

A low-angle photograph of a man in a dark polo shirt and khaki pants, looking down at a small electronic device he is holding. He has a mustache and is wearing a watch and a lanyard with an ID badge. In the background, a large, complex metal lattice tower, likely a radio or cell tower, rises against a bright blue sky with scattered white clouds. The sun is visible on the right side of the frame, creating a lens flare effect.

TECHNOLOGY IN CATAWBA COUNTY
REPORT TO THE CATAWBA COUNTY BOARD OF COMMISSIONERS

PREPARED BY
THE TECHNOLOGY DEPARTMENT
JANUARY 2009

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INTRODUCTION

Both internal and external environments of Catawba County are constantly changing, and technology is a critical supporter of the development, implementation and enhancement of County services. This makes it imperative that there is an overall approach for the selection, use, and support of technology that aligns with County resources, business needs, and processes.

For the past eighteen months, Catawba County's Strategic Technology Plan has provided direction for addressing both short-term needs and long-term requirements for cost-effective, practical technological solutions. Through the investment in and use of advanced technology, the County has placed a strong emphasis on both external and internal customer services.

Catawba County's Strategic Technology Plan provides a continuing framework for the effective management of Information Technology (IT). The primary goal of IT is to support the business objectives of the County and to facilitate departmental efforts to provide efficient and effective services to the citizens, businesses, and visitors of Catawba County. The plan also provides a foundation for an enterprise-wide approach to the management of information technology. Catawba County is a leader among local governments as it has moved from a silo approach (department-specific) to a process-oriented environment (cross-cutting services focused on the clients of government) with some of its recent projects.

In this report, each strategic initiative is followed by the strategic action taken since the presentation of the plan to be Board of County Commissioners in June of 2007. Some actions may be listed under more than one initiative. In that case, a reference is made to strategic action.



STRATEGIC INITIATIVES

STRATEGIC INITIATIVE 1

Empower the Public: Enable the public to interact with local government by providing secure access to information and the ability to efficiently conduct appropriate business 365/24/7.

INITIATIVE 1.1

Create web based systems that provide secure, accurate and timely information to the public:

Information in government systems is crucial to the operations of many businesses in Catawba County. Much of this information represents the public. Users have a right to timely and accurate information and the public has a right to know that their information is secure.

Strategic Action Taken

Web Site Redesign (1.1,1.3): In coordination with the Public Information Officer, the current Catawba County web site is constantly evaluated and upgraded to offer new services to the public. The Technology Department works with each department to review the services that each department offers and how to best present those services to the public. The changes are incorporating many of the Web 2.0 design concepts. Along with this redesign, Catawba County is taking advantage of Web 2.0 services including [Facebook](#), YouTube and [Twitter](#). Due to the dynamic nature of the web site, work will continue indefinitely on this project. Recently updated department sites include:

- Animal Services - <http://www.catawbacountync.gov/depts/es/animal.asp>
- Finance - <http://www.catawbacountync.gov/depts/finance/>
- Geospatial Information Systems - <http://www.gis.catawba.nc.us/>
- Human Resources - <http://www.catawbacountync.gov/depts/pers/>
- Social Services - <http://www.catawbacountync.gov/dss/>

- Tax - <http://www.catawbacountync.gov/depts/tax/>

Internet Bandwidth Increase: (1.1,4.2) To meet the increasing demands for services that are Internet based, Catawba County planned a bandwidth increase from 1.5 Mb to 20 Mb providing users and the public with enhanced access. Working in partnership with the Western Piedmont Council of Governments (WPCOG), and the municipal governments of Newton, Conover, and Maiden, the project was expanded to increase the total bandwidth for all the agencies from 4.5 mb to 50 Mb. This partnership resulted in a significant bandwidth increase for each of the partner agencies while providing significant cost savings.

Permit Center Application Replacement (1.1,2.1,3.5) :The current Tidemark system used for permitting and inspections is over 10 years old and cannot provide the services that are expected by the building community. The current software cannot be modified to provide these services and is not supported for upgrade by the vendor. The County Commissioners have approved funding to replace the system and a vendor has been selected. The new software will allow for builders and the public to apply for building permits online and then to track the progress of the permit through the approval and building process. The software is a comprehensive package that covers all aspects of the permitting process including, permit management, plan review, inspections, scheduling and cashing. The software provides for integration with the GIS system, electronic plan review, and for access for all of the municipalities. A programmer analyst has been hired to work on the project and came onboard in August 2008. Target date has not been set and is based on contract negotiations and conversion timeframe for the vendor.

INITIATIVE 1.2

Initiate an enterprise wide solution to online payments: Online/electronic payments are quickly becoming the norm in money transactions replacing cash and check systems. While online payments offer significant challenges for local government, they must offer these services to meet the expectations of the public. To provide consistent service and maximize return, one system, an enterprise solution should be implemented.

Strategic Action Taken



Unified Electronic Payment

Processing System: Catawba County had limited electronic payment options for the public. Citizens could pay their tax bill online but could not use credit or debit cards at the counter. The Register of Deeds accepted debit cards and Permitting accepted credit cards over the counter.

To give the public more payment options and to provide a consistent

approach across the County, department heads requested a payment system that could be used with all departments over the counter and online and provide a consolidated bill and payment method for citizens. Research for the County's website revealed that online payments was a high priority.

A vendor was chosen to provide services. Now the Tax Department, Register of Deeds, the Permit Center, and Public Health offer over the counter payment. Social Services, Libraries, and Emergency Services will soon have the services available. The Tax Department has online payments available and soon the Permit Center will have this available.

