



JOHNSON 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 Johnson 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 Johnson County’s technology needs, particularly related to computers, broadband and Information Technology.

Summary

Johnson County’s e-Community Leadership Team is leading the way into a new economy for Johnson 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 Johnson 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 Johnson 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 Johnson 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 Johnson County by 2007.

ConnectKentucky recommends that Johnson 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 Johnson 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 Johnson 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

Johnson County industries employ 6,484 workers. The leading Johnson County industry by employment is trade/transportation/utilities with 1,902 workers. Construction employs 352 and manufacturing employs 317. The leading single employer is CDG Management LLC with 167 workers. American Standard Inc. employs 63 and Fouts Wood Products, Inc. employs 40.

Private sector technology leaders in the community like Walker Communications, <http://www.walker-solutions.com>, have increased the availability of cutting edge technologies available to businesses of all sizes in Johnson County. However, Walker has identified awareness and education/training as key components to successful, increased adoption of broadband and Internet-based applications among the business and industry sector.

Assessment

- **Networked Places** – In the category of networked places, Johnson County's business and industry sector is 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.
- **Applications and Services** – In the area of technology applications and services, business and industry is at stage 2 on a 0 to 5 scale with some businesses having an informational website. Some businesses also transmit or receive orders electronically.
- **Leadership** – In terms of technology leadership within the business community, Johnson County is at stage 1 on a 0 to 5 scale. The Internet is seen as a possible business enhancement.

Vision

While the Johnson 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 of the evaluation system to stage 5 in the networked places category; 4 in the applications and services category and 3 in the leadership category. The team's vision includes:

- Most business use **VoIP** to save money
- Most computers have **video cameras**
- Some retailers and manufactures use **RFID** to track inventory equipment
- Some businesses **outsource** most of their **computing services**
- Some retailers and manufacturers **sell goods out of state** or internationally
- Some **employees work remotely**, some out of state
- 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**

EDUCATION K-12

Johnson County is served by two public school districts: Johnson County School District, www.johnson.k12.ky.us, and Paintsville School District, www.paintsville.k12.ky.us. Additionally, there is 1 non-public school in Johnson County, Our Lady of the Mountains School, which has 60 students enrolled in PK-6.

Johnson County School District has 3,599 students enrolled. The Johnson County School System is comprised of six elementary schools, a middle school, a high school, and an alternative school. This district's staff includes approximately 300 teachers, 25 administrators, 2 school psychologists, and 8 resource center directors. Johnson County Schools, ranked 13th academically in the state out of 176 districts, continues to gain statewide recognition for strong student academic performance and for overall student support. For the 4th straight year, the Kentucky School Boards Association (KSBA) has recognized Johnson County Schools for both its high test scores and for overall academic improvement.

	Attendance Rate	Retention Rate	Dropout Rate
District	96%	0.7%	2.3%
State	94.3%	3.4%	2.2%

Transition to Adult Life

	College	Military	Work	Voc/Tech Training	Work & Part-Time School	Not Successful
District	42.1%	0.5%	21%	22.9%	10.3%	3.3%
State	54.8%	2.9%	26.7%	4.9%	6.7%	4%

Every classroom in the Johnson County District has Internet access available for teachers and students. Teachers integrate technology into their instruction via PowerPoint presentations, Internet usage, research projects, and exploration. Computer programs such as Accelerated Reader, STAR Reading, Accelerated Math, Performance Math, Boxer Math, Essential Skills, and Breakthrough to Literacy have been installed in schools across Johnson County to improve student performance and to refine skills in specific content areas.

Paintsville Independent Schools have 842 students enrolled. The district has a Head Start Program serving three to five year olds, a full-day kindergarten, gifted and talented program for P-12, and a comprehensive special education program. The accountability index for Paintsville Schools for 2004 is 87.5, an increase of 9.5 points from 2003.

