

TECHNOLOGY IN CATAWBA COUNTY 2009/2010 REPORT

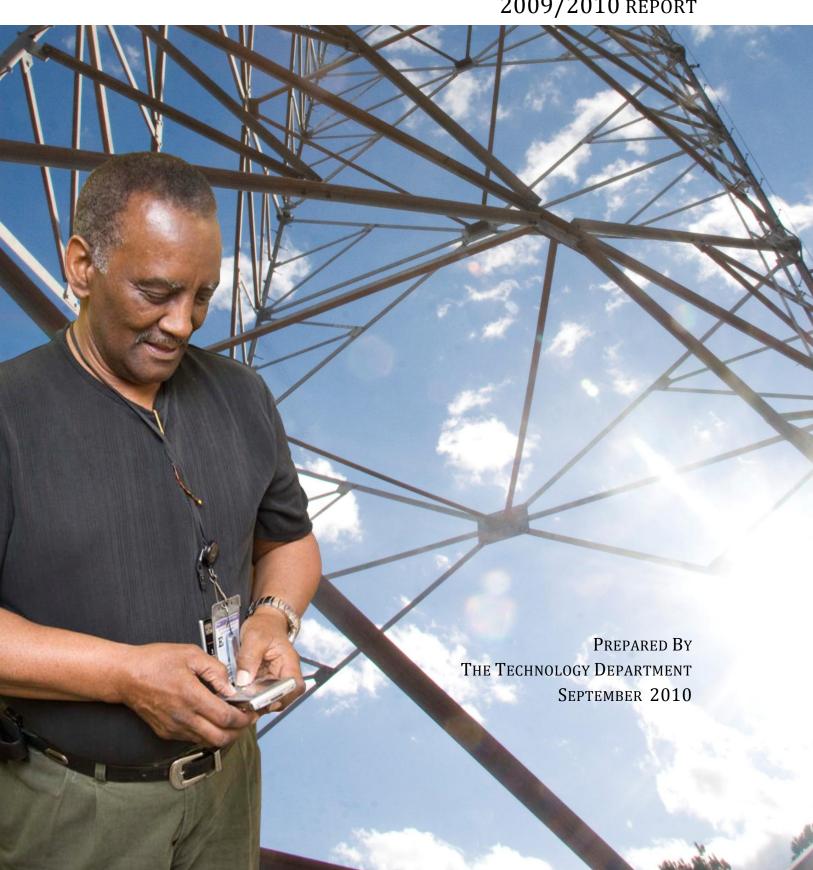


TABLE OF CONTENTS

Catawba County Technology Department	. 3
911 Communications Center	. 4
911 Communications Center Metrics	. 6
Geospatial Information Services (GIS)	11
Geospatial Information Services Metrics	12
Information Technology Center	15
Information Technology Center Metrics	17
Current Technology Project Summary 2010-2011	20
Catawba County Strategic Technology Plan	27
Introduction	27
Strategic Initiatives	28
Strategic Initiative 1	28
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.	<u>,</u>
Strategic Initiative 2	32
Improve outcomes, efficiency, responsiveness, and agility of services by transforming the management of information technology through best practices and shared resources.	
Strategic Initiative 3	39
Transform key business processes through the effective use of innovative technology and state-of-the-art software.	
Strategic Initiative 4	48
Leverage innovative partnerships to offer better services.	
Strategic Initiative 5	52
Empower the Workforces: Enable personnel by increasing the efficiency and agility of the systems they depend on.	
Strategic Initiative 6	55
Improve public safety by leveraging modern information systems and technology.	
Technology Principles	58

CATAWBA COUNTY TECHNOLOGY DEPARTMENT

The Catawba County Technology Department consists of three divisions, the 911 Communications Center, Geospatial Information Services (GIS) and Information Technology Center. The Information Technology Center is further subdivided into Network/Operations and Application Systems. The leadership team for the Technology Department is listed below:

ADMINISTRATION

Terry Bledsoe, CIO

911 COMMUNCATIONS CENTER

Jerry Boggs, Telecommunications Administrator

GEOSPATIAL INFORMATION SERVICES (GIS)

Michelle Deese, GIS Administrator

INFORMATION TECHNOLOGY CENTER

Valerie Jones, Application Systems Management Administrator Rick Cook, Network/Operations Administrator

For more information contact:

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911 COMMUNICATIONS CENTER

The Catawba County 911 Center provides 911 dispatch services for over 35 agencies and departments in Catawba County. These agencies and departments consist of the Catawba County Sheriff's Office; 5 police departments (Catawba, Claremont, Conover, Longview, and Maiden); 25 fire stations, including the City of Hickory; 6 rescue squads; 7 EMS stations; and Catawba County Emergency Management.

When tragedy strikes, the first person to respond is a Telecommunicator. In the following seconds, decisions are made that can make the difference in life or death. At the same time, information is transferred to public safety professionals, and again they have seconds to respond. Whether responding to a crime, an accident, or a health emergency, seconds can literally be the difference between life and death. It is the responsibility of Catawba County to make sure the Communications Center is properly equipped to ensure Telecommunicators have the right information to make the best decisions and the right tools to relay the information to responders.

The traditional role of the Communication Center was to provide emergency and administrative communications for the citizens of the county by placing them in contact with public safety government related services agencies. While that role remains, the Communications Center is now expected to do much more. Today, vehicles with GPS technology are tied to resource location software which is linked to mapping software. This allows for a quicker dispatch of the closest resource and cuts precious seconds off of response time. Data from voice, videos, text messages, and a world of other sources are expected to flow though the center to responders and on to medical personnel. While some of these services are not currently available in our center, they are expectations of the public. GPS and automated vehicle location installation is complete. The ability to receive text messages is coming with the Next Generation 911 standards. Each of these functions add complexity to the Communications Center operation, but also provides a better response time, thus better services to the public.

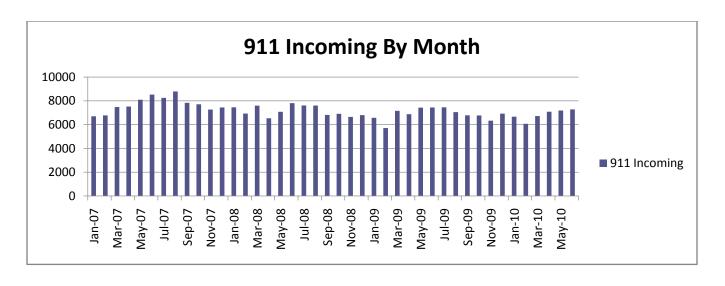
Who is responsible for public safety? That, too, has changed. Once mainly limited to law enforcement, fire, rescue, and EMS; public safety now encompasses the security at power plants, arenas and sporting events, our schools, and other public facilities. This creates a need for an environment where information can be quickly shared and decisions made. Emergency communications have quickly moved from interoperability (meaning making radios talk to each other) to ensuring that proper information is in the hands of the right person at the right time.

