



BELL COUNTY STRATEGIC TECHNOLOGY PLAN

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A. Executive Summary

A. Executive Summary

Purpose

This document provides a “road map” for technology-based growth and economic development in Bell County. Detailed assessments and recommendations are provided in Tab 1 of this report. The full report provides an overview of ConnectKentucky’s findings and recommendations related to the assessment of Bell County’s technology needs, particularly related to computers, broadband and Information Technology.

Summary

Bell County’s e-Community Leadership Team is leading the way into a new economy for Bell County, working in partnership with ConnectKentucky. By leveraging the latest in technology and networking, ConnectKentucky is ensuring Kentucky remains the place of choice to work, live and raise a family.

Pursuing the *Five A’s to technology acceleration in Kentucky* (Availability, Affordability, Awareness, Applications and Adoption) ConnectKentucky has established the Commonwealth as a national model for technology development. Over the past two years, Kentucky has achieved growth rates in technology availability and adoption that lead the nation.

Today, the world is smaller because technology makes it easier to work and to live nearly anywhere. In order to compete on a global scale, we must provide our citizens and businesses with the best available technology in the world, wherever they choose to live, learn, work or play. Central to technology-based development is access to and usage of computers and high-speed Internet, commonly referred to as “broadband.”

The need for improved technology in Kentucky is great. In 2003 rankings, Kentucky was 44th in its proportion of high-tech companies, 45th in household computer use, and 43rd in resident Internet use. But that is changing fast, as Kentucky transforms from a technology laggard into a national leader in universal access and innovative technology solutions. Some evidence of the progress Kentucky has made:

- According to the Federal Communications Commission, Kentucky leads the nation in its rate of broadband adoption over the past two years.
- In 2003, about 60 percent of Kentucky households had the ability to subscribe to broadband. Now, an estimated 77 percent of households can access broadband, an addition of 240,000 households over two years. Increased investment from telecommunications companies is expected to bring the broadband coverage rate to 90 percent by the end of 2006.

Though Kentucky’s recent progress has been swift, there remains much to be accomplished. If we do not act on our dreams, we are destined to remain at the bottom of most technology rankings.

With this vision of hope for all Kentuckians, Governor Fletcher introduced his *Prescription for Innovation*, a comprehensive initiative to achieve aggressive goals for broadband deployment and technology adoption in Kentucky. ConnectKentucky is working community by community, provider by provider to ensure that each of these goals is achieved by 2007, including:

1. Broadband availability for all Kentuckians, businesses and local governments;
2. Dramatically improved usage (adoption) of computers and the Internet;
3. Meaningful online applications for local government, businesses, educators, etc.;
4. Establishment of local technology leadership teams in every county promoting technology growth for: local government, business and industry, education, healthcare, agriculture, libraries, tourism and community-based organizations.

Governor Fletcher's *Prescription for Innovation* is being implemented through ConnectKentucky, in partnership with local community leaders. The leadership of Bell County asked ConnectKentucky to facilitate an evaluation of its current uses of technology, identifying and filling broadband coverage gaps and developing a strategic plan to increase the use of technology in each sector of the local community, including:

- Local government
- Business and industry
- K-12 education
- Higher education
- Healthcare
- Libraries
- Agriculture
- Tourism, recreation & parks
- Community-based organizations

This project has culminated in the development of initiatives to increase the competitiveness of Bell County through the expansion of broadband availability and the increased usage of computers and broadband-related applications. In completing this analysis, ConnectKentucky engaged local leaders in all economic sectors, led the group through a visioning exercise and developed a unique strategic plan for the county.

Additionally, ConnectKentucky has engaged its network of telecommunications and Information Technology resources to determine which technology resources are currently available to Bell County and which services are expected in the near future.

ConnectKentucky found that broadband is readily available in larger cities and communities, which contain more than 75% of the county's population, and there are broadband services of some kind available in various locations throughout the county. ConnectKentucky will work with current and potential broadband providers to achieve full broadband availability to all residents of Bell County by 2007.

ConnectKentucky recommends that Bell County focus on these general areas in order to encourage further build-out of broadband throughout the community and to create awareness of the broadband-related services that already exist.

- Creating awareness of the many available digital applications that provide convenience, growth, productivity and empowerment.
- Developing and expanding community applications that will drive the use of broadband access and ultimately encourage residents to become more technologically savvy.

Methodology

Activity 1 – Kickoff meeting and follow-up benchmarking meetings defined existing and future uses of broadband:

- How stakeholders currently use telecommunications and broadband services and applications
- What telecommunications and broadband needs are not currently being met
- What applications would be useful to increase the economic competitiveness of the area
- What telecommunications and broadband services and applications key stakeholders desire for the future

Activity 2 – Interviews with key telecommunications and Information Technology providers in the community determined what services and infrastructure are in place now and what services and infrastructure are planned for the future.

Activity 3 – ConnectKentucky reported the findings, provided analysis of potential alternatives and made recommendations on potential future initiatives:

- Benchmarked current uses of technology
- Researched applications that will enhance the economic vitality of the community in various participating sectors
- Recommended a strategic approach to adopting appropriate applications
- Provided project management to assure successful implementation
- Collected coverage data from existing broadband providers in the Commonwealth. In GIS format, mapped coverage footprints of all providers
- Provided data for areas not served by broadband
- Shared relevant market data with potential providers to encourage additional investment

- Identified possible grant and low-interest loan availability to areas not currently served
- Encouraged investment from all providers, including cable, telecommunications companies, municipals, satellite and wireless, to fill remaining gaps.

How Do We Get There?

ConnectKentucky will continue to assist the e-Community Leadership Team, working together to ensure that Bell County remains a strong place to work, live and raise a family. ConnectKentucky will remain engaged with the leadership and stakeholders from each sector to implement the recommendations provided in this report.



B. WHY DOES THIS MATTER?

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Business and Industry

Today, a number of factors are forcing businesses to change time-honored models of operation, including global competition, a trend toward partnering/outsourcing for all but core functions, and a demand for more personalized services. Each of these trends can save businesses time and money, but they require a sound technological infrastructure. The good news is that while these trends are emerging, the costs of technology are falling.

Businesses cannot be sheltered from competitors. The reality is that Bell County businesses must adapt to the changing world in which they operate. Businesses have to learn the tools of the networked economy and innovate to survive.

Business and industry often experience the most direct benefit of high-speed Internet with increased sales, profit and growth. However, many businesses and industries are utilizing high-speed Internet to simplify processes, increase efficiency and develop new marketing methods. While the employees benefit immediately, the consumer ultimately sees lower prices and better quality.

Gaining benefits from the implementation of high speed Internet is not just for large corporations. For smaller businesses, technology creates an even playing field with companies much bigger than themselves. E-commerce (the buying and selling of goods over the Internet) allows small or even home-based businesses to operate and sell their goods on a national and sometimes international scale. Where small businesses were once limited to whatever local customers they could attract through local advertising and word of mouth, the Internet now allows them to attract customers across the globe.

Technology has allowed larger businesses to maximize efficiency in order to better serve customers. E-mail, intranets, paperless operations and automated logistics processes are just a few examples of how the Internet is allowing large companies to work with much greater efficiency and at lower costs. This allows those businesses to expand into other markets and grow their companies, or even pass the savings on to their customers.

K-12 Education

For our children to succeed in the New Economy, the tools of the Information Age should be as comfortable to use as a pencil and paper. The future health of the nation's economy depends on how broadly and deeply we reach a new level of literacy – that includes strong academic skills, thinking, reasoning, teamwork skills, and proficiency in the use of technology. Our schools must equip every student, regardless of family income, with the ability to use these tools. Equally important is the use of these tools in the educational process itself. The interactive nature of the Web provides a richer learning experience that engages and motivates students to explore and learn.

In Kentucky, Internet applications used in elementary and secondary schools continue to develop. Typically, the Internet is a communication tool for teachers and parents to remain up-to-date on the recent happenings of the classroom. Everything from homework assignments to scheduled activities and pictures can be found on classroom websites,

keeping everyone connected to educational resources. Elementary and secondary schools provide students with the opportunity to learn more about computer technology and explore the Internet with school computer labs. Committed to protecting students and maintaining a safe, educational environment, schools monitor and restrict Internet access of students to ensure the highest quality resources are being viewed and to ensure the safety of our children.

Healthcare

The healthcare industry has unique challenges. It inherently generates mountains of information yet at the same time is duty bound to keep these mountains hidden for the sake of individual privacy. For companies charged with managing and working with this information, high-speed Internet access and technology innovations are crucial. On a daily basis, doctors must keep up with the latest research; patient records have to be easily accessible and accurate; and images, test results and prescriptions have to be delivered promptly, without errors, to practitioners, pharmacies and insurance providers. In healthcare, errors and delays are not only costly, but also dangerous. Many providers are converting to electronic medical records which can be easily updated and shared on secure, internal networks. Network-based technologies like video-conferencing and digital stethoscopes allow specialists to consult with rural patients, reducing travel time and hazards. This ability to reach rural patients through technology has allowed many people to seek treatment that otherwise might not. Bringing the best of healthcare to every Kentucky citizen is a worthy goal.