	Attendance Rate	Retention Rate	Dropout Rate
District	95.3%	1.8%	0%
State	94.3%	3.4%	2.2%

Transition to Adult Life

	College	Military	Work	Voc/Tech Training	Work & Part-Time School	Not Successful
District	69.8%	7.9%	19%	0%	0%	3.2%
State	54.8%	2.9%	26.7%	4.9%	6.7%	4%

Teachers in Paintsville Independent Schools integrate technology in their classroom instruction by using the Internet for resources to enhance their lesson plans. Each classroom has at least one computer connected to the Internet. The Professional Development Plan provides technology professional development for all teachers. All staff members have participated in technology professional development. All teachers have access to instructional software to supplement their classroom instruction.

Assessment

In its evaluation, the Johnson 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, Johnson County's K-12 education sector is at stage 3 on a 0 to 5 scale. Most schools provide at least one computer for every five students in grades seven and above. Most classrooms have computers for student use, and 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 at stage 3 on a 0 to 5 scale. Some schools have an interactive website that offers access to homework assignments and communication with teachers administrators. Many experienced teachers know how to incorporate Internet information into the curriculum
- **Leadership** – In terms of technology leadership within the education sector, Johnson County is currently at stage 3 on a 0 to 5 scale. The school board sees opportunities to use the network to raise tests scores and operate the school more efficiently. Teacher training on new technologies is a priority at most school districts.

Vision

The Johnson County eCommunity Leadership Team recognizes the school system has made technology a priority and the team has outlined a clear vision for enhanced technology usage and application in the classroom. The goal set forth by the Johnson County eCommunity Leadership Team includes reaching stage 5 in all three of the categories above. The vision includes:

- Most students bring their own **laptop computers** to school
- Most **computer labs** have been **closed**
- Many classrooms have **large, flat panel displays** or projectors for video-based instruction
- Most schools have converted their phone system to **VoIP** to save money
- Schools use the network to connect students, teachers and parents improve learning via **online resources** and manage administrative responsibilities more efficiently
- Schools have **ICT literacy** requirements in place
- **Technology training** is offered in the community

- Many high school students use **online teachers** and experts to explore subjects and develop learning plans
- Many school have **comprehensive plans** for learning activities **utilizing technology in the classroom**
- School districts actively **promote ICT 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

Johnson County's healthcare needs are served by Paul B. Hall Regional Medical Center, www.pbhrc.com, a 72-bed primary care hospital accredited by the Joint Commission on Accreditation of Healthcare Organizations. Paul B. Hall Regional Medical Center includes medical, medical/surgical and special care units, along with obstetrical, surgery, emergency services, radiology, cardiology lab, pharmacy, respiratory therapy, physical therapy, and laboratory services, with in-patient and out-patient services. The facility was expanded in 1994. Recent additions of Bone Densitometry and Neurological Radiology have added significantly to the diagnostic capabilities available to patients and physicians which include spiral CAT scans, MRI, mammography, brain and heart SPECT imaging, tomography, sonography and arthrograms. Paul B. Hall's Emergency Department has physicians on duty 24 hours a day. Medical specialties among the staff physicians include anesthesiology, general surgery, pediatrics, obstetrics/gynecology, cardiology, pulmonology, orthopedic surgery, ophthalmic surgery, neurology, radiology, internal medicine, gastroenterology and urology, as well as family practice and general medicine.

The Johnson County Health Department serves as Johnson County's leader in preventative health and well-being. The Health Department offers four distinct areas of service, including environmental services, clinic, home health, and business.

The members of the healthcare sector in Johnson County understand the need for better use of technology. By working together to develop a coordinated plan for technology advancement, healthcare providers look forward to developing a more consistent and collaborative platform to share information and deliver better patient care.

Assessment

The Johnson 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, Johnson 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 3 on a 0 to 5 scale. Many providers have informational Web sites. Many providers store patient records electronically. Telemedicine is being evaluated. Some offices are electronically transmitting records to insurers for reimbursement.

- **Leadership** – In terms of technology leadership within the healthcare community, Johnson County is currently at stage 1 on a 0 to 5 scale. The healthcare community is considering what advantage may come from the implementation of Internet in the office.