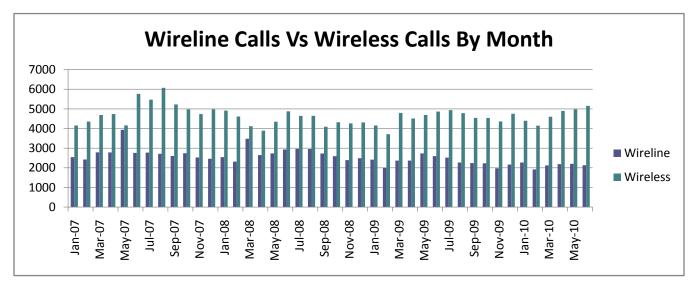
The Center utilizes seven Motorola Centra-Com Gold Elite consoles, seven CML/Plant Patriot IP telephone sets, VisionAIR CAD, and seven Geo-Com mapping for Phase I & II mapping technology. Some of these systems are supported financially with the 911 surcharges (\$0.60 for both landline, wired, and cellular devices).

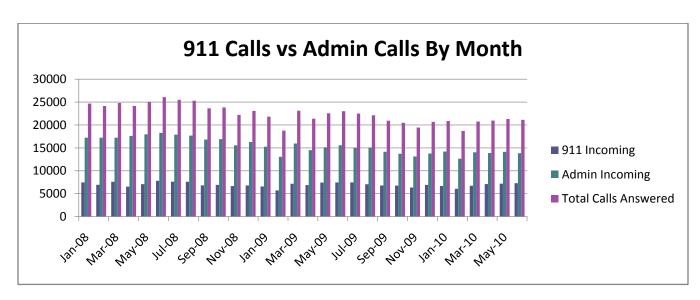
The number of 911 calls for service answered in 2009 was 144,064. Estimated total calls including administration calls for 2009 is expected to exceed 256,000 calls. The Communications Center serves 157,034 people within the county.

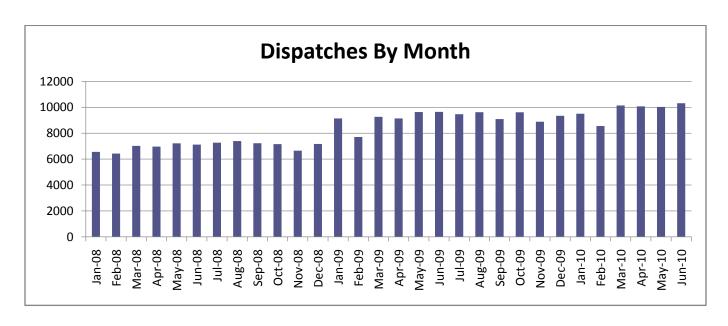
911 Communications Center Metrics

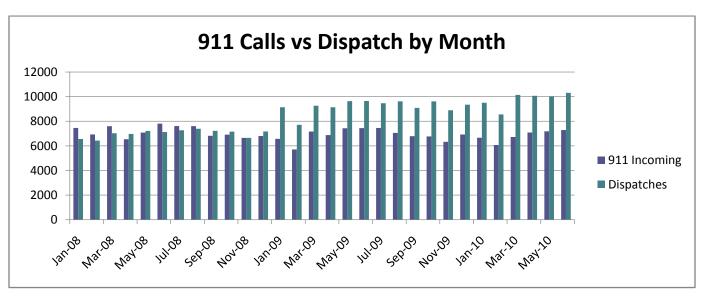
Defined Metric	2006	2007	2008	2009
Highway Miles (Interstate)	20.5 Miles	20.5 Miles	20.5 Miles	20.5 miles
Population Density per Square Mile	358.6932367	370.4806763	375.6280193	379.2318841
Population	148499	153379	155510	157002
Area Sq Miles	414	414	414	414
Average Income (MSA)	\$31,304	\$32,344	\$32,812	
Crime Rate (Violent per 100,000/ Property per 100,000)	362.8/4,281.70	409.9/4771.1	392/4266	419.1/4209.2
Unemployment Rate	5.70%	5.90%	10.70%	15.00%
Total Calls*	155466		292462	256786
Emergency Calls (911)	56046	92382	85796	82511
Administrative Calls	99420	Not Available	206666	174275
Call Volume to Population Percent	105%	Not Available	188%	164%
Call Volume to Population per 1000	1046.916141	Not Available	1880.663623	1635.558783
911 Call Volume to Population Percent	38%	60%	55%	53%
911 Call Volume to Population Per 1000	377.4166829	602.3119201	551.7072857	525.5410759
Call Volume to Population(Admin percent/per 1000)	67%	Not Available	133%	111%
Calls Dispatched	69141	75285	84183	110561
Units Dispatched	108465	121970	137797	168059
Telecommunicators	24	24	24	26
Administration	2	2	2	2
Total Budget	\$2,316,902.00	\$3,022,275.00	\$ 2,410,804.00	\$ 2,682,340.00
Cost per Emergency Call(only function)	\$41.34	\$32.71	\$28.10	\$32.51
Cost per Incoming Call(only function)	\$14.90	NA	\$8.24	\$10.45
Cost per Dispatch(only function)	\$33.51	\$40.14	\$28.64	\$24.26
Cost per Function(Calls and dispatch)	\$10.32	NA	\$6.40	\$7.30
Incoming Calls per Telecommunicator	6477.75	0	12185.91667	9876.384615
911 Calls per Telecommunicator	2335.25	3849.25	3574.833333	3173.5
Calls Dispatched per Telecommunicator	2880.875	3136.875	3507.625	4252.346154
Units Dispatched per Telecommunicator	4519.375	5082.083333	5741.541667	6463.807692
Emergency Calls Dispatch Avg in Seconds		55	54	50
Emergency Calls Answer % Under 10 Sec			97	98