Online payments for consolidated bills was made available at the end of 2008. With this, the public can go online and make one payment for all of their county obligations: taxes, permitting and landfill fees.

INITIATIVE 1.3

Provide multiple, media rich methods to the public for accessing and receiving information:

Traditionally local government has relied on press coverage, radio and TV coverage, event attendance, and web pages to communicate with the public. While these methods have been effective and must be maintained, new communication avenues are available that relate better to the public embedded in the technical world. Catawba County should expand the current RSS (Really Simple Syndication) and subscription offerings, as well as, adding podcasts.

Strategic Action Taken

Web Site Redesign(1.1,1.3): In coordination with the Public Information Officer, the current Catawba County web site is constantly evaluated and upgraded to offer new services to the public. The Technology Department works with each department to review the services that each department offers and how to best present those services to the public. The changes are incorporating many of the Web 2.0 design concepts. Along with this redesign, Catawba County is taking advantage of Web 2.0 services including [Facebook](#), YouTube and [Twitter](#). Due to the dynamic nature of the web site, work will continue indefinitely on this project. Recently updated department sites include:

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- Human Resources - <http://www.catawbacountync.gov/depts/pers/>
- Social Services - <http://www.catawbacountync.gov/dss/>
- Tax - <http://www.catawbacountync.gov/depts/tax/>

INITIATIVE 1.4

Provide web enabled applications for the public to use: People looking for information on Catawba County's web pages want more than to be able to generate canned reports; they want to ask questions and have the system respond appropriately. As applications are created or upgraded, Catawba County should provide as many web enabled applications as possible. This will allow the public to access the data and look at it in the format that he/she wishes.

Strategic Action Taken

Web enhancements to the GIS website

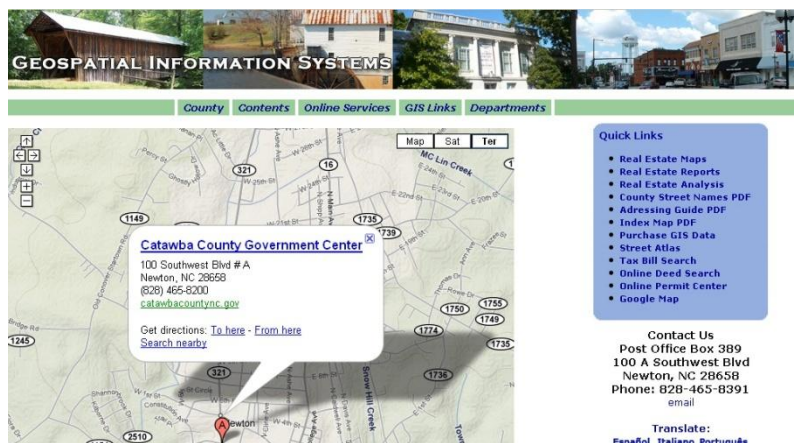
(1.4,3.3): The Geospatial

Information Services website is one of the County's most popular sites, averaging 1,865 users per day in 2008. Enhancements were made to the GIS website to allow users to perform searches on specific

criteria they choose as it relates to real property. They can choose acreages, property values, sales prices or sales dates and receive detailed reports and maps of their particular search. They have the ability to scale the information to the level of detail that they need.

In addition, the day care lookup site was updated by merging data from Google Maps with County Data which provides a map and information about day cares in Catawba County.

Maps and schedules for early voting were placed on the website during the early voting period. This site was very active during that timeframe allowing citizens to easily access this information.





STRATEGIC INITIATIVE 2

Improve outcomes, efficiency, responsiveness, and agility of services by transforming the management of information technology through best practices and shared resources.

INITIATIVE 2.1

Implement Enterprise Architecture across the County: The County should move from “silo” applications and processes to enterprise applications and processes. Enterprise architecture is the practice of applying comprehensive and consistent methods across the entire County so that business processes align with the organization's core goals and strategic direction. Catawba County has made significant strides to standardize on a common platform and that work should be encouraged and extended into other areas.

Strategic Action Taken

Citrix Upgrade: Many of the functions performed by Catawba County personnel remotely depends on a Citrix connection. Citrix provides secure access to our internal applications and allows for us to share applications with users. Over the past few years, demand has exceeded the numbers of licenses and the capacity of the system. In this upgrade, the number of users were increased, resources extended to new servers, and the system optimized for performance. Completed in June 2007.

Document Imaging System: Continued implementation and upgrading of the document management/imaging system has resulted in more reliable access to, sharing of and retrieval of documents for internal departments and citizens from the Internet. Emergency Services, Personnel, Purchasing, Environmental Health, Utilities and Engineering, and the County Manager's office have been implemented. The Finance Department is scheduled to begin using the system in Spring 2009.

VoIP Project: The Voice over Internet Protocol (VoIP) study showed that a new VoIP system would be less expensive and provide better phone service for County departments. In November 2006 the Board of County Commissioners approved the VoIP Project. In December 2006, they approved special funding arrangements for the project negotiated by the Finance Department. Installation of the system began in January 2007. The new VoIP system was installed by August 2007 with the installation of over 1,000 phones. This moved the County to one phone system that integrates with desktop software to provide for unified messaging. The system has a five year payback and at that point the County will pay only for upgrades and maintenance providing significant savings.

Microsoft Office Upgrade: Catawba County deploys a common desktop software across the enterprise. The previous Microsoft Office application had become incompatible with other agencies. The new release provides additional functionality and compatibility for County business processes, as well as, putting the County on the most recent release. This project began in Spring 2007 and was completed within six months.

