD, data management, geodesign, planning, and community engagement.

8. Consolidate and Optimize Application Services.

- Develop new SQL Server clusters and applications server environment to consolidate and improve efficiencies of deployments and redundancies to maintain.
- Develop a mapping of all applications, databases, and their servers, including where they are located, internally or externally.
- Upgrade and maintain all applications optimize with the most efficient upgrades from the vendors and developmental frameworks.
- Consolidate and maintain an SSIS package repository and APIs.
- Eliminate redundant equipment and support.
- Reduce cost of disaster recovery solutions.

9. Create Spaces for Innovation, Testing, and Development.

- Provide resources and storage for testing, innovation, and development environment that is separate from primary infrastructure system.
- Ability to fully test features and modify data without affecting production systems.
- Can assist with security and compliance auditing through utilization of Netwrix or similar product.

10. Continue to Expand Document Management.

- Reduce usage and cost of paper and storage.
- Increase automation or workflows and processes.
- Share information across departments.

11. Adopt Industry Standards and Best Practices such as COBIT and ITIL.

- Reduce total cost of ownership (TCO) for ITS projects.
- Facilitate proactive approach to manage projects, define ITS solutions and services, and continuously review aging assets.
- Effective governance of ITS activities and management framework of policies, internal controls, and defined practices.

12. Ongoing Pursuit of Efficiencies and Continuous Improvements.

- Aggressively monitor network utilization by tracking daily performance of the distribution layer switch and other department switches.
- Maintain and track history of successful backups per day, tracking daily success rate.
- Proactively identify and assess opportunities for operational efficiencies and organizational restructuring to reduce costs.

- Continue exploration of mergers of County technology functions.
- Continue to explore options to consider for outsourcing specific tasks and/or technologies.
- Analyze positions as they become vacant to ensure rightsizing to create resiliency and stabilization to better respond to future changes.
- Continue investment in technology and application modernization.
- Prioritize business process reviews that support our commitment to a long-term path of continuous improvement.
- Standardize strategies and approach to benefits realization.

13. Eliminate IBM Mainframe, Software, and Backup Services.

- Ability to operate on a newer, more accessible platform.
- Implement technology more aligned with internal and external support staff.
- Reduce operational responsibilities, print services, and special paper stock.
- Eliminate mainframe hardware maintenance and supplies.
- Eliminate burster for mainframe print jobs.

14. Continue Efforts to Enhance Operational Efficiencies.

- Allow sharing of data between land management system, GIS, and tax property system.
- Provide extensive online services for citizens.
- Allow mobile functionality for staff to complete work while in the field.
- Allow staff to pull data as needed for reporting, comparisons, public requests, etc.

15. Lead Innovative Opportunities for the Future of Business Intelligence.

- Business process re-engineering to support operational excellence.
- Enhanced self-service business intelligence for employees and citizens.
- High availability infrastructure for our business intelligence system.
- Mobile and embedded business intelligence for sharing on web and mobile applications.
- Review of use cases for artificial intelligence (AI), robotic process automation (RPA) and augmented analytics.
- BI consolidation and integrations to pool all data sources into the ITS data warehouse.
- Explore the adoption of a BI Ambassador Network to encourage departments to look for and support business intelligence opportunities.
- Ensure all initiatives are Citizen Experience (CX) and Employee Experience (EX) Driven.
- Roadmap to enable the digital citizen through a digital government identity to streamline and consolidate citizen and business interactions with the County.
- Continue our efforts to gain full maturity in BI, Innovation, Business Process Management, and Performance Management to reach Centers of Excellence status.

Innovation & Technology Services FY23 Organizational Chart