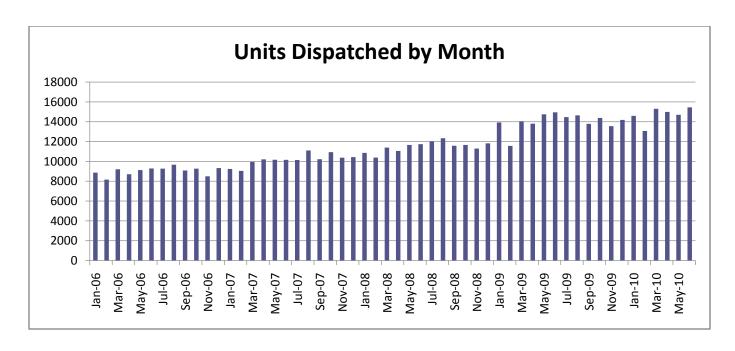


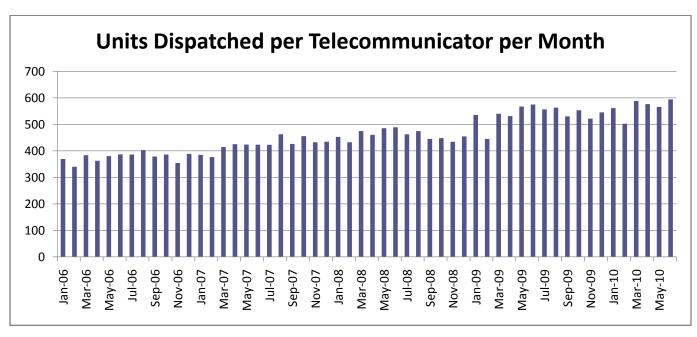


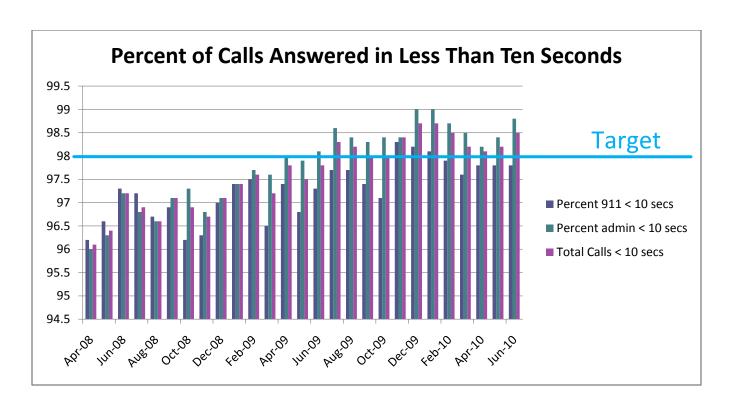


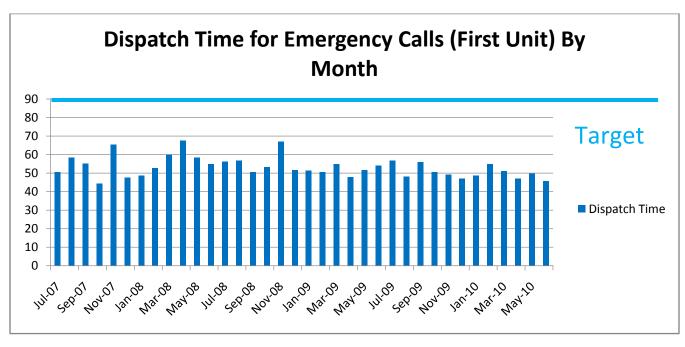












GEOSPATIAL INFORMATION SERVICES (GIS)

Catawba County has a mature and integrated GIS. GIS supports various County Departments—Tax, Planning and Parks, Emergency Services, the Communication Center, Utilities and Engineering, Environmental Health, etc—and provides on-line services to the public. In addition, GIS has long standing partnerships with the municipalities to fund development and operation.

The GIS website is widely used by the business community to conduct every day business in Catawba County. The excerpt from GIS metrics below demonstrates the crucial impact of GIS information. Approximately 250,000 Parcel and assessment reports are used by realtors, banks, attorneys and citizens per month and has become an integral part of their business processes.

Website Statistics

Hits/Day	80,300
Visitors/Day	1,743
Unique Visitors/Month	13,476
Total Hits/Month	2,238,700
Total Parcel Reports Generated/Month	247,361
Total Assessment Reports Generated/Month	20,897

Providing up-to-date, accurate information is a necessity. One layer of that information is aerial photography. The County has consistently updated its aerial photography on a 4 year rotation. The County's most recent aerial photography was flown in the Spring of 2009. In addition to the County's aerial photography project, the State contracted for aerials covering the entire state, which were flown in the Spring of this year. We expect to receive this photography from the State in the first quarter of 2011. These aerial photos will be made available within a couple of weeks of receiving them from the state. The County's next anticipated fly-over is scheduled for Spring 2013.

In addition, the County contracted for oblique photography, which was also captured in the Spring of 2009. This type of photography goes over and above the current orthophotos with side angle views of each structure. This service was new to Catawba County, and has benefited several departments including the Sheriff's Office, Emergency Services, Tax, Planning, and Utilities and Engineering .

The County continues to leverage its investment in GIS by providing current, timely information to the website and integrating the technology with applications in various departments as upgrades and enhancements take place. One example of this was the upgrade to the Permitting Software in the Fall of 2009.

GEOSPATIAL INFORMATION SERVICES METRICS

FY2009/2010

Catawba County Total Budget:		\$ 248,438,495.00
FY2009/2010 GIS Total Budget:		\$ 430,421.00
FY2008/2009 GIS Budget		\$ 414,841.00
GIS personnel cost:		\$ 336,856.00
Training		\$ 9,890.00
		\$
GIS Contractual Services:		-
GIS Maintenance:		\$ 58,700.00

<u>Organization</u>		*Notes
Number of full time personnel:	1131.94	(number came from Budget FTE totals)
Number of full time GIS personnel:	5.50	
Number of GIS personnel as a percent of total employees:	0.49%	(5.5/1131.94)
GIS personnel cost as a percent of the GIS budget:	78.26%	(\$336,856 (personnel cost)/\$430,421 GIS total Budget)
GIS spending per total number of employees:	\$ 380.25	
Percent of contract labor and maintenance compared to total GIS budget:	13.64%	(added contractual services and maintenance together and divided that by total GIS budget amount)

Service Level		*Notes
Number of GIS users per GIS employ:	55	20% of full time personnel + GIS licensed Users (75)/GIS personnel
Total Number of Workstations:	450	This number is County personnel only and is most likely a low estimate. This includes 75 GIS licenses; EnerGov users; Oblique Photography users; GeoComm users; AVL users; and website users. Total County workstations 1877 * 20% = 375 + 75 GIS Users = 450
Number of workstations supported		
per GIS employee:	81.82	This number includes County ONLY
Number of servers maintained:	3	Primary, Website, & Licensed Servers
Percentage of Public Requests responded		
to within 24 Hours	100%	
Website Statistics (annual averages)		date range: 07/01/09 -06/30/2010
Hits/Day	80,300	
Visitors/Day	1,743	
Unique Visitors/Month	13,476	
Total Hits/Month	2,238,700	
Total Parcel Reports Generated/Month	247,361	
Total Assessment Reports		
Generated/Month	20,897	

Budget		*Notes
GIS Budget percent of total budget:	0.17%	
Rate of GIS Budget Change	3.76%	Based on formula: (present - past)/past(100)
GIS Personnel cost as a percent of the GIS budget:	78.26%	Personnel Cost/GIS Budget
Training as a percent of total GIS	2 200/	Table Cont/CISB date
budget:	2.30%	Training Cost/GIS Budget
Number of outside Agencies supported under contract:	8	Municipalities (6)-Claremont, Conover, Hickory, Long View, Maiden, Newton; WPCOG; EDC

Application/Operation Systems/Storage		*Notes
Number of GIS Tool Applications:	31	
Number of Major Applications:	8	
Number of Minor Applications:	10	
Number of in-house developed and		
supported applications:	14	
Number of different Vendor operating		3 supported operating systems:
systems:	3	XP, Windows Server 2003 and 2008

INFORMATION TECHNOLOGY CENTER

The Information Technology Center (ITC) provides technology services to enhance the delivery of County government services and increase the access to and quality of vital government data which facilitates commerce and enhances quality of life in our community. Our guiding principles are quality, integration and cost effectiveness.