Because of the nature of their activities, the healthcare industry has found the perfect partner in high-speed Internet technology. The convenience of the Internet has simplified information transfers and improved medical equipment while maintaining the integrity of confidential patient information.

Libraries

Today, libraries are more than just books on the shelves. Everything from the card catalog to check out can be simplified with the help of high-speed Internet. Public libraries often play a vital role in the community by providing every resident with the opportunity to receive instruction and use the Internet free of charge. Though they are not available 24 hours a day as a home computer is, libraries are still a central point of access to the Internet that is available to each and every citizen in the community. Many businesses have been launched as a result of research done on a computer in a Kentucky library. Many children are able to do their homework online or research reports because of the Internet access provided by the local library. Because the library plays such an important role in the community, it is essential that local libraries are on the cutting edge of technology and continue to develop new methods of keeping their patrons up to date. High speed Internet can help libraries continue their tradition as a trusted and indispensable resource.

Higher Education

Colleges, universities and community and technical colleges in Kentucky continue to find new ways to use the Internet to improve everyday activities. Websites are an important source of information about the institution, from providing news and information concerning campus activities to online registration of classes. Colleges and universities often implement the use of the school websites to attract prospective students, remain connected to alumni and allow for online donations.

The most common application of high-speed Internet on college and university campuses, however, is typically not actually used on-campus. Most colleges and universities offer online classes and academic programs to better equip students with the opportunity to learn. In 2004, 35,000 students participated in higher education classes through Kentucky Virtual University, www.kyvu.org. By bringing the classroom to the students, participants from every walk of life and region of the state were able to participate in higher education classes. However, it is necessary to have high-speed Internet to participate successfully in online classes. High-speed Internet is crucial to supporting the capabilities and the possibilities of higher education in Kentucky.

Community-Based Organizations

Non-profit agencies provide a wide variety of services to citizens, including health services, religious services, community sports and athletic facilities and public entertainment. Like any organization, community-based organizations need technology to manage operations, apply for grants, reduce costs, improve client services and better serve the community. Unfortunately, their budgets are typically limited, and they often depend on outdated technologies and donated services. As a result, community-based organizations must be creative in order to serve their constituents in the best manner possible. Fortunately, there is no shortage of creativity among community-based organizations, and many are using innovative solutions to offer important local services. As with other sectors, the Internet is an enabling factor for these creative solutions.

Government

Government serves citizens in numerous ways, from providing services such as vehicle registration to providing information such as election results. While it is common for people to feel disengaged from the everyday actions of state and local government, technology has allowed governments to begin closing that gap. On the state level, Kentucky has developed Kentucky.gov, a comprehensive website that provides government services and information to all citizens. On this site, residents can purchase and update hunting licenses; car dealers can access title searches on cars; and citizens can monitor the progress of legislation when the General Assembly is in session. By bringing the services of the state government to the convenience of residents' homes, the Kentucky.gov site provides participants a greater sense of relevance in the actions of state government.

Local governments have also seen the importance of an online presence. Local governments provide communities with many services, offer a great deal of local information and encourage public involvement and awareness. With a web presence, local governments can distribute information to more citizens, provide more opportunities for interaction with the agencies that affect them and make more convenient transactions that previously required a drive to the courthouse.

Tourism, Recreation, and Parks

As citizens become more comfortable with the Internet, they typically continue to find more uses for it. One of the industries benefiting from this trend is the tourism industry. Increasingly, people are using the Internet to research, book and pay for airline tickets, hotels, rental cars, and to make other logistical arrangements for their vacations and business travel. In light of this fact, hotels, travel agents, restaurants, attractions and other support businesses in the tourism industry are taking advantage of this trend and making their information and services available on the Internet.

Additionally, with the help of high-speed Internet and computer technology, the leisure time planned and purchased over the Internet can also be used more efficiently, allowing for a more enjoyable experience. Whether it is vacation, recreation or a visit to a local park, high-speed Internet is making the travel experience more enjoyable and more convenient. Already, a number of innovative tourism attractions are using high-speed Internet to improve services and meet the changing demands of their guests.

Agriculture

Too often, the agricultural community sees little need for broadband technology in the day-to-day activities of maintaining farms and livestock. However, broadband technology allows for growing innovation in agriculture, simplifying and mainstreaming important daily tasks, and developing marketing and sales. With high-speed Internet, farmers can remain up-to-date with everything from the weather to the conditions of the chicken coops equipped with temperature-sensitive monitors. Livestock farmers can access market prices and gain access to the latest in livestock management techniques. Farmers can advertise and even sell goods on the Internet, generating customers from all over the world. The Internet can also help Kentucky farmers diversify their operations and develop cutting edge revenue streams thus alleviating some of the loss of revenue from the Tobacco Quota Buyout Program. Internet resources can give Kentucky farmers an edge on production and results. The possibilities are virtually endless. The marriage of agriculture and high-speed Internet can produce abundant success for farmers across Kentucky by creating opportunities.



C. WHERE ARE WE AND WHERE ARE WE GOING?

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BUSINESS AND INDUSTRY

Bell County industries employ 9,754 workers. The leading segment is the service industry, with 3,100 employees. Trade/transportation/utilities employ 2,350 workers. The mining industry employs 785, with manufacturing employing 720. The leading Bell County employer is Cumberland Gap Provision Company, with 320 workers. CDG Management LLC employs 142, and Emerson Network Power Dura-Line and Middlesboro Coca-Cola Bottling employ 120 and 115, respectively. Since 2002, Bell County has undergone three manufacturing expansions and one supportive/service expansion.

Two business and industry resources in Bell County are the Bell County Chamber of Commerce, www.bellcountychamber.com, and the Bell County Industrial Sites, www.vaughnmelton.com/sites/bell/index.html

The Bell County eCommunity Leadership team noted these items as key to enacting technological advancement in the county:

- Improving leadership will facilitate improvements in networked places, applications and services.
- Training at a higher level than is currently available.
- Many employees live in other communities/counties and commute to Bell County for work. This creates unique challenges and opportunities.
- Many businesses may not consider a website as essential. Limited Internet traffic due to the size of market share has led to this assumption.
- Businesses will more eagerly adopt technology when the Internet's potential for cutting costs or increasing revenues is demonstrated.
- Funds from outside the county will be required to facilitate improved technology.
- Advanced communications services, including Internet banking, will help local customers access local businesses.
- Internet technology can improve customer service through more efficient and convenient order tracking.

The Assessment

- **Networked Places** – In the category of networked places, Bell County's business and industry sector is currently at stage 3 on a 0 to 5 scale, with most office employees having always-on connections to the Internet at their desks. Some mobile workers have laptop computers and can access the office network remotely. Affordable videoconferencing facilities are available in the community.
- **Applications and Services** – In the area of technology applications and services, the business and industry sector is currently at stage 3 on a 0 to 5 scale, with most

businesses have an informational website. Some retail websites can accept credit card purchases. Some businesses participate in the electronic supply chain.

- **Leadership** – In terms of technology leadership within the business community, Bell County is currently at stage 3 on a 0 to 5 scale. Some businesses permit some employees periodically to telework. Some businesses encourage employees to take work-related classes offline. Employee training on new technology is a priority.

The Vision

While the Bell County eCommunity Leadership Team found that business and industry’s current use of technology is somewhat limited, the team has an aggressive vision for how the county’s business and industry sector will be using technology in two years. The team set goals that would move the business and industry sector from the middle stages to stage 4 in the three categories outlined above. The team’s vision includes:

- Some businesses use **Voice over Internet Protocol (VoIP)** to save money
- Some office workers have converted from desktop computers to **portable devices with wireless connections**
- Some office computers have **webcams for videoconferencing**
- Some businesses **outsource** most of their computing services to **local service providers** to allow for concentration on core business functions
- Some retailers and manufacturers **sell goods out of state or internationally**
- Some employees **work remotely**, some out of state
- Some businesses permit some employees to **telework** one or two days a week
- Some businesses encourage employees to take work related **courses online**
- Businesses are working with educational partners to **raise workforce skill levels**

K-12 EDUCATION

Bell County School District, www.bellcountyschools.bell.k12.ky.us, enrolled 3,026 students in the 2003/2004 school year. Bell County High School has an extensive partnership with the Bell County Area Technical Center and is currently housing health services and information technology classes. Bell County falls slightly behind state averages on the rates of attendance, retention, and dropout. While the state averages 6.7 percent of graduates falling in the “work and part-time school” category, Bell County graduates average 2.2 percent. Bell County schools have websites in place to provide information to both students and parents.