SharePoint Services: SharePoint is a collaboration and document storage tool. It provides work and collaboration spaces for departments to post, write, and discuss products as they move through the process from draft to final. SharePoint is an extension of our existing Office platform. The main purpose for using SharePoint was to provide a place for collaboration and at the same time have a common storage area for institutional knowledge. Currently documents are stored in folders and subfolders by department on network drives. When an employee leaves, it is difficult to find the latest versions of the documents. SharePoint allows the user to store documents in a searchable format and easily allow a secure platform for sharing, editing, and posting. It also tracks versions as a document moves through the creation process. In addition, SharePoint provides for efficient document storage by providing one location and one copy of a document to be stored and shared by many. This eliminates the requirement for everyone who needs access to a document to store it in individual folders on networks drives. As a result, less storage space is needed and less backup time required. Currently, SharePoint has been setup to provide areas for each department, project management, and the Intranet has been moved to it.

Permit Center Application Replacement(1.1,2.1,3.5): The current Tidemark system used for permitting and inspections is over 10 years old and cannot provide the services that are expected by the building community. The current software cannot be modified to provide these services and is not supported for upgrade by the vendor. The County Commissioners have approved funding to replace the system and a vendor has been selected. The new software will allow for builders and the public to apply for building permits online and then to track the progress of the permit through the approval and building process. The software is a comprehensive package that covers all aspects of the permitting process including, permit management, plan review, inspections, scheduling and cashiering. The software provides for integration with the GIS system, electronic plan review, and for access for all of the municipalities. A programmer analyst has been hired to work on the project

and came onboard in August 2008. Target date has not been set and is based on contract negotiations and conversion timeframe for the vendor.

INITIATIVE 2.1A

Maximize the County's investment in PeopleSoft by using it as the preferred development and delivery platform: PeopleSoft is a powerful platform. Currently the County uses it for Human Resources (HR) and Finance. All County employees have access to at least the payroll functions and benefits. The platform must be maintained for these applications so it is a good candidate for expansion as an enterprise solution.

Strategic Action Taken

PeopleSoft Enterprise Initiative:

Online Expense Reporting(2.1A,5.4) An online expense system has been developed within the PeopleSoft application. Employees now can go online and submit expenses like mileage, conference costs, travel and others. Once expenses are submitted, they are routed to supervisors for approval and then to Finance for payment. Payment is electronic and is included as a separate item on the employees next pay check. This eliminates the paper check in the expense reimbursement process and allows for a completely automated process. Cost savings are realized by not having to print paper checks and since the reimbursement is included in the regular payroll check, bank charges for multiple transactions are reduced. On the employee side, the process is simpler and they are not longer required to go to the bank to cash expense checks.

Maintenance Work Order System(2.1A,3.1): The Maintenance division of the Finance department wanted to automate the work order process and allow requests to be submitted and tracked electronically. The current help desk module of PeopleSoft was modified to accommodate this request. Integration with Blackberry devices allow maintenance employees to access and update the information more easily and from anywhere in the field. The system was fully implemented July 2008.

Tracking of "Green" Purchases: It is the practice of Catawba County to purchase products that are recycled or from renewable sources when possible. This project was to modify PeopleSoft Financials applications to capture selected fields when purchasing "green" products and to report the total amount of "green" products purchased.

Tracking for School Nurse Program(2.1A, 3.1): Catawba County Public Health department provides the services of registered nurses for school children throughout the County. Services are provided at 41 Catawba County schools by 23 nurses who are equipped with mobile computers. This solution provides a means to accommodate statistical and generic information. The information collected is consolidated into one report that is presented to various boards. The individual student health records are kept

secure in the appropriate application. A custom PeopleSoft application was developed to track summary information. Each nurse collects data as services are provided and records the information in a web-based application. Periodic reports are generated and sent to appropriate governing and funding groups. The nurses use the system to collect and maintain statistical information only.

INITIATIVE 2.1B

Maximize the County's investment in VoIP by ensuring that future systems integrate with the system: VoIP offers many features and opportunities. As the County upgrades other systems such as radio communications, the upgrades must be reviewed as one consistent system with built in interoperability and not as disparate systems.

Strategic Action Taken

IP Based Decisions: The County has two VoIP systems, 1) the county-wide system and 2) the 911 Center system. In addition, the county has implemented IP based cameras and surveillance systems and is currently planning IP based upgrades to its radio communications equipment to allow for easy programming and maintenance.

INITIATIVE 2.1C

Maximize the County's investment in virtual technology: Virtual technology allows for server consolidation and better management of server and storage resources. It is also a crucial part of an effective disaster recovery plan. Catawba County has made a significant investment in virtual technology and disaster recovery tools. The County should continue to enhance and expand this technology while at the same time eliminating the more costly individual server technology.

Strategic Action Taken

Virtual Technology/ SAN (Storage Area Network) Project (2.1c, 3.2): The Disaster Recovery Plan revealed that a redundant data center was needed to provide for recovery in case of an incident in the main technology center. It also revealed that the current server structure and replacement model could not be maintained at current funding levels. A SAN solution was purchased and installed. A redundant SAN was also installed at another location in the county. The virtual environment reduced the county's 70 plus physical servers to 10 physical servers running 100 plus virtual servers. In 2008, an additional 15Tb of storage was added to both sites to address the growing demands for storage space. Besides providing the security of a redundant system, replacement and operating cost were reduced. Completed May 2008, virtual technology and the SAN will save the County over \$200,000 in the next four years

INITIATIVE 2.1D

Institute Life Cycle Management (LCM) methodology across the County: Life Cycle Management methodology provides procedures for application development or vendor provided software from the concept phase until the end of the useful life of the product. It applies one consistent set of rules across the enterprise for decision making at all critical points. Using LCM, projects are better

defined and all parties involved know what is expected at all times. This helps reduce risk to the project and ensures that the project delivers according to the specifications.