Major services provided include managing network infrastructure and computer systems for Catawba County and providing contract services for other agencies. The division provides 2 broad categories of services: Network Operations Management and Application Development and Support Services.

The Network Operations Division supports the physical network infrastructure, desktops, laptops, phones and firewalls in the County. The network infrastructure includes an extensive fiber network that is connected to all major county buildings. We are connected to all the cities except Brookford and Claremont. We have connectivity to Newton Conover School Administration, Catawba Valley Medical Center and Western Piedmont Council of Government. Some applications that are shared between agencies are GIS, Tax information, Web Services, Email, AVL Dispatch information, Consolidated Zoning and Building Permit services, Video Surveillance in Schools, and a 50 megabit internet link.

The County uses a high speed Ethernet network that provides all departments' access to their server and database information. We use Microsoft office 2007 as the primary desktop automation. Microsoft Exchange is the email service that is provided to all employees. We use a Cisco Voice Over IP phone (VoIP) system with over one thousand phones attached. This system also provides an integrated voicemail and email solution.

Catawba County has completed a wireless network: Major county buildings and all branch libraries have public and private wireless networks available. Catawba County has an extensive mobile workforce using WI FI, AVL, and Verizon Air Cards to communicate back to our internal applications. This workforce includes Sheriff, EMS, Animal Control, Building Inspections, School Nurses, Home Health Nurses, and Social workers at home and in the schools.

The Application Development and Support Division supports more than 200 vendor applications, 16 in-house developed applications, all County websites and various integrations within and between departments. They also provide project management services for all departments and support over 150 servers and databases required for these applications.

In addition, ITC works with all departments in the collection, analysis, and dispersion of information. Listed below are a few of the services that are collaboratively provided:

- Web Site Management
 - o More than 130,000 visits to County website per month (**NOT** including GIS)
 - Many online services provided/administered

- Social Media presence (Facebook, YouTube, Twitter, Flickr, Blogs, RSS, etc...)
- 911 and administrative call processing
- Warrants, civil papers, crime analysis, and inmate records
- Project management services for system replacements and upgrades
- Register of Deeds documents
- Assessing property values; billing and collecting property tax
- Building, environmental health, and fire permit inspection records
- Voter registration and publicizing election results
- Managing Public Health and Social Services databases and systems
- Purchasing, billing, collecting, payroll (financial transactions)
- Human Resource Management
- Landfill services

In the spirit of increased efficiency and community collaboration, the County provides services for and shares resources with a number of agencies. As mentioned above, we have connectivity to several municipalities, Newton Conover School Administration, Catawba Valley Medical Center and Western Piedmont Council of Government. Some applications that are shared between agencies are GIS, Tax information, Web Services, Email, AVL Dispatch information, Consolidated Zoning and Building Permit services, Video Surveillance in Schools, and a 50 megabit Internet link.

Information Technology Center Metrics

FY2009/2010

Catawba County Total Budget:		\$ 248,438,495.00
FY2009/2010 ITC Total Budget:		\$ 3,294,318.00
FY2008/2009 ITC Budget		\$ 3,198,691.00
IT personnel cost:		\$ 1,665,088.00
Training		\$ 37,895.00
IT Contractual Services:		\$ 186,020.02
IT Maintenance:		\$ 527,025.34

<u>Organization</u>		*Notes
Number of full time personnel:	1131.94	(number can from Budget FTE totals)
Number of full time IT personnel:	23.80	
Number of IT personnel as a		
percent of total employees:	2.10%	(23.80/1131.94)
		(\$1,919,350 (personnel
IT personnel cost as a percent of		cost)/\$3,294,318.00
the IT budget:	50.54%	IT total Budget)
IT spending per total number of		
employees:	\$ 2,910.33	
		(Ie. Mental health Services and CVBH,
Total Number of non-county		the #184 came from a contract btw
Computers supported under		Finance and MH, they listed 184
contract:	184	and that is what is being billed)
Percent of contract labor and		(added contractual services and
maintenance compared to total IT		maintenance together and divided that
budget:	21.64%	by total IT budget amount)

Service Level		*Notes
Number of IT users per IT emply:	47.56	full time personnel/IT personnel
Number of IT users per IT emply:		
Outside agencies (MH and CVBH)	7.73	Outside computers/IT personnel
Total Number of Workstations:	1877	This number includes County ONLY
Number of workstations supported		
per IT employee:	78.87	This number includes County ONLY
Number of support calls/mth:	1363.50	
Number of support calls/mth per		These numbers are based on only two
IT employee:	57.29	months worth of data.
Number of support calls resolved		
in 24hrs or less:	951.50	
Number of servers maintained:	161	Includes virtural (148) and Physical (13)
Number of servers/engineer:	20.13	Based on 8 engineers.
		date range: 07/01/2009 - 06/30/2010
Number of Website Hits		averaged number hits includes all
(Average per month)	11610.75	departments and home page
Number of Twitter subscribers	329	Catawba County's only, this does not
Number of Facebook followers	1874	include any Sub pages ie. Library, Parks
		Includes all enewsletter subscribers
Number of RSS Feed Subscribers	1641	(confirmed and unconfirmed)

Budget		*Notes
IT Budget percent of total budget:	1.33%	
Rate of IT budget Change	2.99%	Based on formula: (present - past)/past(100)
IT Personnel cost as a percent of the IT budget:	50.54%	Personnel Cost/IT Budget
Training as a percent of total IT budget:	1.15%	Training Cost/IT Budget
Number of outside Agencies supported under contract:	2	Mental Health and CVBH
Innovation Ratio: (Dollars Spent vs Total Budget)	0.1500%	Total amount in CIP for 2009/2010 (\$395,000) / total County Budget (\$248,438,495.00)

Application/Operation Systems/Storage		*Notes
Number of Major Applications:	76	Consolidated Apps for efficiency
Number of Minor Applications:	129	Consolidated Apps for efficiency
Number of in-house developed and		Replaced Fire Inspections and Jury
supported applications:	16	Summons with COTS
Number of different Vendor operating		
systems:	8	8 supported operating systems:
Number of locations servers are		
distributed:	5	5 different locations:
	*23 t.bytes total	
Amount of stored data vs available:	*7.3 t.bytes	
	available	
Virtualization percent:	91.93%	

Credit/Debit Card Payments and		
<u>Transactions</u>		
2008 - 2009 Fiscal Year		
		Numbers Provided by Govolution
Total Transactions:	13910.00	Software.
Total Amount brought in:	\$ 2,404,241.82	,
2009 - 2010 Fiscal Year		
Total Transactions:	18262.00	
Total Amount brought in:	\$ 2,967,181.44	

CURRENT TECHNOLOGY PROJECT SUMMARY 2010-2011

The Technology Department works with other departments on a project basis. Listed below are the current projects that are being addressed by the Technology Department along with a status indicator.