Vision

The Johnson 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 the networked places category to a 3; the applications and services category to a 4; and the leadership category to stage 3 on a scale of 0 to 5. 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 allow patients to **e-mail doctors**
- Most providers **store patient records electronically**
- Some **lab results** and images are received **electronically**
- Many providers have begun the conversion to **electronic medical records**
- Many providers are investigating how to deploy **wireless technologies** for **mobile workers**

LIBRARIES

The Johnson County Public Library, <http://mywebpage.netscape.com/johnsoncolibrary>, is a modern structure located in the heart of downtown Paintsville. The library, serving in its traditional capacity, has a multitude of print volumes available for research and for patrons to checkout. In recent years, the library has begun an aggressive movement toward the adoption and implementation of technology. Currently, the entire library facility is covered by high-speed wireless Internet access. In addition, numerous public access computers are available at the library.

The library is one of the few area locations where members of the community can take advantage of free classes in basic computer skills. These classes range in level from the very essentials of turning on and using a computer to more advanced software applications for more specialized uses. Classes are always full with citizens taking advantage of this valuable community resource.

In addition to its physical facility, the library is proud to sponsor the bookmobile program for service to all of Johnson County. This "mobile library" enables patrons from the most remote portions of the County to still be serviced by the library. The bookmobile routes have an approximate two-week cycle between visits to keep volumes fresh while still allowing ample time for patrons to read their selections. Future plans include offering mobile computer classes and mobile Internet facilities as an integrated service of the bookmobile.

Assessment

The Johnson 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 of more.

- **Networked Places** – In the category of networked places, libraries is currently at stage 4 on a 0 to 5 scale. Public libraries have added network ports or wireless networks and electrical outlets to carrels.
- **Applications and Services** – In the category of technology applications and services, the library sector is currently at stage 2 on a 0 to 5 scale. Most libraries have a website with basic information about hours of operation and location.
- **Leadership** – In terms of technology leadership with the library system, the sector is at stage 5 on a 0 to 5 scale. Libraries continue to upgrade their facilities to offer the community the next generation in technology, services, and training.

Vision

The Johnson 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, by bringing all three of the above categories to a stage 5 on a scale of 0 to 5. The vision includes:

- Most public libraries offer patrons a **100 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 publication, 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 ICT literacy** to drive positive impacts on economic performance, skills, and innovation in the community

HIGHER EDUCATION

Johnson County is home to The Big Sandy Community and Technical College, Mayo Campus, Paintsville. The Mayo Campus opened in 1938 as the first vocational institution in Kentucky. Over the years it has continued to serve the students and communities of eastern Kentucky with a long tradition of meeting the needs of a changing workforce. Mayo Campus has a rich heritage of education and training in the Big Sandy area.

Mayo Campus is one of four Big Sandy campuses in the region. Big Sandy Community and Technical College is the largest in the KCTCS system. With well over 3,500 students, Big Sandy CTC plays a crucial role in providing access to education in the mountains.

Big Sandy is a college with a vision for technology expansion and adoption. Recognizing the need for a more technology aware workforce, BSCTC has placed an increased focus on technology expansion by making more computer facilities and high-speed Internet available to all its students. In addition, the college has increased the number of courses available online to make more classes accessible to more students.

Big Sandy College has also begun a concentrated effort to move many of its administrative functions toward online, paperless systems.

Assessment

In its evaluation, the Johnson County eCommunity Leadership Team determined that the higher 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, higher education is currently at stage 4 on a 0 to 5 scale. Some classrooms have been remodeled to include networked connections and power outlets at every seat. Many students bring laptop computers or network-enabled devices to class.
- **Applications and Services** – In the category of technology applications and services, higher education is currently at stage 4 on a 0 to 5 scale. Most of the faculty is 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.
- **Leadership** – In terms of technology leadership within higher education, the sector is also at stage 4 on a 0 to 5 scale. 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 are developing online classes to market to students in other parts of the country and the world.