Strategic Action Taken

Life Cycle Management Plan: A Life Cycle Management Plan has been completed and application development is implementing this methodology as systems are updated or as programs are written. The plan can be found at:

<http://enewsletter.catawbacountync.gov/ITC/lcman.pdf>

INITIATIVE 2.1E

Continue to apply application, equipment and replacement standards across the County:

Catawba County Government has equipment standards in place for all hardware purchases as well as a desktop replacement standard of every 5 years. Standards are also in place for desktop configurations and productivity software.

Strategic Action Taken

Computer Replacement: The County maintains a goal to replace 20 percent of the desktop and notebook computers, excluding DHR agencies, yearly. This maintains compatibility with other agencies and software standards imposed by vendors. The county has met the 20% goal for the last two years.

INITIATIVE 2.1F

Capture once, use many: The County should move to a standardized data environment where data is collected once and utilized many times. This “capture once, use many” concept reduces duplication, inconsistencies and errors.

Strategic Action Taken

PeopleSoft Enterprise Initiative: Special Needs/ Critical Care Database Project:

Multiple departments have been maintaining either a special needs database or a critical care database. There were six databases with essentially the same data in each one. With so many points of entry, consistent reliable data was almost impossible. In this project, one database has been created so any of the departments can add or modify the data and those changes will be shared. This project is built on the “enter once use many concept”. To date, Emergency Services, and three divisions of Social Services are sharing resources to track the data. Public Health, the Communications Center and the Sheriff’s department will begin using the system within the next six months.

INITIATIVE 2.2

Formalize an IT Governance Structure: IT Governance is becoming an increasingly important topic in the public sector. The role of IT Governance is to ensure that IT is aligned with the business and delivers value, its performance is measured, its resources

properly allocated and its risks mitigated. The IT Governance structure should be composed of department heads and senior leadership in order to assist the IT Department with project prioritization, goal alignment, and risk management.

Strategic Action Taken

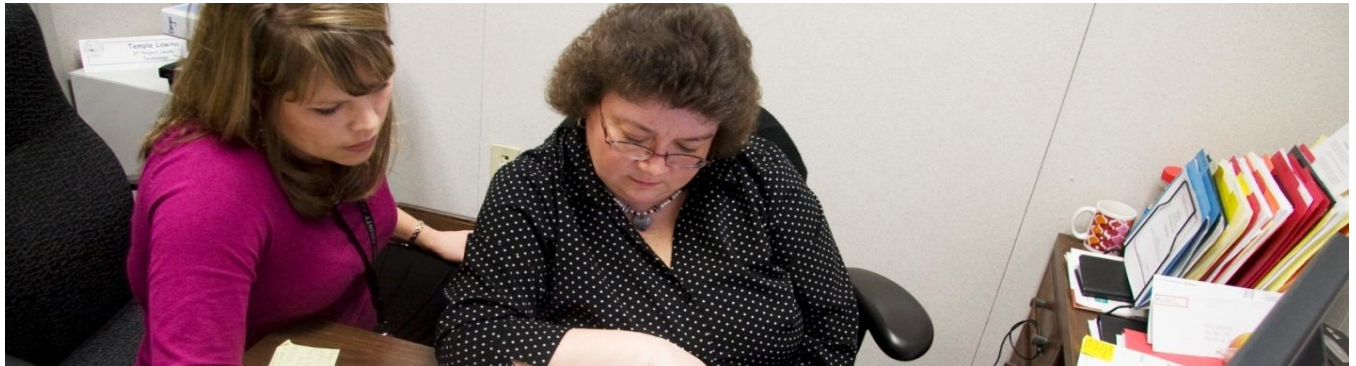
IT Governance Structure Formalized: An IT Governance Committee has been established and meets on a regular basis. The committee is comprised of all the department heads or their representatives. The committee has been active in writing the Technology Strategic Plan, in writing policies and procedures related to the use of technology, and in the planning, design and implementation of projects.

INITIATIVE 2.3

Use Project Management Methodology on all projects to maximize the success rate: Project Management Methodology provides proven methods for defining projects, resourcing projects and managing the risks associated with those projects. Using this methodology, projects have a better chance of success from the beginning and a better chance of achieving the desired outcomes in the end.

Strategic Action Taken

Project Management Methodology included in the Life Cycle Management Plan: Catawba County employs project management methodology with every project managed by the technology department. Good project management leads to the successful completion of projects in a timely manner and within the established budgetary resources. For major projects, the technology department has a full time project manager assigned and the requesting department also has a person assigned that is responsible for department level commitments.



STRATEGIC INITIATIVE 3

Transform key business processes through the effective use of innovative technology and state-of-the-art software.

INITIATIVE 3.1

Enable an increasing mobile workforce: Many duties performed by County employees require them to be away from an office environment. Keeping them in the field more hours reduces cost and provides better service for the public. The County has expanded the number of remote workers and has provided them with the tools necessary to do their job. Remote workers are defined to be those that maintain an office environment at some location other than a government facility. Mobile workers are defined as those who perform their duties in the field on a regular basis. The County should continue to support this mobile workforce.