	Attendance Rate	Retention Rate	Dropout Rate	Graduation Rate	College	Military	Work	Voc/Tech Training	Work & Part-Time School	Not Successful
District	91.9%	4.5%	3.8%	67.3%	47.8%	1%	41.4%	0.5%	2%	7.4%
State	94.3%	3.3%	2.2%	81.5%	54.7%	2.6%	27.5%	4.8%	6.4%	4%

	Spending per Student	Student/Teacher Ratio	Student/Computer Ratio	% of Classrooms with at Least One KETS Workstation With Internet Access
District	\$8,549	14:1	4.3:1	100
State	\$8,663	16:1	3.7:1	100

Middlesboro Independent Schools, <http://www.mboro.k12.ky.us/>, enroll approximately 1,700 students. The percentage of Middlesboro Independent graduates who attend college is 65.9 percent, compared to 54.8 percent for the state. Few to no graduates work and attend part-time school.

	Attendance Rate	Retention Rate	Dropout Rate	Graduation Rate	College	Military	Work	Voc/Tech Training	Work & Part-Time School	Not Successful
District	92.4%	5%	5.1%	74.1%	78.7%	0.9%	16.7%	2.8%	0%	0.9%
State	94.3%	3.3%	2.2%	81.5%	54.7%	2.6%	27.5%	4.8%	6.4%	4%

	Spending per Student	Student Teacher Ratio	Student/Computer Ratio	% of Classrooms with at Least One KETS Workstation With Internet Access
District	\$7,809	15:1	2.5:1	100
State	\$8,663	16:1	3.7:1	100

Pineville Independent Schools, <http://www.pineville.k12.ky.us/>, enroll nearly 600 students. For Pineville Independent, the attendance rate exceeds state averages while rates of retention and dropout are just below state levels. Technology is an important part of Pineville Independent High School and grades seven and eight. The CenterNet lab, located within the District/Schools Media Center, has proved an excellent tool for expanding students' learning through research by providing access to other students' authors of favorite books to skills improvement through interviews with prominent persons, and for use in assigned research.

	Attendance Rate	Retention Rate	Dropout Rate	Graduation Rate	College	Military	Work	Voc/Tech Training	Work & Part-Time School	Not Successful
District	95.3%	1.8%	2.3%	82.9%	73.3%	3.3%	16.7%	0%	3.3%	3.3%
State	94.3%	3.3%	2.2%	81.5%	54.7%	2.6%	27.5%	4.8%	6.4%	4%

	Spending per Student	Student/Teacher Ratio	Student/Computer Ratio	% of Classrooms with at Least One KETS Workstation With Internet Access
District	\$9,001	15:1	3:1	100
State	\$8,663	16:1	3.7:1	100

There are six private schools in Bell County: Fonde Christian Academy (1-12 with 36 students); Gateway Christian School Elementary (PK-8 with 224 students); Middlesboro Christian Academy (PK-11 with 49 students); Mill Creek Christian School (PK-2 with 62 students); Red Bird Mission School (K-12 with 248 students); and St. Julian School (K-8 with 48 students).

Because of government mandates, the school systems have a very comprehensive technology plan.

The Assessment

In its evaluation, the Bell County eCommunity Leadership Team determined that the K-12 education sector has made significant progress in making technology a priority, and the team set goals for enhanced access and use of technology and its applications. The current assessment includes:

- **Networked Places** – In the category of networked places, Bell County's K-12 education sector is currently at stage 3 on a 0 to 5 scale. Schools provide at least one computer for every four students in grades K-12. Most classrooms have computers for student use. Some teachers use computer-based presentation tools and projectors for their lessons.
- **Applications and Services** – In the category of technology applications and services, the education sector is currently at stage 2 on a 0 to 5 scale. Many schools have an informational website. The Internet is rarely used as a resource for instruction or homework assignments.
- **Leadership** – In terms of technology leadership within the education sector, Bell County is currently at stage 4 on a 0 to 5 scale. Some schools have comprehensive plans for learning activities using technology in the classroom. New hires are required to have experience using new technology in the classroom. Computer labs are made available to family and community members. Schools take responsibility for continuing e-rate and other discounts.

The Vision

The Bell County eCommunity Leadership Team recognizes that the school systems have made technology a priority, and the team has outlined a clear vision for enhanced technology usage and application in the classroom. The goals set forth by the Bell County eCommunity Leadership Team include reaching stage 4 in the categories of networked places, stage 3 in applications and services, as well as moving to stage 5 in the leadership category. The vision includes:

- Some high school **students are provided their own laptop computers** at school
- Many classroom teachers have **access to digital projection** capabilities
- Most middle and high schools have **video programs that allow students to produce and share shows on a public network**
- Some schools use **wireless sensors to monitor energy consumption**
- Some schools have an **interactive website** that offers access to homework assignments and communication with teachers and administrators
- Many experienced teachers know how to **incorporate Internet information into the curriculum**
- **Many teachers welcome e-mail from parents and students.**
- All schools have **comprehensive plans for learning activities utilizing technology in the classroom**
- School districts actively promote **information technology literacy** to drive positive impacts on economic performance, skills and innovation in the classroom
- The **school system plays a vital role** in raising the skill level and awareness of community and family members

HEALTHCARE

Bell County's healthcare needs are served by Middlesboro ARH Hospital, www.arh.org/middlesboro/default.php, a 96-bed, acute care facility. Bell County is also served by Pineville Community Hospital, www.pinevillehospital.com, a 106-bed healthcare facility. The Bell County eCommunity Leadership Team recognizes the need for perpetual training in order to make good use of technology.

The Assessment

The Bell County eCommunity Leadership Team found that the healthcare sector is beginning to use technology to its advantage and identified a large opportunity for technology applications within the healthcare community.

- **Networked Places** – In the category of networked places, Bell County's healthcare sector is currently at stage 2 on a 0 to 5 scale, with some doctors regularly using computers to enter and maintain patient records. Digital instruments and imaging equipment are being acquired.
- **Applications and Services** – In the category of technology applications and services, the healthcare sector is currently at stage 1 on a 0 to 5 scale. Physicians and/or staff use a dial-up connection in order to access health-related sites.
- **Leadership** – In terms of technology leadership within the healthcare community, Bell County is currently at stage 1 on a 0 to 5 scale. Physicians and/or staff use a dial-up connection in order to access health-related sites.

The Vision

The Bell County eCommunity Leadership Team sees great potential for the use of technology in the healthcare sector but understands the industry is limited in its resources and ability to implement changes within a brief period. The team has set goals to move each of the three categories to stage 3 on a 0 to 5 scale for networked places, and stage 2 for applications and services, and leadership. The team's vision includes:

- Some doctors and nurses are **using laptop and palmtop devices** connected to wireless networks to enter patient information and access databases
- Some **providers have informational websites**
- Some **providers store patient records electronically**
- **Telemedicine is being evaluated**
- Some offices are **electronically transmitting records to insurers** for reimbursement
- Some providers have begun the **conversion to electronic medical records**
- Some providers are investigating how to **deploy wireless technologies for mobile workers**

LIBRARIES

The Middlesboro and Pineville Public Libraries, <http://www.bellcountypubliclibraries.org/> are part of the Bell County Public Library System, located in southeast Kentucky where the Commonwealth meets Tennessee and Virginia. The library system provides basic library services, including books, videos, audio books, free Internet service, periodicals, genealogy and local history collections, reference services, bookmobile, and programming for children and adults.

The Bell County Public Library uses the Polaris Online Catalog (POC). Currently, both Bell County libraries offer wireless connections and have 11 public access computers. The

system is automated, providing an online catalog, access to personal accounts for book reservations, renewals, address changes, etc. This system was purchased as a consortium with Harlan County Public Library System and the city of Corbin Public Library. This provided an upgrade for the Bell County Library System and made first-time automation more affordable for Harlan County and Corbin. Bell County (Middlesboro Public Library) houses the server and remote server and acts as system administrator.

The Bell County eCommunity Leadership Team library sector members understand that libraries are constantly changing in order to make new technologies available to the community. Small libraries and systems, such as all of southeastern Kentucky, are not nearly as up-to-date as larger systems. But they use dollars wisely and provide expedient services to the public.

The Assessment

The Bell County eCommunity Leadership Team found that the library sector had a great deal of potential with technology and could benefit a great deal from the implementation for more.

- **Networked Places** – In the category of networked places, the library sector is currently at stage 3 on a 0 to 5 scale. There is rarely more than a 10-minute wait to use the Internet-enabled computers.
- **Applications and Services** – In the category of technology applications and services, the library sector is currently at stage 3 on a 0 to 5 scale. Most libraries have catalogs online. Patrons may use the Internet to place books on hold and request books from other libraries in the library system. Patrons can search online databases from home, school or work. Libraries host live video feeds of public interest events.
- **Leadership** – In terms of technology leadership within the library system, the sector is currently at stage 2 on a 0 to 5 scale. Libraries are the first to offer free access and instruction in the use of the Internet.