Vision

The Johnson County eCommunity Leadership Team recognizes the higher education sector has also made technology a priority and the team has outlined a clear vision for enhanced technology usage and application in the classroom. The goal set forth by the Johnson County eCommunity Leadership Team includes reaching stage 5 in all three of the categories above. The 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**
- 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
- The college/university sees itself as a **vital partner in the community's economic development strategy** and has formed partnerships with local businesses to provide skilled technology workers and innovative solutions
- The colleges/universities actively **promotes ICT literacy** to drive positive impacts on economic performance, skills, and innovation in the classroom

COMMUNITY-BASED ORGANIZATIONS

There are approximately 60 non-profit corporations in Johnson County in addition to a number of government-sponsored outreach organizations devoted to servicing the citizens of Johnson County. Examples include:

Carl D. Perkins Rehabilitation Center - <http://www.cdpcrc.ky.gov>

Johnson County UNITE - <http://www.johnsonunite.org>

Assessment

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

- **Networked Places** – In the category of networked places, community-based organizations is currently at stage 3 on a 0 to 5 scale. Most community-based 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 organizations sector again is at stage 3 on a 0 to 5 scale. 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.
- **Leadership** – In terms of technology leadership within community-based organizations, the sector is at stage 4 on a 0 to 5 scale. 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 provide technology training to their staff at least once a year.

Vision

The Johnson County eCommunity Leadership Team sees great potential for the use of technology in the community-based organizations 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 all three categories to stage 5 on a scale of 0 to 5. The team's vision includes:

- Many organizations use **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 use affordable **videoconferencing facilities**
- Most organizations **accept online donations**
- Some organizations utilize an **interactive service** to further engage the community and make their services more broadly available
- **Electronic data sharing** is a common practice between community-based organizations locally and with national parent organizations
- Community-based organizations **collaborate** with one another regularly to share resources and provide up-to-date training to their employees and volunteers
- Community-based 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

Government entities in Johnson County include Johnson County, Paintsville (county seat), and Van Lear. Johnson County's official website, <http://www.johnsoncountyky.com>, ranks 18th out of 60 official county websites in the state.

Paintsville's official city website, <http://www.paintsville.org>, ranks 102nd out of 116 official city websites in the state and has been targeted as a priority area for improvement.

All entities within the government sector understand that technology is important to conduct the government's business more effectively. Broadband and technology fluency are viewed as the key to the community's economic prosperity. In addition, governmental leaders focus on using technology solutions to better communicate with the residents of the city and county. With the use of broadband, the government sector seeks applications that will take advantage of that infrastructure to deliver better service and return on the taxpayers' investment.

Assessment

Although the government entities in Johnson County have a somewhat limited online presence, the Johnson 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, government is currently at stage 3 on a 0 to 5 scale. Many employees have e-mail accounts. Some field workers are collecting data on laptop computers or palmtops. Webcams are starting to be deployed.
- **Applications and Services** – In the category of technology applications and services, the government sector again is at stage 3 on a 0 to 5 scale. Some e-government applications are available, such as simple building permit applications, e-mail listserv and some downloadable forms. E-mail from residents is annually routed to the appropriate departments. Some agencies routinely use the network to share data.
- **Leadership** – In terms of technology leadership within government, the sector is also at stage 3 on a 0 to 5 scale. Government staff is actively involved in framing technology and telecommunications issues. Processes are underway for enhancing connectivity, rights-of-way management, and IT innovation. Employees are trained and knowledgeable on basic applications.

Vision

The Johnson County eCommunity Leadership Team has developed goals to provide a framework for robust e-government functions in the next two years, bringing the rating in the category of network places to stage 4 on a 0 to 5 scale; applications and services to stage 5; and leadership to stage 4. The team's vision includes:

- Some field workers use **wireless networks** to upload and download data in the field
- Some employees are using **desktop videoconferencing**
- Sensors and **webcams monitor locations**, such as rivers, that may be a threat to public safety
- **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 IT master plans** in place to guide its efforts
- **Innovative processes** are used to collaborate with the private sector

TOURISM, RECREATION, and PARKS

Tourism and recreational points of interests in Johnson County include a wide range of destinations focused primarily on the region's music and mountain living heritage.