Strategic Action Taken

Mobile Field Inspection Tools for Food and Lodging and Well and Septic Inspectors:

Technology support for inspectors to electronically record inspection data from sites has been implemented for Food and Lodging and for Well and Septic. This allows inspection results to be available immediately, prevent duplicate data entry, and allow data to be transferred to state agencies electronically. Food and Lodging inspections was complete March 2007, Onsite Well and Septic Module was complete August 2008.

Mobile Field Tools for Home Health Services: The current billing and clinical system has been replaced with a program called Care Anywhere from a hosted Application Service Provider (ASP). The system allows for Home Health nurses to enter data directly into the system while in the field. This system has greatly improved the clinical and billing processes for the Home Health Services division, as well as, allowed for more time in the field.

Tracking for School Nurse Program(2.1A, 3.1): Catawba County Public Health department provides the services of registered nurses for school children throughout the

County. Services are provided at 41 Catawba County schools by 23 nurses who are equipped with mobile computers. This solution provides a means to accommodate statistical and generic information. The information collected is consolidated into one report that is presented to various boards. The individual student health records are kept secure in the appropriate application. A custom PeopleSoft application was developed to track summary information. Each nurse collects data as services are provided and records the information in a web-based application. Periodic reports are generated and sent to appropriate governing and funding groups. The nurses use the system to collect and maintain statistical information only.

Maintenance Work Order System (2.1A,3.1): The Maintenance division of the Finance department wanted to automate the work order process and allow requests to be submitted and tracked electronically. The current help desk module of PeopleSoft was modified to accommodate this request. Integration with Blackberry devices allow maintenance employees to access and update the information more easily and from anywhere in the field. The system was fully implemented July 2008.

Mobile Field Based Reporting for Law Enforcement: Using this technology and application, law enforcement can enter reports in the field and automatically transfer the information into the records management system. This replaced a manual transfer of data from word processing documents.

VisionMobile and AVL for Emergency Vehicles(3.1,3.4,3.5): Catawba County has been using VisionAir products since March 1998. Catawba County is currently utilizing VisionAIR Computer Aided Dispatch, Records Management System, Field Based Reporting, Fire Service Management, GeoLynx Mapping, and the Jail Management System.

VisionAIR mobile enhances our current investment by enabling the flow of information to and from units in the field. In addition to data and reports, it incorporates Global Positioning Satellite (GPS) tracking with Automated Vehicle Locating (AVL). Units can then be dispatched based on the closest available unit as opposed to the current base dispatched method. Once dispatched, call information will be sent to the unit's onboard computer with address and mapping directions for the incident.

Benefits of this project include:

- Increased officer safety using GPS and AVL technologies
- Improved response times by having visual maps of the nearest public safety units
- Improved response times by sending information of dispatched calls to the public safety units
- Delivering valuable information to public safety laptops from existing databases (warrants, criminal history, hazmat,etc.)
- Entering reports and monitoring dispatch information directly in the field

VisionMOBILE is designed to fully enhance the VisionAIR Public Safety Suite that Catawba County currently uses and transform the Catawba County's public safety agencies into a mobile platform.

INITIATIVE 3.2

Continue to invest in SAN /Disaster Recovery technology to meet growing storage needs: As governments continue to collect data and information at an exponential rate, and subsequently store that data within the information systems, computing resources become strained. Catawba County has invested in a Storage Area Network (SAN) in order to house the data off the main technology resources, thereby extending their usefulness and reducing future expansion costs. The County should build on this platform in the future.

Strategic Action Taken

Virtual Technology/ SAN (Storage Area Network) Project (2.1c, 3.2): The Disaster Recovery Plan revealed that a redundant data center was needed to provide for recovery in case of an incident in the main technology center. It also revealed that the current server structure and replacement model could not be maintained at current funding levels. A SAN solution was purchased and installed. A redundant SAN was also installed at another location in the county. The virtual environment reduced the county's 70 plus physical servers to 10 physical servers running 100 plus virtual servers. In 2008, an additional 15Tb of storage was added to both sites to address the growing demands for storage space. Besides providing the security of a redundant system, replacement and operating cost where reduced. Completed May 2008 virtual technology and the SAN will save the County over \$200,000 in the next four years.

INITIATIVE 3.3

Implement Web Enabled Applications where feasible: Web enabled applications are hosted on a server connected through the internet. This means that they can be accessed from any location with a web browser and internet connection. This allows more people to share the data located on centralized server. Since the application is hosted on a web server, security, application upgrades and maintenance are controlled and operating cost are lowered

Strategic Action Taken

Web enhancements to the GIS website(1.4,3.3): The Geospatial Information Services website is one of the County's most popular sites, averaging 1,865 users per day in 2008. Enhancements were made to the GIS website to allow users to perform searches on specific criteria they choose as it relates to real property. They can choose acreages, property values, sales prices or sales dates and receive detailed reports and maps of their particular search. They have the ability to scale the information to the level of detail that they need.

In addition, the day care lookup site was updated by merging data from Google Maps with County Data which provides a map and information about child day care providers in Catawba County.

Maps and schedules for early voting were placed on the website during the early voting period. This site was very active during that timeframe allowing citizens to easily access this information.

INITIATIVE 3.4

Build a seamless interface for public safety across the County and municipalities: When dealing with an emergency situation, seconds could mean life or death. It is imperative that responding agencies have access to information and be able to communicate with each other. The County should encourage that all purchases by each of the entities be made in conjunction with this initiative.

Strategic Action Taken

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INITIATIVE 3.5

Leverage advanced GIS technology to enhance existing systems and integrate geospatial capabilities as a fundamental component of business systems where appropriate: The County

has always been viewed as a leader in geospatial technology. Over the years it has made significant investments in these technologies. The payoff for these investments is a very powerful database of GIS data. Today, many applications in all areas of government have a GIS component. Catawba County should leverage its investment in GIS and integrate it where ever it would provide better information for the public and for our workforce.