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 can upgrade its communications system using the infrastructure provided by the state. In partnership with the fire and rescue departments in the county and EMS we received a \$803,964.00 grant to purchase radios for the departments. These radios have been ordered. The Sheriffs Department also received a grant for \$254,000 with a 50% match for radios. These will be ordered in October. Target Date: December 31, 2010

45% Complete					
On Budget					
On Time					
Computer Replacement: Replacement: DHR agencies, to maintain comp	•	•	-	•	excluding
30% Complete					
On Budget					
On Time					

Electronic Document Management: This multi-year project allows electronic storage and retrieval of documents, reduces storage requirements, allows easier retrieval and sharing of informations as well as protect the integrity of public records for historical purposes. This year, the Budget Office and the Records Division of the Sheriff's department are scheduled to begin image storage of paper and electronic documents.

80% Complete					
On Budget					
On Time					

Justice Center addition and tech Center is built, all existing network building and some technology relo	ks for phones ar	nd data will h	ave to be exter	nded to the n	-								
10% Complete													
On Budget													
On Time													
Mobile Workforce: Many duties an office environment. Keeping th service for the public. Mobile work a regular basis. To date, funding for Environmental Health, EMS, Sheriff Home Health nurses, Animal Control Vision Mobile. Future funds will all Enforcement. Supporting a mobile internally. Funds will be used for howorkers. Flexibility and mobility capability, we will need to expand	em in the field kers are defined or this project he figure for this project he figure for this project he figure for this project he workforce requardware and so are hallmarks of the field of the field for the fi	more hours red as those whas enabled a ections, Fire e,Emergency and in other arquires technoloftware expand the workfo	reduces cost and perform their mobile workfor Marshal's Office Services and Slareas such as Tallogy resources maions to supporce of the future.	d provides be a duties in the case in arease, School Numeriff with General aboth in the fort additiona	etter ne field on such as rses, PS and and Code field and al mobile								
80% Complete													
On Budget													
On Time													
PeopleSoft Enterprise Initiative: versions offer greater efficiencies i human resource management and upgrades and will receive training testing environments and every process.	in banking, trac payroll functio in the new fund	king and doc ns. Every dep ctionality. Th	umentment ma partment will b ne systems have	anagement a be affected by e been instal	s well as y the led in								

services when they are moved to production. Target production date is July 1, 2011

20% Complete

On Budget

On Time

Permit Center Application Replacement

The system used for permitting and inspections was over 10 years old and could not provide the services that are expected by the building community. The software could not be modified to provide these services and was not supported for upgrade by the vendor. The County was able to negotiate licenses for a system that allows collaboration and information sharing between Catawba County and the municipalities from a single vendor. This expedites services for citizens and builders as well as benefits staff members by allowing access to all permitting related functions from a single data source. The project consists of three distinct phases: Phase I – Bring County permitting offices online with the new system; Phase II – Add functions to allow municipalities access for issuing and tracking permits from the system; Phase III – implement electronic plan review for Catawba County offices. Phase I was completed in October 2009 for Catawba County and the City of Hickory . Phases II and III are in progress.

Target Date for Completion: June 2011									
80% Complete									
On Budget									
On Time									

Public Health Inventory System: H1N1 Grant funds secured by Public health have been allocated to implement a more efficient inventory tracking system for clinic and home health use. The system uses hand held scanners and barcodes to record inventory movement. This is a new project that is being defined.

_									
10% Complete		i	i	ĺ	ĺ	l	1	1	
-									
On Budget									

On Time

Target date to be determined.

Public Health Billing and Clinic Management System: The billing software used by Public Health is outdated and in need of replacement. The department's current system, CMHC, is a mental health product manipulated and made to work for Public Health; however, it is still lacking the clinical components of a Public Health system. Public Health has been waiting on the state to develop a new billing system known as HIS but this system has major flaws and its future use and reliability is uncertain. The new Insight Public Health Billing and Clincic Management system will provide a robust system for tracking and following-up on processing claims. Target date to be determined.

10% Complete					
On Budget					
On Time					

Public Health Digital Signage: H1N1 grant funds were received to educate the public concerning H1N1 prevention and care. The funds are being used to implement electronic/digital signage in clinics and other targeted areas where clients will have the opportunity to learn more about this and other timely health concerns.

70% Complete					
On Budget					
On Time					

SharePoint Services: At the July 2008 Department Head meeting, it was decided to add SharePoint services to 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. The first phase of the plan was to move SharePoint onto a production server. Training was provided for users to create and manage sites. The system currently hosts departmental, various committee and project management information as well as the internal Intranet used for communication throughout the agency. It will serve as a single point of information/document repository to maximize efficiency and security for records management as well as provide an optimal envioronment for collaboration. Business Intelligence features are being added to facilitate monitoring and planning based on departmental activity. Target for completion is January 2011.

90% Complete On Budget On Time

VisionMobile and AVL for Emergency Vehicles: Catawba County has been using VisionAir products since March 1998. We are 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 incoporates 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 is sent to the unit's onboard computer with address and mapping directions for the incident.

Catawba County benefits from this purchase in the following ways:

- Increased Officer Safety using GPS and AVL technologies
- Improves Response Times by having visual maps of the nearest Public Safety Units
- Improves Response Times by sending information of dispatched calls to the Public Safety Units
- Delivers valuable information to Public Safety laptops from existing databases (warrants, criminal history, hazmat,etc.)Officer's can enter reports directly from the field

VisionMOBILE fully enhances the VisionAIR Public Safety Suite that Catawba County currenty uses and transforms Catawba County's Public Safety division into a mobile platform.

98% Complete						1
On Budget						_
On Time						

Web Site Redesign: In coordination with the Public Information Officer, the current Catawba County web site was evaluated and is being upgraded to offer new services to the public. The Technology Department is working with each department to review the services that each department offers and how to best present those services to the public. The sites incorporate many Web 2.0 design concepts including Facebook and Youtube. Due to the dynamic nature of the web site, work will continue indefinitely on this project.

20% Complete					
On Budget					
On Time					

Participate in Regional GIS Website: This is a coordinated project with surrounding counties—Alexander, Burke, Caldwell, Iredell, Lincoln, and Wilkes—to implement a regional GIS website. This site will be hosted and operated through a vendor (at no cost to the county), and will be a condensed version of our current Real Estate website. The idea is to provide users a similar interface for basic information relating to a parcel in any of these counties. This site will link to each of our individual sites for more detailed information. Data for this site has been submitted. It should be available within the next 8 weeks.