The Kentucky Apple Festival, <http://www.kyapplefest.org>, is a national highlight among regional festivals in Kentucky. Drawing thousands of visitors each year, the Apple Festival highlights regional crafts, artists, and entertainers of all types. Visitors and locals alike look forward to the festival every year as it welcomes the fall season to the mountains.

Other destinations include:

- Mountain Homeplace, <http://www.mountainhomeplace.com>
- US 23 Country Music Highway Museum
- Loretta Lynn's Homeplace in Van Lear
- River Pedestrian Bridge
- 201 Speedway
- Paintsville Country Club Golf Course
- Paintsville Lake and Marina
- Enchanted Mountain Mansion B & B, <http://www.enchantedmountainmansion.com>
- Mayo Mansion

Assessment

The Johnson 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, tourism, recreation and parks is at stage 4 on a 0 to 5 scale. Some facilities use 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.
- **Applications and Services** – In the category of technology applications and services, the tourism sector is currently at stage 2 on a 0 to 5 scale. Some facilities have an informational website. Some facilities transmit or receive some reservations electronically.
- **Leadership** – In terms of technology leadership within tourism, parks and recreation, the sector 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.

Vision

The Johnson 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 change within a brief period. The team has set goals to move the category of networked places to stage 5 on a scale of 0 to 5; and both applications and services and leadership to stage 4. The team's vision includes:

- Most facilities use **VoIP** to save money
- Most computers have **video cameras**
- Some facilities **outsource** most of their computing services
- 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 the workforce skill levels

AGRICULTURE

Agriculture has been a quiet, yet strong part of Johnson County's economy. In 2002, the number of Johnson County farms was 195 with an average of 122 acres. As of the same year, there were a total of 23,830 acres in farmland in Johnson County.

However, like most of Kentucky, Johnson County's agriculture industry has been severely impacted by the dramatic reduction in market demand for burley tobacco. In 2002, the market value of production was \$1.2 million with crop sales accounting for \$1 million and livestock sales accounting for \$231,000. Government payments dropped 88% from 1997 to 2002, going from \$43,000 to \$5,000.

Local officials estimate these rates have dipped even lower in recent years. Most farmers in Johnson County are classified as "part-time" with the farmers relying upon other employment as their primary source of income. Despite farmers receiving \$3.8 million in burley payments for crop diversification from the Tobacco Buyout Program, many farms in the county have simply ceased operations in recent years.

However, opportunity still exists in Johnson County's agriculture sector. The county is the 31st leading producer of vegetables, melons, potatoes, and sweet potatoes.

The 2002 Leading Ag Product sales in the County were:

- Cattle and calves \$185,000
- Tobacco \$652,000
- Nursery, greenhouse, floriculture, and sod \$135,000

Those farmers who remain in Johnson County have not been overly receptive to technological advances in agriculture. While some farmers use e-mail and the web to check weather and do crop/pest research, most farmers have not adopted any sort of computerized field mapping or remote monitoring systems. Local officials estimate two causes for this lack of interest. First, the limited availability of a wireless Internet infrastructure makes field-based monitoring applications impossible. Second, and most importantly, farmers need training and education as to the possibilities technology could bring to their farm. Without a concentrated effort to promote technological adoption and education, forthcoming regulations from FDA requiring such systems will likely serve as a further deterrent to the county's "part-time" farmers.

Even more important to the future of Johnson County's agriculture community will be use of the Internet to expand the market for farm products. Currently, Johnson County is home to unique varieties of vegetables passed down through generations of local farmers. With the aid of the Internet and e-commerce, "greasy beans" and other such unique farm products could realize a tremendous opportunity for sales growth through a centralized farmer's market.

Assessment

The Johnson County eCommunity Leadership Team found that the agriculture sector is just beginning to use technology to its advantage and identified a large opportunity for technology applications within this sector.

- **Networked Places** – In the category of networked places, agriculture is currently at stage 2 on a 0 to 5 scale. Some grower, supplier, and processors have always-on connections to the Internet at their desks.
- **Applications and Services** – In the category of technology applications and services, the government sector is at stage 1 on a 0 to 5 scale. Some growers, suppliers, and processors utilize e-mail and Internet.
- **Leadership** – In terms of technology leadership within agriculture, the sector is at stage 1 on a 0 to 5 scale. The Internet is seen as a possible enhancement to the way daily business is conducted.