The Vision

The Bell County eCommunity Leadership Team has set forth a two-year vision for enhancing the library so that it serves the community more effectively and efficiently, concentrating on networked places and leadership. The team set a goal of moving to stage 4 on a 0 to 5 scale in all three categories. The vision includes:

- Public libraries have **added network ports or wireless networks** and electrical outlets to carrels
- Patrons may **review their accounts online** and pay fines by credit card
- Patrons can **access the library online as a portal for other online information services**
- **Libraries help the community understand copyright issues** and how to protect privacy on the Internet
- New hires are required to have **experience using new technology**
- **Libraries take internal responsibility for continuing e-rate** and other discounts
- Libraries have **developed network management policies** and technologies to prevent patrons from sending spam

HIGHER EDUCATION

The Southeast Kentucky Community and Technical College, <http://www.southeast.kctcs.edu/>, was founded in 1960 as a public, comprehensive community and technical college under the governance of the Kentucky Community and Technical College System. Bell County is served by a Middlesboro Campus and a Pineville Campus.

The Assessment

The Bell County eCommunity Leadership Team found that the higher education sector is currently taking advantage of technology more than most others in the community; however, there is also a large opportunity to expand current services with technology applications.

- **Networked Places** – In the category of networked places, Bell County's higher education sector is currently at stage 4 on a 0 to 5 scale, with some classrooms having been remodeled to include network connections and power outlets at every seat. Many students bring laptop computers or other network-enabled devices to class. Some classrooms have video equipment for recording lectures.
- **Applications and Services** – In the category of technology applications and services, the higher education sector is currently at stage 3 on a 0 to 5 scale. Many of the faculty are trained to use the Internet for instruction. Many classes use digital content and/or web-based content for instruction. Students use chat rooms to discuss lessons and ask questions of instructors outside of class hours. Online registration, catalogs and payment are available.
- **Leadership** – In terms of technology leadership within the higher education community, Bell County is currently at stage 3 on a 0 to 5 scale. Specialized courses have been developed to cater to area businesses seeking to improve the skills of workers. Some colleges and universities have or are developing online classes to provide greater convenience for students and to increase student enrollment. Faculty training on new technology is a priority

The Vision

The Bell County eCommunity Leadership Team sees great potential for the use of technology in the higher education sector but understands that colleges and universities are limited in their resources and ability to implement changes within a brief period. The team has set goals of reaching stage 5 out of 5 in networked places, stage 4 in applications and services, and maintain stage 3 in leadership. The team's vision includes:

- Many classrooms have been remodeled to **include network connections** and power outlets at every seat
- Most **students bring laptop computers or other network-enabled devices to class**
- Many **classrooms have video equipment** for recording lectures
- Most of the faculty are trained to **use the Internet for instruction**
- Most **classes use digital content and/or web-based content for instruction**
- Some undergraduate students take **distance learning classes** for specialized subjects and graduate-level research
- Specialized courses have been developed to **cater to area businesses** seeking to improve the skills of workers
- Some colleges and universities have or are **developing online classes** to provide greater convenience for students and to increase student enrollment
- **Faculty training on new technology is a priority**

COMMUNITY-BASED ORGANIZATIONS

Bell County is home to approximately 90 community-based organizations.

These community-based organizations include religious, educational, charitable, scientific and literary organizations. Some include the following:

- Bell County Historical Society, www.geocities.com/bellhistorical/
- Bell-Whitley Community Action Agency, www.kaca.org/AgencyPgs/bwca_kacapage.htm
- Cumberland Trails United Way, www.ctuw.org
- American Red Cross, www.redcross.org/

Community-based organizations see the Internet as a way of increasing giving and promotion. Since community-based organizations are charged with being the best possible stewards of the money donated, technology is viewed as a great way to save money. One example is by using videoconferencing instead of traveling for meetings.

The more community-based organizations that use broadband to promote their missions and contributions they make to the area, the more people will get involved and the quality of life will improve.

Assessment

The Bell County eCommunity Leadership Team found that the community-based organization sector is just beginning to use technology to its advantage and identified a large opportunity for technology applications within the community-based organizations.

- **Networked Places** – In the category of networked places, Bell County's community-based organization sector is currently at stage 3 on a 0 to 5 scale. Most organizations with at least five paid staff have at least one computer for every three employees. Many organizations have e-mail.
- **Applications and Services** – In the category of technology applications and services, the community-based organization sector is currently at stage 2 on a 0 to 5 scale, where some organizations have an informational website.
- **Leadership** – In terms of technology leadership within the community-based organization community, Bell County is currently at stage 3 on a 0 to 5 scale. Some organizations are involved in specific economic development initiatives, but most do not participate. Some organizations plan to use telecommunications services and technologies within the next year. Some organizations provide technology training to their staff at least once a year.

The Vision

The Bell County eCommunity Leadership Team sees great potential for the use of technology in the community-based organization sector but understands the sector is limited in its resources and ability to implement changes within a brief period. The team has set goals to move to a stage 3 in the applications and services category, and maintain a stage 3 in the other two categories of leadership and networked places. The team's vision includes:

- Most community-based organizations with at least five paid staff have at least **one computer for every three employees**
- Many organizations have **e-mail**
- Many organizations have an **informational website**
- Many local chapters are able to **share data electronically** with the national parent organization

- Some organizations **accept online donations**
- Some organizations are **involved in specific economic development initiatives**, but most do not participate
- Some organizations plan to use **telecommunications services and technologies** within the next year
- Some organizations provide **technology training to their staff** at least once a year

GOVERNMENT

Bell County government entities include Bell County, Pineville (county seat), and Middlesboro. None of the government agencies have official websites. However, both Pineville, <http://www.pinevillekentucky.com/> and Middlesboro, <http://www.middlesboroky.com/>, have city guide sites.

The Bell County eCommunity Leadership team realizes that broadband could help Bell County recruit new businesses, and that Internet technology could help government agencies better serve Bell County residents.

The Assessment

Although the government entities in Bell County have a limited online presence, the Bell County eCommunity Leadership Team found that the local government is currently using technology to improve processes in other areas.

- **Networked Places** – In the category of networked places, the government sector is currently at stage 1 on a 0 to 5 scale, with select employees having access to the Internet through a dial-up connection.
- **Applications and Services** – In the category of technology applications and services, the government sector is currently at stage 0 on a 0 to 5 scale, because they have no websites.
- **Leadership** – In terms of technology leadership within the government community, Bell County and its associated governments are currently at stage 1 on a 0 to 5 scale. The Internet is seen as a possible way to enhance the basic daily operations.

The Vision

The Bell County eCommunity Leadership Team has developed goals to provide a framework for robust e-government functions in the next two years, which will bring the sector to stage 3 in the category of networked places; the rating for applications and services to a stage 2; and the rating for leadership to stage 3. The team's vision includes:

- Many employees have **e-mail** accounts
- Some **field workers are collecting data on laptop computers or palmtops**
- **Webcams** are starting to be deployed
- Most **public agency websites offer informational features** such as a community calendar, staff directory and downloadable forms
- **Government staff is actively involved in framing technology and telecommunications issues**
- Processes are underway for **enhancing connectivity, rights-of-way management and information technology innovation**
- **Employees are trained and knowledgeable** about basic applications

TOURISM, RECREATION AND PARKS

The Bell County Tourism website, www.mountaingateway.com/pages/index.htm welcomes tourists to attractions, lodging, restaurants and special events in and around Bell County. From Middlesboro to Pineville and everywhere in between, it does not matter the time of year: summer, fall, spring, or winter -- it's a beautiful time to get lost in the heart of the Appalachian Mountains.

Middlesboro is the home of the P-38 "Glacier Girl" fighter plane, the Middlesboro Country Club (oldest continuously played golf course in the U.S.), and many historic buildings and museums. Pineville is home to the Pine Mountain State Park, Wasioto Winds golf course, Chained Rock and the Cumberland Ford. Close by is the Cumberland Gap National Historical Park, the nation's second largest historical park.

Bell County is home to two major parks. Middlesboro has the Cumberland Gap National Historical Park, www.nps.gov/cuga/, within walking distance, and Pineville has the Pine Mountain State Resort Park, www.parks.ky.gov/resortparks/pm/index.htm, within one mile of its city limits.

The Bell County eCommunity Leadership Team recognizes that transportation and park services are the major activities of this sector, and that improved technology could provide two much-needed services: remote access to traffic control and streaming video of interstates.

The Assessment

The Bell County eCommunity Leadership Team found that the tourism, recreation and parks sector is beginning to use technology to its advantage and identified a large opportunity for technology applications within the tourism, recreation, and parks sector.