Strategic Action Taken

Orthophotography: Every four years a fly over to photograph the county is done for GIS. A nine county consortium, which Catawba County is a member, entered into contract in December 2008. The photos will be taken in the February to March timeframe when there is minimum foliage on the trees. In addition to the regular orthophotographs, we will also be taking oblique photos to give us side angle views of buildings. This will be used to enhance services like planning and public safety. Target date for completion of this project is December 31, 2009.



Tax Mapping Project: A new tax mapping application is being developed to replace the existing application currently used by the Tax Mapping Staff. This is necessary because both the format for storing this type of data and the programming language used by the application have changed and will not be supported in the future. This ensures that all GIS applications are using the same version of ArcGIS and allowing for consistent service and performance across the enterprise.

Permit Center Application Replacement(1.1,2.1,3.5): The current Tidemark system used for permitting and inspections is over 10 years old and cannot provide the services that are expected by the building community. The current software cannot be modified to provide these services and is not supported for upgrade by the vendor. The County Commissioners

have approved funding to replace the system and a vendor has been selected. The new software will allow for builders and the public to apply for building permits online and then track the progress of the permit through the approval and building process. The software is a comprehensive package that covers all aspects of the permitting process including, permit management, plan review, inspections, scheduling and cashing. The software provides for integration with the GIS system, electronic plan review, and for access for all of the municipalities. A programmer analyst has been hired to work on the project and came onboard in August 2008. Target date has not been set and is based on contract negotiations and conversion timeframe for the vendor.

VisionMobile and AVL for Emergency Vehicles(3.1,3.4,3.5): Catawba County has been using VisionAir products since March 1998. Catawba County is currently utilizing VisionAIR Computer Aided Dispatch, Records Management System, Field Based Reporting, Fire Service Management, GeoLynx Mapping, and the Jail Management System.

VisionAIR mobile enhances our current investment by enabling the flow of information to and from units in the field. In addition to data and reports, it incorporates Global Positioning Satellite (GPS) tracking with Automated Vehicle Locating (AVL). Units can then be dispatched based on the closest available unit as opposed to the current base dispatched method. Once dispatched, call information will be sent to the unit's onboard computer with address and mapping directions for the incident.

Benefits of this project include:

- Increased officer safety using GPS and AVL technologies
- Improved response times by having visual maps of the nearest public safety units
- Improved response times by sending information of dispatched calls to the public safety units
- Delivering valuable information to public safety laptops from existing databases
- (warrants, criminal history, hazmat,etc.)
- Entering reports and monitoring dispatch information directly in the field

VisionMOBILE is designed to fully enhance the VisionAIR Public Safety Suite that Catawba County currently uses and transform the Catawba County's public safety agencies into a mobile platform.

Census LUCA Program (Local Update of Census Addresses): Catawba County participated in this program offered by the Census involving local staff to assist with verifying and providing local addresses which are used in the decennial census process. Catawba County participated in this program in an effort to ensure monies are allocated accurately. This process began in early January and was completed in March 2008.



STRATEGIC INITIATIVE 4

Leverage innovative partnerships to offer better services

INITIATIVE 4.1

Encourage technology initiatives that provide better services and opportunities for the public.

Technology is now infused into every area of people's lives. It is important that the public is afforded the opportunities that come with that technology and that it is used responsibly. The County should encourage private and public/private initiatives that expand opportunities for the public.

INITIATIVE 4.1A

Encourage broadband services to all homes: While Catawba County is viewed as a very progressive county, there are still many areas where our citizens do not have inexpensive access to broadband services. The County should work with private entities to ensure that services are provided.

Strategic Action Taken

Research Broadband in Catawba County: Catawba County has attended the e-NC Authority Conference on broadband initiatives. Currently according to the most recent studies by the e-NC Authority 85.15% of Catawba County households have access to high-speed Internet. High speed is defined as transmission speeds of at least 128 kilobits per second. Most studies indicate that America needs at least 100Mb to the home by 2012. President Obama has stated in his technology plan the need to build out the Nation's broadband infrastructure. For Catawba County to be competitive in the future, a robust broadband infrastructure will be necessary. This is an area that needs focus as we move into the future.

INITIATIVE 4.1B

Partner with local service groups to recycle computers and other technologies: Every year computers and other technologies are replaced because they do not have the resources to support current day to day operations. This technology could be recycled back to the community through partnerships with local service groups. These groups, working in conjunction the schools, Habitat for Humanity, Social Services, and other agencies, could place some of the technology into the community where it would benefit our citizens.

Strategic Action Taken

Hickory Sunrise Rotary Club Partnership: In September 2007, the Board of Commissioners authorized the Technology Department to work with the local service groups to distribute surplus computers to the community. The Hickory Sunrise Rotary Club works with Hickory City Schools, Exodus Homes, individuals and businesses who have donated computer equipment to provide computers for school children. Hickory City Schools has provided a room at the old Green Park School where volunteers from the Rotary Club and the Exodus program test and repair the computers. Each computer is loaded with an encyclopedia, a student writer and educational games. The families receiving the computers are selected based upon need. So far the Hickory Sunrise Rotary Club has worked with Sweetwater, Longview, Southwest, Oakwood and Jenkins Elementary Schools. Fifty computers and monitors have been donated to the program.