45% Complete						
On Budget						
On Time						

Design Business Search Website: In an effort to create a more complete dataset of businesses in the area, we obtained a business dataset purchased by the Western Piedmont Council of Governments, a membership list from the Chamber of Commerce, and the fire inspection list from the Fire Marshall's office; compared, and then combined the infomation. The result is a much more accurate set of data than any of these agencies previously had access to. We believe there will be many uses of this data. One of the uses will simply be to make people aware of the services provided in Catawba County, and hopefully, encourage them to use these resources instead of seeking services elsewhere. We've been in discussions with the EDC, the municipalities, and the Future Economists Group who each believe they will have multiple uses of this information. A website has been set up to search the data, but we haven't made this well known at this point. It will be a huge undertaking to keep the data current. Our next step is to establish a service to allow editing; and share the editing capabilities with trusted agencies. We expect to have the editing function available within the next couple of months.

45% Complete						
On Budget						
On Time						

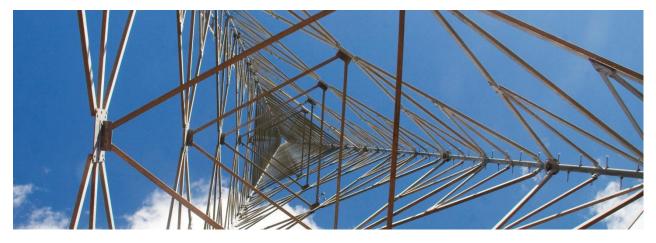
GIS Software Upgrade – ArcGIS Version 10: Our software vendor, ESRI, released a major upgrade in June 2010. The entire look and feel of the product has changed; and it will affect several of our applications, including the new Parcel Editing Application we implemented in early June. We have installed the new version on a couple of desktops and are working through the application issues that we've encountered during testing. In addition, we will be coordinating this upgrade with the municipalities since they are connected to our network. Implementation is expected to be a slow progression over the next several months.

10% Complete											
On Budget											
On Time											
GIS Website Redesign: The current platform for our GIS website is not going to be supported by ESRI in the very near future. We will not be able to continue enhancements to the site without support. We are currently investigating several different platforms for the new site. We realize this site is heavily usedaveraging 80,300 hits per day in FY 09/10, and feedback indicates it is well liked. The new site must be as comprehensive as our existing site. The design of the new site will be a major project spanning the next year.											
10% Complete											
On Budget											ı
On Time											

911 Communication Center Analog to Internet Protocol Conversion: The Catawba County E911 Communications Center Strategic Plan addresses NG911 technologies. Strategic Initiative 2 states: Improve public safety by leveraging modern information systems and technology. Recommendation 2.2 states: Implement Next Generation 911 (NG911) technology and standards: The goal of the NG911 Initiative is to establish the national architecture and transition plan which will enable the general public to access 911 services through virtually any communications device. It is anticipated the NG911 System will support a transition to enable the general public to make a 911 "call" from any wired, wireless, or Internet Protocol (IP) based device, and allow the emergency services community to take advantage of Enhanced 911 (E911) call delivery and other internetworking technologies. The primary goal of the NG911 System is to save lives, health, and property by improving emergency services access and response in the United States.

In moving forward with the plan to be a NG911 center, the Catawba County E911 Communications Center is upgrading ANI/ALI and other services with Intrado. The Intrado Intelligent Emergency Network is an IP-based emergency communications architecture, deployed in support of public safety agencies throughout the country. Target Completion Date: October 2011.

5% Complete					
On Budget					
On Time					



Catawba County Strategic Technology Plan

UPDATE 2009/2010

Prepared By the Technology Department, September 2010

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 three years, 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 <u>Facebook</u>, YouTube and <u>Twitter</u>. 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/animal/
- Building Services http://www.catawbacountync.gov/depts/u&e/building.asp
- Emergency Medical Services http://www.catawbacountync.gov/ems/
- Geospatial Information Systems http://www.gis.catawba.nc.us/
- Home Health http://www.catawbacountyhomehealth.com/
- Parks http://www.catawbacountync.gov/depts/parks/
- Planning http://www.catawbacountync.gov/depts/planning/
- Register of Deeds http://www.catawbacountync.gov/depts/regdeed/
- Sheriff's Office http://www.catawbacountync.gov/depts/shf/

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 system used for permitting and inspections was over 10 years old and could not provide the services that are expected by the building community. The software could not be modified to provide these services and was not supported for upgrade by the vendor. The new 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 access for all of the municipalities. The County was able to negotiate licenses for a system that allows collaboration and information sharing between Catawba County and municipalities from a single vendor. This expedites services for citizens and builders as well as benefits staff members by allowing access to all permitting related functions from a single data source. The project consists of three distinct phases: Phase I - Bring County permitting offices online with the new system; Phase II – Add functions to allow municipalities access for issuing and tracking permits from the system; Phase III – implement electronic plan review for Catawba County offices. Phase I was completed in October 2009 for Catawba County and the City of Hickory. Phases II and III are in progress.

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. The Tax Department, Register of Deeds, the Permit Center, and Public Health were the first to offer over the counter payment. Animal Control, Libraries, and GIS soon made the services available. Now all areas have the services 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, landfill and solid waste fees. During Fiscal Year 2009/2010, more than 18,000 payments and transactions were processed using the service.

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 <u>Facebook</u>, YouTube and <u>Twitter</u>. 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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- Emergency Medical Services http://www.catawbacountvnc.gov/ems/
- Geospatial Information Systems http://www.gis.catawba.nc.us/
- Home Health http://www.catawbacountyhomehealth.com/
- Parks http://www.catawbacountync.gov/depts/parks/
- Planning http://www.catawbacountvnc.gov/depts/planning/
- Register of Deeds http://www.catawbacountync.gov/depts/regdeed/
- Sheriff's Office http://www.catawbacountvnc.gov/depts/shf/

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 80,300 hits per day in FY 2009/10. 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.

A Voluntary Agricultural Distrist layer was added to advise purchasers of real estate in Catawba County that these districts have been established to protect and preserve agricultural lands and activities; and further advise that these activities include, but are not limited to pesticide spraying, manure spreading, machinery and truck operation, livestock operation, tree harvesting, sawing, and other common farming activities any time during the day or night.



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. Last update completed in June 2010.

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. Emergency Services, Human Resources, Purchasing, Environmental Health, Utilities and Engineering, Tax, Finance and the County Manager's office have been implemented. The Budget Office and Sheriff's department are scheduled to begin using the system in 2010/2011.

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, committees and the Intranet has been moved to it. Business Intelligence features are being implemented to facilitate real-time monitoring and planning based on departmental activity.