- **Networked Places** – In the category of networked places, Bell County's tourism, recreation and parks sector is currently at stage 3 on a 0 to 5 scale. Most office employees have always-on connections to the Internet at their desks. Some mobile workers have laptop computers and can access the office network remotely. Affordable videoconferencing facilities are available.
- **Applications and Services** – In the category of technology applications and services, the tourism, recreation and parks sector is currently at stage 3 on a 0 to 5 scale. Most facilities have an informational website. Some websites can accept credit card purchases. Some facilities participate in an electronic supply chain.
- **Leadership** – In terms of technology leadership within the tourism, recreation and parks sector, Bell County is currently at stage 3 on a 0 to 5 scale. Some facilities permit some employees periodically to telework. Some facilities encourage employees to take work-related classes online. Employee training on new technology is a priority.

The Vision

The Bell County eCommunity Leadership Team sees great potential for the use of technology in the tourism, recreation and parks sector but understands the industry is limited in its resources and ability to implement changes within a brief period. The team has set goals to move each of the three categories above to stage 4 on a 0 to 5 scale. The team's vision includes:

- Some facilities use **Voice over Internet Protocol (VoIP)** to save money
- Some office workers have converted from desktop computers to **portable devices** with wireless connections

- Some office computers have **webcams for videoconferencing**
- Some facilities outsource most of their **computing services to local service providers**
- Some facilities **market out of state** or internationally
- Some employees **work remotely**
- Some facilities **permit some employees to telework** one or two days a week
- Some facilities encourage employees to take **work-related classes online**
- Facilities are working with educational partners to **raise workforce** skill levels

AGRICULTURE

The number of Bell County farms has decreased by 6 percent from 1997 to 2002. The amount of land in farms has increased dramatically (42 percent), going from 4,862 acres in 1997 to 6,900 acres in 2002. The average size of the Bell County farm is up 51 percent (from 73 acres to 110 acres in the '97-'02 time frame). The market value of Bell County farm production was \$216,000 in 2002, up 51 percent from 1997's figure of \$143,000. Crops account for \$60,000 in 2002, while livestock accounted for \$155,000. Market value of production per farm increased 61 percent, from \$2,130 in 1997 to \$3,424 in 2002). Total burley payments from the Tobacco Buyout Program were just over \$26,000 in 2002. There were no dark tobacco payments.

The Bell County eCommunity Leadership Team has concerns that the adoption rate of rural Bell County would be too low to warrant the installation of broadband/Internet technology. Therefore, it is important to implement applications that will increase interest in and a need for the Internet.

The Assessment

The Bell County eCommunity Leadership Team found that the agricultural sector is just beginning to use technology to its advantage and identified a large opportunity for technology applications within the farming community.

- **Networked Places** – In the category of networked places, Bell County's agricultural sector is currently at stage 1 on a 0 to 5 scale. Some growers, suppliers and processors have limited access through a dial-up connection.
- **Applications and Services** – In the category of technology applications and services, the agriculture sector is currently at stage 1 on a 0 to 5 scale with some growers, suppliers and processors using e-mail and Internet.
- **Leadership** – In terms of technology leadership within the agricultural community, Bell County is currently at stage 1 on a 0 to 5 scale. The Internet is seen as a possible enhancement to the way daily business is conducted.

The Vision


The Bell County eCommunity Leadership Team sees great potential for the use of technology in the agricultural sector but understands the industry is limited in its resources and ability to implement changes within a brief period. The team has set goals to move to stage 2 on a 0 to 5 scale in the three categories. The team's vision includes:

- Some growers, suppliers and processors have **always-on connections to the Internet** at their desks
- Some growers, suppliers and processors have an **informational website**

- Some growers, suppliers and processors **transmit or receive some orders electronically**
- **The Internet is seen as essential to business operations**
- **Employees are trained on basic applications**


Business and Industry	Bell County
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● Bell County's Benchmark Assessment Results are presented in red.
 ■ Bell County's Vision for this Sector is presented in blue. (Blue is used when Assessment and Vision are the same.)

	Stage	Networked Places	Applications & Services	Leadership
<div style="display: flex; flex-direction: column; align-items: center;"> <div style="margin-bottom: 10px;">Least Connected</div>  <div style="margin-top: 10px;">Most Connected</div> </div>	0	Not using the Internet.	No computer use or website. Customers use phone and postal mail.	No technology or telecom plan.
	1	Some employees have limited access to the Internet through a dial-up connection.	Some employees use basic e-mail services through their connection.	The Internet is considered a possible business enhancement.
	2	Some office employees have always-on connections to the Internet at their desks.	Some businesses have an informational website. Some businesses transmit or receive some orders electronically.	Some view the Internet as essential to business operations. Employees are trained on basic applications.
	3	● Most office employees have always-on connections to the Internet at their desks. Some mobile workers have laptop computers and can access the office network remotely. Affordable videoconferencing facilities are available in the community.	● ■ Most businesses have an informational website. Some retail websites can accept credit card transactions. Some businesses participate in the electronic supply chain.	● ■ Some businesses permit some employees periodically to telework. Some businesses encourage employees to take work-related classes offline. Employee training on new technology is a priority.
	4	■ Some businesses use Voice over Internet Protocol (VoIP) to save money. Some office workers have converted from desktop computers to portable device. Some office computers have webcams for videoconferencing.	Some businesses outsource most of their computer services. Some retailers and manufacturers sell goods out of state or internationally. Some employees work remotely, some out of state.	Some businesses permit some employees to telework one or two days a week. Some businesses encourage employees to take work-related courses online. Businesses are working with educational partners to raise workforce skill levels.
	5	Most businesses use Voice over Internet Protocol (VoIP) to save money. Most computers have video cameras. Some retailers and manufacturers use RFID (radio frequency identification) to track inventory and equipment.	Some businesses send and receive video mail. Some businesses outsource most of their computing services. Some businesses routinely use multiparty videoconferencing to coordinate operations.	Some businesses have restructured to focus on their core contribution and outsource nonessential functions. New hires are required to have experience using new technology in business applications.

● Bell County's Benchmark Assessment Results are presented in red.

■ Bell County's Vision for this Sector is presented in blue.


	Stage	Networked Places	Applications & Services	Leadership
<p style="text-align: center;">Least Connected</p>  <p style="text-align: center;">Most Connected</p>	0	Not using the Internet.	Schools use phone and postal mail. Schools have no website.	There is no technology or telecom plan.
	1	Few middle and high schools have computer labs for students. Few classrooms/teachers have access to computer projectors.	Few schools have an informational website. The Internet is not used as a resource for instruction or homework assignments.	Few experienced teachers are trained on how to incorporate material from the Internet into their curriculum.
	2	Many middle and high schools have computer labs for students. Some classrooms and teachers have access to computer projectors.	● Many schools have an informational website. The Internet is rarely used as a resource for instruction or homework assignments.	Few schools have plans for better using telecommunications services and technologies in their classrooms. Some experienced teachers are trained on how to incorporate material from the Internet into their curriculum.
	3	● Schools provide at least one computer for every four students in grades K-12. Most classrooms have computers for student use. Some teachers use computer-based presentation tools and projectors for their lessons.	■ Some schools have an interactive website that offers access to homework assignments and communication with teachers and administrators. Many teachers can incorporate Internet material into the curriculum. Teachers welcome e-mail from parents and students.	The school board sees opportunities to use the network to raise test scores and operate the school more efficiently. Teacher training on new technologies is a priority at most school districts. Schools are using consultants to take advantage of e-rate and other school discounts.
	4	■ Some high school students are provided their own laptop computers at school. Many classroom teachers have access to digital projection capabilities. Most middle and high schools have video programs that allow students to produce and share shows on a public network. Some schools use wireless sensors to monitor energy consumption.	Many schools have an interactive website that offers access to homework assignments and e-mail contact with teachers and administrators. All teachers meet National Educational Technology Standards. Most students meet National Educational Technology Standards. Parents and family members are encouraged to participate in student learning via e-mail and online applications. Online classes are available to high school students via Internet-based instruction, including college online classes and Kentucky Virtual High School.	● Some schools have comprehensive plans for learning activities using technology in the classroom. New hires are required to have experience using new technology in the classroom. Computer labs are made available to family and community members. Schools take responsibility for continuing e-rate and other discounts.
	5	Many classrooms have large, flat-panel displays or projectors for video-based instruction. Most schools have converted their phone system to Voice over Internet Protocol (VoIP) to save money. Most high schools have one-to-one computing for their students. Some school computer labs have been made available to the public.	Schools use the network to connect students, teachers and parents, improve learning via online resources, and manage administrative responsibilities more efficiently. All students meet grade level requirements in the National Educational Technology Standards. Technology training is offered in the community. Many high school students use online teachers and experts to explore subjects and execute individual learning plans.	■ All schools have comprehensive plans for learning activities utilizing technology in the classroom. School districts actively promote information technology literacy to drive positive impacts on economic performance, skills and innovation in the classroom. The school system plays a vital role in raising the skill level and awareness of community and family members.

Healthcare

Bell County

● Bell County's Benchmark Assessment Results are presented in red.

■ Bell County's Vision for this Sector is presented in blue.