INITIATIVE 4.2

Partner with the school systems, municipalities and other agencies to offer services that are common to all: Local government agencies and the school systems have many common technology needs. Working together, will ensure that infrastructure, operating systems and applications will be interoperable and scalable. Purchases of hardware and software can take advantage of quantities of scale while affording smaller agencies the same opportunities as larger agencies.

Strategic Action Taken

School Surveillance by Sheriff's Department: Several schools throughout Catawba County have surveillance systems that are accessible via the Internet. The Sheriff's department could more fully respond to incidents at schools if they had access to the surveillance systems. This project is designed to give video access to schools that have the required technology installed. A grant was secured to expand the functionality of the existing wireless infrastructure. The grant allows installing wireless access points at schools, improving wireless access in the STAR Team vehicle and improving the camera systems with partnered school systems. Equipment for the project will be installed during Spring 2009.

Citizen Notification System: A reverse 911 system to provide automated outgoing calls in the event of emergency was implemented in late summer of 2007. The system is used to

notify target populations with information. Partnerships have been established with the three school systems, CVCC, the two hospitals, and the municipalities. Each uses the system for emergency notification and other items related to their customers. The ongoing cost is being shared by the members of this partnership. The system is fully operational. Enhancements to this system continue to be made.

Internet Bandwidth Increase: (1.1,4.2) To meet the increasing demands for services that are Internet based, Catawba County planned a bandwidth increase from 1.5 Mb to 20 Mb providing users and the public with enhanced access. Working in partnership with the Western Piedmont Council of Governments (WPCOG), City of Newton, Conover, and Maiden the project was expanded to increase the total bandwidth for all the agencies from 4.5 Mb to 50 Mb. This partnership resulted in a significant bandwidth increase for each of the partner agencies and while providing significant cost savings.

Mental Health Partners and CVBH. As part of state restructuring of mental health services, Mental Health Partners and Catawba Valley Behavior Health (CVBH) was formed. Both are independent agencies from Catawba County. In order to preserve the level of service for mental health, the County works in partnership with these agencies. The Technology Department provides technology support and infrastructure for both agencies and PeopleSoft Financials and Human Resources services for Mental Health Partners. By working in partnership, both agencies and the County benefit from quantities of scale that result in lower cost per user and/or agency.



STRATEGIC INITIATIVE 5

Empower the Workforces: Enable personnel by increasing the efficiency and agility of the systems they depend on.

INITIATIVE 5.1

Provide training opportunities for end users that go beyond the basics and empower users to be self sufficient: Approximately sixty percent of the variance in technology project's success or failure can be attributed to the training available to end users. However, governments often view training dollars as expendable resources, not recognizing the connection between training and project success and return on investment. In order to increase technology adoption and to facilitate successful technology solutions for the departments, investments in end user training are critical. Investments should be made in a variety of technology areas, including the basic Microsoft Office suite, enterprise packages, and department-specific packages. All new technology deployments should include a detailed training plan that addresses the variety of learning styles within the County. Training is critical and should be adequately funded using best-of-breed training approaches.

Strategic Action Taken

Continuous Training: Catawba County offers continuous technology training opportunities to the staff. Microsoft Office is the common desktop package across the enterprise. Each month, training is offered in this package from beginning level to advanced level. County employees are invited and encouraged to attend these classes to obtain the skills they need to do their job and skills that allow them to do their job more efficiently. Catawba County sponsors 8 to 10 workshops per month. In addition, specialized workshops are held in web design, Peoplesoft, and department specific programs.

INITIATIVE 5.2

Ensure a well trained Technology staff: The County has made significant investments in training its IT professionals. However, that investment must be continued in order to maintain and update staff skill sets. In addition, with the rapid change of technology and the increasing complexity associated with information technology policies, procedures, and practices, it is critical that staff continue to engage in technical and managerial professional education opportunities.

Strategic Action Taken

Well Trained Technology Staff: The Technology Department covers a wide range of applications and equipment. This requires constant training and cross training of staff to maintain a high level of service. Below is a partial list of the training attended by the Technology staff in 2008:

- Project Management for IT and BA's
- UNC Project Management
- Managing Multiple Projects
- Alliance Conference – PeopleSoft Technical and Functional Sessions
- Govolution Payment Processing System
- CVCC Small Business Web Workshop
- Cisco Phone Upgrade Training
- Cisco Switch Introduction
- Internal Web Workshop
- Alliance Conference – PeopleSoft Technical and Functional Sessions
- NCLGISA Spring Conference – Management and Technical Sessions
- InfoTech OPTIMIZE IT Teleconference
- NCLGISA Fall Conference – Management and Technical Sessions
- Newsletters in Word (ITC Training)
- 2008 Certified Government CIO Program
- CIO Forum
- SharePoint
- ASP.NET
- Flash CS3
- Visionair Upgrade Classes
- Dell Dispatch Training
- Network Analyst (routing extension of ArcGIS)
- ESRI's User Conference
- OSHA Certification Program
- NENA Conference
- EMD continuing education - 36 hours per person per year
- DCI recertification every two years
- CPR recertification every two years
- Sheriffs Training Standards 24 hours per person per year

INITIATIVE 5.3

Transition the Mobile Workforce: Being able to function and perform expected duties in a mobile environment can prove challenging to personnel. The training and the infrastructure for remote workers must be viewed differently than that provided to traditional workers. Mobile workers must be trained in not only how to run the software, but trouble shooting the computer, security issues related to being mobile, and how to connect to the services they need.

Strategic Action Taken

Wireless Connectivity: Expand wireless capabilities by providing wireless Internet services in the Government Center, the Justice Center, Agriculture Center, Public Health, Social Services and in the all Public Libraries. This will facilitate mobile applications for employees and allow them work in different areas. This project was completed in conjunction with the VoIP project and the scope of the project was expanded to include all major county buildings.