Permit Center Application Replacement (1.1,2.1,3.5): The system used for permitting and inspections was over 10 years old and could not provide the services that are expected by the building community. The software could not be modified to provide these services and was not supported for upgrade by the vendor. 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 access for all of the municipalities. The County was able to negotiate licenses for a system that allows collaboration and information sharing between Catawba County and municipalities from a single vendor. This expedites services for citizens and builders as well as benefits staff members by allowing

access to all permitting related functions from a single data source. The project consists of three distinct phases: Phase I – Bring County permitting offices online with the new system; Phase II – Add functions to allow municipalities access for issuing and tracking permits from the system; Phase III – implement electronic plan review for Catawba County offices. Phase I was completed in October 2009 for Catawba County and the City of Hickory . Phases II and III are in progress.

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.

Upgrade Financial and HRM Systems to version 9.1 (2.1A, 3.1): The new versions offer greater efficiencies in banking, tracking and documentment management as well as human resource management and payroll functions. Every department will be affected by the upgrades and will receive training in the new functionality. The systems have been installed in testing environments and every process will be tested thoroughly to assure minimal disruption in services when they are moved to production.

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 14 blade servers running 148 virtual servers currently. The storage began at 4 tb

and has grown to over 15tb with the addition of new applications and new demands for voice and video storage. Besides providing the security of a redundant system, replacement and operating cost where reduced. Completed May 2008, virtual technology and the SAN is estimated to have saved the County over \$900,000 as compared to the practice before the SAN.

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 four years.

GIS Software Upgrade: ArcGIS Version 10: Our software vendor, ESRI, released a major upgrade in June 2010. The entire look and feel of the product has changed; and it will affect several of our applications, including the new Parcel Editing Application we implemented in early June. We have installed the new version on a couple of desktops and are working through the application issues that we've encountered during testing. In addition, we will be coordinating this upgrade with the municipalities since they are connected to our network. Implementation is expected to be a slow progression over the next several months.

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, the Sheriff's department and three divisions of Social Services are sharing resources to track the data.

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 Inspection Tools for Building Inspectors: Technology support for inspectors to electronically record inspection data from sites has been implemented for building inspections. This allows inspection results to be available immediately, prevent duplicate data entry, and allow data to be transferred to the office electronically. this was upgraded to an improved system during October 2009.

Mobile Field Tools for Home Health Services: The current billing and clinical system has been replaced with a program called Care Anyware 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.

Mobile Field Inspection Tools for Animal Services: Calls for service with all realated information, are relayed to the field units allowing officers to respond more quickly and efficiently.

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.

Mobile System for Fire Marshall's Office: Reports, forms, and reference materials are available on site for fire investigations, hazardous materials events and various inspections. Work is more efficient, faster and duplicate recording of information is not required.

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 incoporates 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 currenty uses and transform the Catawba County's public safety agencies into a mobile platform.

Mobile Technology HelpDesk: Calls for service are recorded and available through SmartPhones. This allows more efficient response times and faster resolution to problems.

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 14 blade servers running 148 virtual servers currently. The storage began at 4 tb and has grown to over 15tb with the addition of new applications and new demands for voice and video storage. Besides providing the security of a redundant system, replacement and operating cost where reduced. Completed May 2008, virtual technology and the SAN is estimated to have saved the County over \$900,000 as compared to the practice before the SAN.

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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 80,300 hits per day in FY 2009/10. 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.

Voluntary Agricultural District: A Voluntary Agricultural Distrist layer was added to advise purchasers of real estate in Catawba County that these districts have been established to protect and preserve agricultural lands and activities; and further advise that these activities include, but are not limited to pesticide spraying, manure spreading, machinery and truck operation, livestock operation, tree harvesting, sawing, and other common farming activities any time during the day or night.

Participate in Regional GIS Website: We are coordinating with surrounding counties—Alexander, Burke, Caldwell, Iredell, Lincoln, and Wilkes—to implement a regional GIS website. This site will be hosted and operated through a vendor at no cost to the county, and will be a condensed version of our current Real Estate website. The idea is to provide users a similar interface for basic information relating to a parcel in any of these counties. This site will link to each of our individual sites for more detailed information. Data for this site has been submitted. It should be available within the next 8 weeks.

Design Business Search Website: In an effort to create a more complete dataset of businesses in the area, we obtained a business dataset purchased by the Western Piedmont Council of Governments, a membership list from the Chamber of Commerce, and the fire inspection list from the Fire Marshall's office; compared, and then combined the infomation. The result is a much more accurate set of data than any of these agencies

previously had access to. We believe there will be many uses of this data. One of the uses will simply be to make people aware of the services provided in Catawba County, and hopefully, encourage them to use these resources instead of seeking services elsewhere. We've been in discussions with the EDC, the municipalities, and the Future Economists Group who each believe they will have multiple uses of this information. A website has been set up to search the data, but we haven't made this well known at this point. It will be a huge undertaking to keep the data current. Our next step is to establish a service to allow editing; and share the editing capabilities with trusted agencies. We expect to have the editing function available within the next couple of months.

Unified Electronic Payment Processing: Online payments for consolidated bills were 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, landfill and sludge waste fees.

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

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 incoporates 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 uits
- 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 currenty uses and transform the Catawba County's public safety agencies into a mobile platform.

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 can upgrade its communications system using the infrastructure provided by the state. In partner ship with the fire and rescue departments in the county and EMS we received a \$803,964.00 grant to purchase radios for the departments. These radios have been ordered. The Sheriffs Department also received a grant for \$254,000 with a 50% match for radios. These will be ordered in October. Target Date: December 31, 2010

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 the county contracts to have a fly- over performed to update the orthophotography. A seven county consortium, which Catawba County is a member, participated in a joint fly-over project in March 2009. These photos were received in November and made available to the public in December 2009.

In Spring 2010, the State contracted for aerials for the entire state. These are expected to be distributed to the counties in Spring 2011. This photography will be made available within a couple of weeks of receiving it from the State. The next anticipated fly-over is scheduled for Spring 2013.



Oblique Photography: In addition to the regular orthophotographs, we also contracted for oblique photos, taken in February 2009, to give us side angle views of buildings. Distribution of the oblique photography to various departments began in August 2009. This data immediately began being used by detectives to plan drug busts on structures not previously visible from the road. They've expressed that this information has been an invaluable aid in safely planning these busts. This photography was also used extensively during the initial response and the subsequent investigation of a home explosion on Lake Hickory in October 2009. When responders arrived on the scene, they did not yet know if anyone had been inside during the explosion. They used this photography to determine where the bedrooms in the home were located since the explosion occurred during the early hours of the morning. It is also being heavily used by the Tax Appraisers as they

prepare for the next property evaluation to be effective January 2011. This information has also proven very useful to code enforcement personnel in documenting and substantiating code violations.

Tax Mapping Project: A new tax mapping application was developed and implement in the Tax Office in June. This was necessary because both the format for storing this type of data and the programming language used by the previous application had changed and were no longer going to be supported by the software vendor. Since real estate tax remains a major source of revenue, it was imperative to upgrade to assure accurate calculation of property for tax assessment. This also ensures that all GIS applications are using the same version of ArcGIS and allows for consistent service and performance across the enterprise.