	Stage	Networked Places	Applications & Services	Leadership
<p style="text-align: center;">Least Connected</p>  <p style="text-align: center;">Most Connected</p>	0	Not using the Internet.	Customers use phone and postal mail. No website.	No technology or telecom plan.
	1	Some physicians and/or staff have access to the Internet through a dial-up connection.	● Physicians and/or staff use a dial-up connection in order to access health-related sites.	● Healthcare providers are considering what advantage may come from using the Internet in the office.
	2	● Some doctors regularly use computers to enter and maintain patient records. Digital instruments and imaging equipment are being acquired.	■ Some providers have informational websites. Some providers store patient records electronically. Telemedicine is being evaluated. Some offices are electronically transmitting records to insurers for reimbursement.	■ Some providers have begun the conversion to electronic medical records. Some providers are investigating how to deploy wireless technologies for mobile workers.
	3	■ Some doctors and nurses are using laptop and palmtop devices connected to wireless networks to enter patient information and access databases.	Many providers have informational websites. Many providers store patient records electronically. Telemedicine is being evaluated. Some offices are electronically transmitting records to insurers for reimbursement.	Many providers have begun the conversion to electronic medical records. Many providers are investigating how to deploy wireless technologies for mobile workers.
	4	Internet-based video conferencing is used to consult experts and for training programs. Some patients are being monitored at home and at work via portable devices with wireless transmitters.	Some providers allow patients to e-mail doctors. Most providers store patient records electronically. Some lab results and images are received electronically.	Work is underway by some providers to begin online exchanging of test results and other medical records with appropriate parties. Healthcare leaders are talking with the community about enhancing online services and using the network to improve communitywide healthcare.
	5	Most equipment has been converted to digital. Desktop videoconferencing is routine at all hospitals and major clinics. Telephone systems have converted to Voice over Internet Protocol (VoIP) to save money. Remote monitoring of patients with chronic conditions is standard procedure.	All providers allow patients to schedule appointments, view records and get advice online. All patient records are stored electronically and routinely sent electronically to distant providers to aid diagnosis and treatment for emergency patients. Telemedicine routinely is used to access specialists. Wireless feeds in ambulances provide real-time patient assessment to ER staff.	Healthcare leaders see themselves as a key part of the community's overall economic strategy. Leaders are visible and active in strategy development and implementation. Executives of the region's hospitals, clinics, insurers, employers and other healthcare providers are meeting regularly to find ways to collaboratively reduce the cost of healthcare without compromising quality of service.

Libraries

Bell County

● Bell County's Benchmark Assessment Results are presented in red.

■ Bell County's Vision for this Sector is presented in blue.


	Stage	Networked Places	Applications & Services	Leadership
<p style="text-align: center;">Least Connected</p>  <p style="text-align: center;">Most Connected</p>	0	Libraries do not provide Internet access.	Customers use postal mail or phone. No website.	There is no technology or telecom plan.
	1	Some employees have access to a dial-up connection.	Some employees are accessing e-mail and library-related websites.	Employees are accessing the Internet in order to help the patrons of the facility.
	2	Public libraries provide several computers with free access to the Internet.	Most libraries have a website with basic information about hours of operation and location.	● Libraries are the first to offer free access and instruction in the use of the Internet.
	3	● There is rarely more than a 10-minute wait to use the Internet-enabled computers.	● Most libraries have catalogs online. Patrons may use the Internet to place books on hold and request books from other libraries in the library system. Patrons can search online databases from home, school, or work. Libraries host live video feeds of public interest events.	The library research desk is an online community resource. Staff training on new technologies is a priority at most libraries. Libraries are using consultants to take advantage of e-rate and other discounts. Library policies reflect appropriate filtering requirements.
	4	■ Public libraries have added network ports or wireless networks and electrical outlets to carrels.	■ Patrons may review their accounts online and pay fines by credit card. Patrons can access the library online as a portal for other online information services.	■ Libraries help the community understand copyright issues and how to protect privacy on the Internet. New hires are required to have experience using new technology. Libraries take internal responsibility for continuing e-rate and other discounts. Libraries have developed network management policies and technologies to prevent patrons from sending spam.
	5	Most public libraries offer patrons a 54 mbps or faster wireless network.	Public libraries offer live video consultations. Public libraries allow patrons to borrow e-books over the Internet. They help patrons conduct research and assist with legal access to copyrighted databases and publications, including music and movies. Two-way videoconferencing is available to the general public.	Libraries continue to upgrade their facilities to offer the community the next generation in technology, services and training. Libraries actively promote information technology literacy to drive positive impacts on economic performance, skills, and innovation in the community.

Higher Education

Bell County

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	Stage	Networked Places	Applications & Services	Leadership
<p style="text-align: center;">Least Connected</p>  <p style="text-align: center;">Most Connected</p>	0	Not using the Internet.	Use phone and postal mail.	There is no technology or telecom plan.
	1	Some on-campus residents have broadband connections through non-university providers.	Few faculty members are trained to use the Internet for instruction. Few classes use digital content and/or web-based content for instruction.	Few departments have plans for better utilizing telecommunications services and technologies in their operations.
	2	Most on-campus residences have a 10 mbps connection to the network. Some classrooms are wired to the college/university network and are equipped with digital projection capabilities.	Some faculty members are trained to use the Internet for instruction. Some classes use digital content and/or web-based content for instruction.	Few departments have plans for better utilizing telecommunications services and technologies in their operations.
	3	Most on-campus residences have connections to the network in every room at least 10 mbps. Some classrooms have projection equipment that allows the instructor to display videos from the Internet into the classroom.	<p>● Many of the faculty are trained to use the Internet for instruction.</p> <p>Many classes use digital content and/or web-based content for instruction.</p> <p>Students use chat rooms to discuss lessons and ask questions of instructors outside of class hours.</p> <p>Online registration, catalogs and payment are available.</p>	<p>● ■ Specialized courses have been developed to cater to area businesses seeking to improve the skills of workers.</p> <p>Some colleges and universities have or are developing online classes to provide greater convenience for students and to increase student enrollment.</p> <p>Faculty training on new technology is a priority.</p>
	4	<p>● Some classrooms have been remodeled to include network connections and power outlets at every seat.</p> <p>Many students bring laptop computers or other network-enabled devices to class.</p> <p>Some classrooms have video equipment for recording lectures.</p>	<p>■ Most of the faculty are trained to use the Internet for instruction.</p> <p>Most classes use digital content and web-based content for instruction.</p> <p>Some undergraduate students take distance learning classes for specialized subjects and graduate-level research.</p>	Higher education and local businesses are working together to raise the skill level of the current workforce. Community colleges are expanding their capacity by using distance learning technologies to reduce the need for classroom time. Some colleges and universities are developing online classes to market to students in other parts of the country and the world.
	5	<p>■ Many classrooms have been remodeled to include network connections and power outlets at every seat.</p> <p>Most students bring laptop computers or other network-enabled devices to class.</p> <p>Many classrooms have video equipment for recording lectures.</p>	Many undergraduate students take distance learning classes for specialized subjects and graduate-level research. All aspects of higher education are available through the network including instruction and administration.	Colleges and universities see themselves as a vital partner in the community's economic development strategy and have formed partnerships with local businesses to provide skilled technology workers and innovative solutions. Colleges and universities actively promote information technology literacy to drive positive impacts on economic performance, skills, and innovation in the classroom.

Community-Based Organizations

Bell County

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	Stage	Networked Places	Applications & Services	Leadership
 <p>Least Connected</p> <p>Most Connected</p>	0	Not using the Internet.	No computer use. No website. Use phone and postal mail.	No technology or telecom plan.
	1	Accessing the Internet through a limited dial-up connection.	Currently using e-mail and possibly other basic Internet functions.	The Internet is seen as a possible enhancement and marketing tool.
	2	Some organizations have computers that are no older than three years old. Many organizations have e-mail. Some office employees have always-on connections to the Internet at their desks.	● Some organizations have informational websites.	Organizations are minimally involved in community economic development issues. Little or no plans exist for better using telecommunications services and technologies. Some organizations provide technology training to their staff at least once a year.
	3	● ■ Most organizations with at least five paid staff have at least one computer for every three employees. Many organizations have e-mail.	■ Many organizations have an informational website. Many local chapters are able to share data electronically with the national parent organization. Some organizations accept online donations.	● ■ Some organizations are involved in specific economic development initiatives, but most do not participate. Some organizations plan to use telecommunications services and technologies within the next year. Some organizations provide technology training to their staff at least once a year.
	4	Many organizations with at least five employees have direct connections to the Internet. All paid staff have e-mail accounts. Some organizations use Voice over Internet Protocol (VoIP) to save money. Some office workers have converted from desktop computers to portable wireless devices. Some office computers have video cameras.	Most organizations have an informational website. A unified portal provides access to a broad range of community information and services. Most local chapters are able to share data with the parent organization.	Some organization leaders are actively involved in community economic development issues and there are visible leaders taking a significant role in economic development. Many organizations plan to use telecommunications services and technologies within the next year. Most organizations provide technology training to their staff at least once a year.
	5	Many organizations use Voice over Internet Protocol (VoIP). Every organization is connected to the Internet. Every computer can access the Internet via a local area network. Many computers have video cameras. Most organizations use affordable videoconferencing facilities.	Most organizations accept online donations. Some organizations use an interactive service to further engage the community and make their services more broadly available. Electronic data sharing is a common practice between organizations locally and with national parent organizations.	Organizations collaborate with one another regularly to share resources and provide up-to-date training to their employees and volunteers. Organizations have a defined role in supporting local economic development initiatives. Most organizations plan to use telecommunications services and technologies within the next year.