INITIATIVE 5.4

Expand online employee services and recruitment: Catawba County offers many online services to its employees. These include online time sheets, paychecks, benefits summary, pay history, and more. Online recruitment now allows potential candidates to apply online. The County should expand these services to include online benefit enrollment and increase business process flow.

Strategic Action Taken

Online Applications: An online application process is in place for potential employees. Applicants can view the jobs that are available, complete and submit the application entirely online. Applicants also have access to the full range of benefits that Catawba County offers and to other items such as pay grades.

Online Expense Reporting (2.1A,5.4): An online expense system has been developed within the PeopleSoft application. Employees now can go online and submit expenses like mileage, conference, travel and others. Once expenses are submitted, they are routed to supervisors for approval and then to Finance for payment. Payment is electronic and is included as a separate item on the employees next pay check. This eliminates the paper check in the expense reimbursement process and allows for a completely automated process. Cost savings are realized by not having to print paper checks and since the reimbursement is included in the regular payroll check, bank charges for multiple transactions are reduced. On the employee side, the process is simpler and they are not longer required to go to the bank to cash expense checks.

Online Benefit Enrollment: Employees can enroll and update their benefits through the PeopleSoft application. The application allows for a full range of services including online time sheets, paychecks, benefits summary, pay history, and more.



STRATEGIC INITIATIVE 6

Improve public safety by leveraging modern information systems and technology.

INITIATIVE 6.1

Make security and confidentiality overriding priorities in all systems. The County maintains extensive data bases and records in its day to day operations. While much of this information is public record, personal data also resides here that is not public. Basic identity theft has made it more important than ever that proper security and confidentiality be maintained with these records. The County must constantly monitor its equipment, its applications, and its interfaces to ensure the digital safety of the information that the public has entrusted us with.

Strategic Action Taken

Firewall Upgrade: The firewall was replaced to provide more security and fail-over protection for the County. The new firewall provides protection from intruders as well as spam and viruses. The project was expanded to include WPCOG, City of Newton, Conover and Maiden in conjunction with the Internet bandwidth upgrade.

INITIATIVE 6.2

Build a reliable communication network that provides for interoperability across the County. The County has a reliable radio network in place but it is limited by several factors, 1) it is a voter receive system that leaves some areas without communication depending on which tower signals originate from, 2) Hickory has an 800 Mhz system which does not allow for communications between Hickory PD and other emergency services, and 3) there is no data capability in the current system. Each of these areas diminish the level of service that can be provided by Public Safety and need to be addressed.

Strategic Action Taken

800 MHz VIPER System: This project is to enhance our ability to talk to Public Safety officials in our county and surrounding counties. We have coverage issues in the county with the current VHF system that must be addressed. VIPER is already established here and the build out of tower sites is taking place in our area. By partnering with the North Carolina State Highway Patrol, Catawba County plans to upgrade its communications system using the infrastructure provided by the state.

Catawba County is moving forward with plans to connect to the VIPER network. In 2003, the Board of Commissioners partnered with the North Carolina State Highway Patrol to build a tower on Riverbend Road. During 2008, land was transferred to the NCSHP and the tower was constructed. Currently it is nearing completion. At that time, Catawba County will have excellent 800MHz coverage across the county.

Equipment has also been ordered for the 911 Center. It is scheduled to be installed Spring 2009 and will provide 16 talk groups to be used across the county. At that point, all agencies can begin the transition to the 800 MHz VIPER system. EMS is scheduled to be the first agency to come online. This is due to the high volume of traffic they have outside of the county while transporting patients to Winston Salem and Charlotte. The current system does not provide communication back to the county. The VIPER system will ensure constant communication anywhere in the State of North Carolina.

The current VHF system will be left in place as a backup to the VIPER system. This is being done for two reasons. First it provides a transition pathway for agencies to convert to VIPER over a period of time and second, it provides a redundant communication system for Public Safety.

Build out timeframe of the entire county will depend on funding.

INITIATIVE 6.3

Provide multiple options for the public to secure services: The current technology was built for voice and fixed phone lines. The Communications Center has been updated to locate wireless customers but it is still limited given the many ways people can communicate today. New technology allows users to connect through the traditional phone methods and extends capability to text messaging, instant messaging, audio and video files. The technology allows data files to be received from any outside source with



access to the Internet and facilitates the movement of that data to the appropriate source. All areas could benefit by embracing the new technologies.

Strategic Action Taken

E911 Telephone Replacement Project and 911 Center Upgrade: This project replaced the E-911 Positron IAP telephone system with a PlantCML Patriot VoIP system. The system provides telecommunicators with modern tools to answer, process and transfer calls. To bring the new phone system online, Computer Aided Dispatch(CAD) and mapping applications were upgraded and the workstation was redesigned. When NG911 standards are adopted, the system is ready for integration.

INITIATIVE 6.4

Build in redundancy to the network infrastructure: Today's operations are highly dependent on technology and the underlying infrastructure. Many of these systems interact with another to provide information and dispatch resources. It is critical that all single points of failure be eliminated from the infrastructure and that redundancy be built into the network.

Strategic Action Taken

Infrastructure Upgrade: This project built redundant paths for data and eliminated single points of failure in the system. Part one consists of a wireless bridge from the Social Services/Public Health complexes to the Government Center. This built a ring into the infrastructure thus eliminating the single fiber path. Part two installed a secondary fiber run from the Government Center to the Justice Center.