Creation and Implementation of Joint Address Points Layer with Muncipalities: In early 2009, the County began working on an Address Points Layer as a solution to a long existing issue with multiple addresses located on one parcel. Several databases we've used throughtout the years have only allowed storing one address per parcel record., and applications have been limited to searching for one address. This layer alleviates that issue because each address point can be identified and stored individually. This is particularly useful for mobile home parks, multi-level apartment complexes, and strip malls. The ability to search for and display these multiple addresses will be extremely beneficial to the E-911 Communication Center and to Public Safety Personnel.

In addition, this project is a joint effort with the municipalities. The municipalities, except for Claremont, have their own addressing grid and are responsible for addressing in their jurisdiction. This layer is the first to allow editing capabilities to the municipal addressing staffs and to county addressing staff, each on their designated area, thus eliminating duplication of effort among jurisdictions. This is a substantial benefit to all the jurisdictions; and is an example we believe will be followed in future projects.

Permit Center Application Replacement (1.1,2.1,3.5): The system used for permitting and inspections was over 10 years old and could not provide the services that are expected by the building community. The software could not be modified to provide these services and was not supported for upgrade by the vendor. 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 access for all of the municipalities. The County was able to negotiate licenses for a system that allows collaboration and information sharing between Catawba County and municipalities from a single vendor. This expedites services for citizens and builders as well as benefits staff members by allowing access to all permitting related functions from a single data source. The project consists of three distinct phases: Phase I – Bring County permitting offices online with the new system; Phase II – Add functions to allow municipalities access for issuing and tracking permits from the system; Phase III – implement electronic plan review for Catawba County offices. Phase I was completed in October 2009 for Catawba County and the City of Hickory. Phases II and III are in progress.

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.

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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 was installed during Spring 2009 and the system is now fully operational.

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 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 care, 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.

Partnership with Hickory, Conover and Newton Cities using VisionAIR applications: 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.

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Catawba County has partnered with the City of Conover, City of Hickory, and the City of Newton on different parts of this project to provide better services ot all. Catawba County hosts applications to provide dispatch information to Hickory Fire, Conover Police and Newton Fire. This allows the information to flow from the 911 center to the emergency vehicles and back from the units in the field. The call information is transferred automatically from the 911 system to the Fire and Records systems eliminating double entry. As the call reports are completed they are transferred back to the central database and available to the public in a timely manner. By using the central message switch the field units have the ability to search these records along with the State of North Carolina DCI records giving them the information quickly in the vehicles.

Participate in Regional GIS Website: We are coordinating with surrounding counties—Alexander, Burke, Caldwell, Iredell, Lincoln, and Wilkes—to implement a regional GIS website. This site will be hosted and operated through a vendor at no cost to the county, and will be a condensed version of our current Real Estate website. The idea is to provide users a similar interface for basic information relating to a parcel in any of these counties. This site will link to each of our individual sites for more detailed information. Data for this site has been submitted. It should be available within the next 8 weeks.

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Permit Center Application Replacement (1.1,2.1,3.5,4.2): The system used for permitting and inspections was over 10 years old and could not provide the services that are expected by the building community. The software could not be modified to provide these services and was not supported for upgrade by the vendor. 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 access for all of the municipalities. The County was able to negotiate licenses for a system that allows collaboration and information sharing between Catawba County and municipalities from a single vendor. This expedites services for citizens and builders as well as benefits staff members by allowing access to all permitting related functions from a single data source. The project consists of three distinct phases: Phase I – Bring County permitting offices online with the new system; Phase II - Add functions to allow municipalities access for issuing and tracking permits from the system; Phase III – implement electronic plan review for Catawba County offices. Phase I was completed in October 2009 for Catawba County and the City of Hickory. Phases II and III are in progress.



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.

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 2009:

- Project Management for IT and BA's
- Alliance Conference PeopleSoft Technical and Functional Sessions
- NCLGISA Spring Conference Management and Technical Sessions
- NCLGISA Fall Conference Management and Technical Sessions
- 2009 Certified Government CIO Program
- CIO Forum
- SharePoint
- Visionair Upgrade Classes
- 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

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 need to update this

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

E911Telephone 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.

Establishment of a Disaster Recovery Site to Assure Business Continuity: It is critical that major systems be available throughout the County for both public safety and business continuity. For that purpose, an alternate site has been established for disaster recovery purposes that allows for automatic switchover to the alternate systems if necessary.

TECHNOLOGY PRINCIPLES

Catawba County's Technology principles represent an intergral part of the overall framework of the vision, strategy, mission and values that guide the selection, development and utilization of information technologies. In implementing the goals and objectives of the Strategic Plan, the Technology Department will adhere to the following principles:

- 1. Focus is centered on ensuring quality customer services in a timely, convenient, and efficient manner.
- 2. Capture data once in order to avoid cost, duplication of effort and potential error. Systems should be automated to update in real time. Manual entry of data should be eliminated where possible.
- 3. Manage information technology as an investment:
 - 1. encourage partnership with the private sector and other regional agencies where appropriate;
 - 2. allocate funds to cover depreciation to replace equipment and systems before the end of their life-cycle (retained earnings);
 - 3. Utilize technology to improve the effectiveness and productivity of County government, focus on maximizing return on investment
 - 4. Invest in education and training to ensure that technical staff understands current and future technologies;
 - 5. Evaluate business processes for re-engineering opportunities prior to implementing technology solutions;
 - 6. Technology solutions and training will be based on business needs to support county-wide strategic goals.
 - 7. Technology selection and implementation will be based on business needs of the organization. New technology should intergrate with the existing technology architecture and be consistent with communications and information technology plans.
- 4. Adhere to a standard set of technology components (operating system platforms, programming landuages, desktop products) to maximize return on investment.
- 5. Adhere to non-proprietary, open system standards to provide flexible, robust solutions that allow interoperability of use
 - 1. Research commercial off the shelf software where possible
 - 2. Minimize in-house customization to speed up the delivery of new business applications and reduce cost
 - 3. Concentrate on web based applications
- 6. Implement innovative, but proven technologies and introduce new technologies using pilot projects where the technology, its benefits, and costs can be evaluated prior to a large-scale deployment.
- 7. Manage the enterprise network as the fundamental infrastructure to provide user friendly, flexible, expandable, and maintainable connectivity for both internal and external customers.
- 8. Utilize both internal and external sources where financially feasible (consultants/contractors/vendors) to extend the knowledge base of technology solutions and extend out limited resources.

- 9. Keep the workforce and public informed and create an environment of collaboration and trust to secure buy-in from the user community.
- 10. Investments in technology will be managed from a full life-cycle perspective; multi-year planning and annual allocation funding strategies will be used to replace systems, equipment and infrastructure before life-cycle end.