Government

Bell County

● Bell County's Benchmark Assessment Results are presented in red.

■ Bell County's Vision for this Sector is presented in blue.


	Stage	Networked Places	Applications & Services	Leadership
<p style="text-align: center;">Least Connected</p>  <p style="text-align: center;">Most Connected</p>	0	Not using the Internet.	● No website.	There is no technology or telecom plan.
	1	● Select employees have access to the Internet through a dial-up connection.	Some employees use the Internet for e-mail purposes.	● The Internet is seen as a possible way to enhance the basic daily operations.
	2	Some employees have e-mail accounts.	■ Most public agency websites offer informational features such as a community calendar, staff directory and downloadable forms. Customers rely mostly on postal mail and telephone to conduct business.	Public agencies do not have a strategy for how best to use e-government. Minimal telecommunications planning has occurred. Elected officials are not involved in telecommunications issues.
	3	■ Many employees have e-mail accounts. Some field workers are collecting data on laptop computers or palmtops. Webcams are starting to be deployed.	Some e-government applications are available, such as simple building permit applications, e-mail listservs and some downloadable forms. E-mail from residents is manually routed to the appropriate departments. Some agencies routinely use the network to share data.	■ Government staff is actively involved in framing technology and telecommunications issues. Processes are underway for enhancing connectivity, rights-of-way management, and information technology innovation. Employees are trained and knowledgeable about basic applications.
	4	Some field workers use wireless networks to upload and download data in the field. Some employees use desktop videoconferencing. Sensors and webcams monitor locations, such as rivers, that are important to public safety.	Customers can make routine payments, such as parking fines, online using credit cards or electronic fund transfer. Parks and recreation classes have online registration. Employees can enter building inspections and violations from the field.	Some agencies have a formal policy that allows some employees to work from home at least one day a week. Rights-of-way and tower siting policies are in place. Elected officials understand the importance of the network for economic development and quality of life.
	5	The telephone system is being converted to Voice over Internet Protocol (VoIP) to save money. Many field workers use wireless networks to upload and download data in the field. Critical traffic signals are connected. Desktop videoconferencing is widely available.	Interactive applications, such as customer relationship management, online GIS and video streaming are in regular use. Employees manage benefits programs on an intranet. Emergency response teams can reliably communicate across jurisdictions. Council meetings are indexed and available for searching and retrieval online.	The government has telecommunications, e-government and information technology master plans in place to guide its efforts. Innovative processes are used to collaborate with the private sector.

Tourism, Recreation and Parks

Bell County

● Bell County's Benchmark Assessment Results are presented in red.

■ Bell County's Vision for this Sector is presented in blue. (Blue is used when Assessment and Vision are the same.)


Least Connected  Most Connected	Stage	Networked Places	Applications & Services	Leadership
	0	Not using the Internet.	No computer use. No website. Customers use phone and postal mail.	There is no technology or telecom plan.
	1	Some employees can access the Internet through a dial-up connection.	Some employees currently use the Internet for e-mail.	The Internet is seen as a possible way to enhance operations.
	2	Some office employees have always-on connections to the Internet at their desks.	Some facilities have an informational website. Some facilities transmit or receive some reservations electronically.	The Internet is seen as essential to business operations. Employees are trained on basic applications.
	3	● Most office employees have always-on connections to the Internet at their desks. Some mobile workers have laptop computers and can access the office network remotely. Affordable videoconferencing facilities are available.	● ■ Most facilities have an informational website. Some websites can accept credit card purchases. Some facilities participate in an electronic supply chain.	● ■ Some facilities permit some employees periodically to telework. Some facilities encourage employees to take work-related classes online. Employee training on new technology is a priority.
	4	■ Some facilities use Voice over Internet Protocol (VoIP) to save money. Some office workers have converted from desktop computers to portable devices with wireless connections. Some office computers have webcams for videoconferencing.	Some facilities outsource most of their computing services. Some facilities market themselves out of state or internationally. Some employees work remotely.	Some facilities permit some employees to telework one or two days a week. Some facilities encourage employees to take work-related classes online. Facilities work with educational partners to raise workforce skill levels.
5	Most facilities use Voice over Internet Protocol (VoIP) to save money. Most computers have video cameras.	Some facilities send and receive video mail. Some facilities outsource most of their computing services. Some facilities routinely use multiparty videoconferencing to coordinate operations.	Some facilities have restructured to focus on their core contribution and outsource nonessential functions. New hires are required to have experience using new technology in business applications.	

Agriculture

Bell County

● Bell County's Benchmark Assessment Results are presented in red.

■ Bell County's Vision for this Sector is presented in blue.

	Stage	Networked Places	Applications & Services	Leadership
 <p>Least Connected</p> <p>Most Connected</p>	0	Not using the Internet.	No computer use. No website. All contacts via phone and postal mail.	There is no technology or telecom plan.
	1	● Some growers, suppliers and processors have limited access through a dial-up connection.	● Some growers, suppliers and processors use e-mail and Internet.	● The Internet is seen as a possible enhancement to the way daily business is conducted.
	2	■ Some growers, suppliers and processors have always-on connections to the Internet at their desks.	■ Some growers, suppliers and processors have an informational website. Some growers, suppliers, and processors transmit or receive some orders electronically.	■ The Internet is seen as essential to business operations. Employees are trained on basic applications.
	3	Most growers, suppliers and processors have always-on connections to the Internet. Some mobile workers have laptop computers and can access the network remotely. Affordable videoconferencing facilities are available in the community.	Most growers, suppliers and processors have informational websites. Some websites can accept credit card purchases. Some growers, suppliers and processors participate in an electronic supply chain.	Some suppliers and processors permit employees periodically to telework. Some growers, suppliers and processors encourage employees to take work-related classes online.
	4	Some growers, suppliers and processors use Voice over Internet Protocol (VoIP) to save money. Some workers have converted from desktop computers to portable devices with wireless connections. Some office computers have webcams for videoconferencing.	Some suppliers and processors outsource most of their computing services. Some growers, suppliers and processors sell goods out of state or internationally.	Training on new technology is a priority. Some processors and suppliers permit employees to telework one or two days a week.
	5	Most growers, suppliers and processors use Voice over Internet Protocol (VoIP) to save money. Most computers have video cameras. Some use Radio Frequency Identification (RFID) to track inventory and equipment.	Some growers, suppliers and processors send and receive video mail. Some outsource most of their computing services. Some routinely use multiparty videoconferencing to coordinate operations.	Some suppliers and producers have restructured to focus on their core contribution and outsource nonessential functions. New hires are required to have experience using new technology.



D. HOW DO WE GET THERE?

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PROJECT CONCEPT: Education, Training and Awareness for Bell County

LONG-TERM GOAL

Organization, promotion and delivery of technology education, training and awareness to the entire communities of Pineville, Middlesboro and Bell County.

WHY IT'S IMPORTANT

An educated community is essential in today's global economy. There are opportunities to leverage existing resources in Bell County to expand and enhance workforce training programs, encourage more post-secondary education, and create additional awareness within the community in regard to technology. Education, training and awareness are essential in our ability to expand technology within each sector of the community. These community sectors include: agriculture, business and industry, community-based organizations, government, healthcare, higher education, K-12 education, libraries, and tourism, parks and recreation.

SPECIFIC MEASURABLE OUTCOMES

(Criteria: clear, compelling, outcome-oriented, achievable within one year)

1. Inventory of all education/training/awareness resources in Bell County.
2. Development of additional education, training and awareness materials to further the use of technology and broadband applications.
3. Increase the citizen usage rates of computers and broadband in Bell County.

STEPS TO ACHIEVE OUTCOME

1. Identify all organizations within Bell County performing community education, training and awareness.
2. Divide current resources offered by organizations into three categories: education, training and awareness.
3. Determine which sectors could benefit from education/training/awareness opportunities.
4. Create new ways to market and promote opportunities to appropriate groups within the community.
5. Determine gaps in education/training/awareness and ways to fill those gaps.

NAMES OF IMPLEMENTATION CHAMPIONS

Educational Team

K-12 Education

Bell County School District, www.bellcountyschools.bell.k12.ky.us

Pineville Independent Schools, <http://www.pineville.k12.ky.us/>

Middlesboro Independent Schools, <http://www.mboro.k12.ky.us/>

Higher Education

The Southeast Kentucky Community and Technical College,

<http://www.southeast.kctcs.edu/>

Community Education

Bell County Cooperative Extension Service, <http://ces.ca.uky.edu/bell/>

Bell County Public Library System, <http://www.bellcountypubliclibraries.org/>

PROJECT CONCEPT: Enhance the Pineville and Middlesboro City Guide Websites, and Build a Bell County Website, Incorporating E-Government Services for the Entire Community

LONG TERM GOAL

Using technology, improve internal and external efficiencies within city and county government, allowing for better communication between the different government entities and the citizens of Bell County.

WHY IT'S IMPORTANT

Technology will allow local governments to deliver more applications and improved services to constituents while saving money. E-government will assist in achieving this objective, as well make the services more accessible to the constituents. With growing public acceptance of online transactions and e-commerce growing dramatically, a well-planned e-government strategy will provide for the request for and delivery of local government services over the Internet.

SPECIFIC MEASURABLE OUTCOMES

1. Determine the public need for electronic access to government.
2. Develop a strategy for significantly reducing visits by the public to government offices for routine transactions.
3. Identify applications specifically designed to help businesses interface with governments more efficiently.

STEPS TO ACHIEVE MEASURABLE OUTCOMES

1. Review current e-government applications to identify areas containing gaps.
2. Develop a survey instrument to identify applications of public interest. Use the survey to examine potential e-government applications.
3. Identify high-volume services to target for automation/online service.
4. Identify partners and entities to assist in implementation.
5. Develop and launch applications.

E-GOVERNMENT TEAM

Bell County Government Offices

City of Pineville, www.pinevillekentucky.com/

City of Middlesboro, www.middlesboroky.com/

The Southeast Kentucky Community and Technical College,
<http://www.southeast.kctcs.edu/> (resources and tools for web design and implementation)

POTENTIAL ACTION ITEMS

Community-Wide

- Develop a community-wide website that incorporates all the sectors
- Integrate existing organizations working on economic development into one unified entity
- Host community-wide forums or town hall meetings to increase public awareness of the training programs available...what, when, where
- Common themes across all sectors are education, training, awareness and funding
- Educate small businesses about telecommunications services and the benefits of using technology in business.
- Achieve corporate identity by structuring relationships with other business sectors to gain advantages with new technologies.
- Create a technologically capable workforce through training and skills development.
- Develop a local directory of information technology services.

Business and Industry

- Educate small businesses about telecommunications services and the benefits of using technology in business.

Create a high-tech center to showcase the latest technology.

- Create a technologically capable workforce through training and skills development.
- Develop a media campaign to help consumers and businesses understand the benefits of high-speed services and the Internet.
- Teach businesses how to use e-commerce to sell to public agencies.

Education K-12

- Provide training in information technology resources, especially for support staff and classified personnel.

- Establish a countywide consortium (made up of public and private schools and adult education) to consolidate technology planning in the education sector.
- Build relationships between schools and broadband providers.
- A five-year plan prioritizes identified needs and strategies to meet them. Greater access for all students is the number one priority.
- Install high-speed Internet in all communities. Provide more computer access for citizens/parents
- Fiber connectivity within the district, coupled with increased Internet bandwidth, will increase integration of technology into the classroom, as well as support the increased flow of administrative data all during the day and evening.
- The district hopes to secure fiber connectivity by the next school year, and administrators hope the state can increase Internet bandwidth by then as well. This will open the door for collaborative efforts, using streaming video and audio, between schools, and with business, industry and distant education locations. (T-1 lines, within the district, and on the connection to Frankfort, limit the bandwidth available for streaming applications and administrative data flow. We are using overnight downloads from KET Encyclomedia, but bandwidth is still insufficient both within the district, and on the Internet.)
- The district needs to provide resource for application building for staff and students.
- Broadband access would enable the district to pursue distance learning programs.
- Virtual classes could help the district offer more specialty classes in a cost-efficient manner.
- Purchase and install a fiber Wide Area Network.
- Develop school websites with interactive features.

Healthcare

- Develop a providers' survey to gather baseline information on usage of technology in healthcare. Topics should include: e-mail access, Internet access, websites, electronic records, billing and telemedicine initiatives.
- Identify funding methods for enhancing educational infrastructure.
- Educate providers on available technologies and the benefits of technology in medicine.
- The importance of training cannot be overemphasized.
- Look into moving ahead with electronic medical records. Encourage the hospital to use the technology that is currently available.

- Educate providers on available technologies and the benefits of technology in medicine.
- Provide safe, vendor-neutral, information technology training for healthcare providers, using the state and community and technical colleges, adult education programs and libraries.
- Keep patient data on a central database shared among all medical providers to minimize the number of forms patients have to fill out on each visit. This would enable providers to avoid copying and faxing patient information.

Libraries

- Libraries are constantly changing in order to make new technologies available to the masses. Small libraries and systems, such as all of southeastern Kentucky, are not nearly as up-to-date as larger systems. But they use their dollars wisely and provide expedient services to the public. The library system could easily justify two to three times more computers, but libraries neither have the dollars to purchase or the space to put them. Construction grants will be a must. Most of the libraries are old and not set up physically for technology, i.e., wiring, cabling, needed space.
- Staff will need training on copyright issues, doing live feeds, and two-way videoconferencing. Public libraries and local colleges could partner to achieve this goal.
- There is a lack of building space and funds to provide additional public access for new technology.
- Complete the long-range plan with community input, staff input and library board input.
- Increase the number of public-access computers.
- Provide ports or wireless access points where patrons with laptop computers can connect to high-speed lines.

Higher Education

- Support and maintain distance learning classes through one-course management system by partnering with the business sector.
- Increase technology training for faculty, staff and students by providing better distance learning technical support, i.e., faculty could provide late-night sessions to support students who work.
- Work closely with the P-16 Council and cross-sectors to review disciplines currently being taught.
- Implement more education for the community by developing wireless networks to allow students and faculty seamless access to the campus network.

- Develop advanced applications like Voice over Internet Protocol (VoIP) to save resources and enhance services.
- Substantially increase the number of web-enhanced and fully web-based courses.
- Improve countywide access to distance learning classes.
- Provide continuous training to all educators and staff on technology use and applications.

Community-Based Organizations

- Increase the availability of Internet access through community.
- Identify all community-based organizations in the county and list their websites.
- Create better and more practical communication, which is essential to needed paradigm shift and cultural change; exposure to the larger community would help address the effects of isolation that is such a problem with rural counties.
- Develop a list of potential funding sources for technology acquisition.
- Develop a networking event to share information, ideas and innovations in technology deployment.
- Introduce a community portal that can expand the use of community-based organization applications.
- Facilitate collaboration to share the costs of technology and expertise.
- Implement interagency teleconferencing, sharing of ideas for community-based organization members and leadership to provide immediate access to the needs of other organizations, allowing the needs to be met quicker and duplication of services reduced.

Government

- Improve the ability to conduct business with government over the Internet, such as permitting, purchasing and payments.
- Implement an on-line property tax collection system.
- Educate and inform local leadership about the effects of broadband deployment on local economies, and resolve the territory issues with the local providers.
- Provide mobile equipment with wireless capability.

- Develop better, more secure online data input submission forms, and provide better training for employees who will be completing and e-filing data forms.
- Enforce better communications with state and federal organizations related to fire department education and awareness of special needs related to fire service.
- Provide better availability of broadband to the business sector with wireless capability for all emergency services to deal with communication interoperability problems that exist today.
- Develop e-government applications that provide value to the consumer.

Tourism, Recreation & Parks

- Emphasize a return on investment for technology, i.e., Voice over Internet Protocol (VoIP)
- Utilize teleconference services.
- Support business's requests for web-based support.
- Show homeland security potentials.
- Improve and correct local links and identification.
- Establish a countywide web portal to share information, market the community, list attractions and hotels and provide a calendar of events.
- Encourage local hotels to provide computers and high-speed Internet access to their occupants.
- Get all organizations and hotels online with links to tourism websites.
- Make electronic brochures and information available for downloading.
- Provide wireless access at parks.

Agriculture

- Create greater awareness of the technology.
- Demonstrate the practicality of Internet-based technology.
- Increase broadband awareness among the agricultural community.
- Develop educational materials to help the agricultural community understand the importance of broadband.

- Create a list of providers to help the agricultural sector understand what service is available and from whom.
- Implement advanced telecommunications (Internet) to allow for additional market outlets. The beef cattle industry is already using telecommunications marketing.
- Use telecommunications to enhance product tracking.
- Provide high-speed Internet access at the UK Cooperative Extension office.
- Consider creating a local agricultural portal for sharing news and market information.
- Create and promote materials for the new eXtension service, a national web-based information and education network providing 24/7/365 access to objective, science-based information from universities and partners nationwide.