Vision


The Johnson 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 change within a brief period. The team has set goals to move to stage 3 in each of the above categories. The team's vision includes:

- Most growers, suppliers, and processors have **always-on connections** to the Internet
- Some mobile works have **laptop computers** and can access the network remotely
- Affordable **videoconferencing facilities** are available in the community
- Most growers, suppliers, and processors have **informational Web sites**
- Some websites can **accept credit card purchases**
- Some growers, suppliers, and processors **participate in an electronic supply chain**
- Some suppliers and processors permit employees to periodically **telework**
- Some growers, suppliers, and processors encourage employees to take **work-related classes online**

Business and Industry	Johnson County
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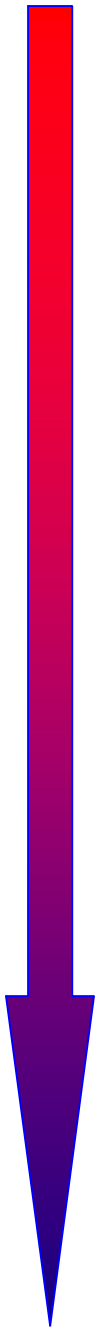
● Johnson County's Benchmark Assessment Results are presented in red.

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

	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.

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

■ Johnson 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

Johnson County

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

■ Johnson 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 been 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

Johnson County

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

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


Least Connected	Stage	Networked Places	Applications & Services	Leadership
	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.	
Most Connected	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

Johnson County

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

■ Johnson 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.	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.	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.	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.
	4	● Some classrooms have 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.	● Most of the faculty are trained to use the Internet for instruction. Most classes use digital content and web-based content for instruction. Some undergraduate students take distance learning classes for specialized subjects and graduate-level research.	● 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	■ 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.	■ 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

Johnson County

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

■ Johnson 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. 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

Johnson County

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

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


Least Connected	Stage	Networked Places	Applications & Services	Leadership
	 <p>Most Connected</p>	0	Not using the Internet.	No website.
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

Johnson County

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

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


<p style="text-align: center;">Least Connected</p>  <p style="text-align: center;">Most Connected</p>	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

Johnson County

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

■ Johnson 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 Johnson County

LONG-TERM GOAL

Organization, promotion and delivery of technology education, training and awareness to the entire community of Johnson County.

WHY IT'S IMPORTANT

An educated community is essential in today's global economy. There are opportunities to leverage existing resources in Johnson 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 Johnson County.
2. Development of additional education, training and awareness materials to further the use of technology and broadband applications with a particular focus on collaborative education and training opportunities.
3. Increase the citizen usage rates of computers and broadband in Johnson County.

STEPS TO ACHIEVE OUTCOME

1. Identify all organizations within Johnson County performing community tech-based education, training and awareness.
2. Divide current resources offered by organizations into three categories: education, training and awareness and create lists under each category.
3. Determine which sectors could benefit from education/training/awareness opportunities and prioritize based upon greatest need.
4. Find creative ways to make the education/awareness/training options more complementary in nature, so that efforts are not duplicated. Work with providers to retool the classes to best fit the needs of the community.
5. Create new ways to market and promote opportunities to appropriate groups within the community, including local efforts to demonstrate the value of technology.
6. Determine gaps in education/training/awareness and find ways to fill those unmet needs.

IMPLEMENTATION CHAMPIONS

Educational Team

Big Sandy Community and Technical College, Mayo Campus,

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

BSCTC-Mayo Adult Education Center, [Jennifer Leedy \(jennifer.leedy@kctcs.edu\)](mailto:jennifer.leedy@kctcs.edu)

Johnson County Schools, <http://www.johnson.k12.ky.us>

Paintsville Independent Schools, <http://www.paintsville.k12.ky.us>

Johnson County Public Library <http://mywebpage.netscape.com/johnsoncolibrary>

PROJECT CONCEPT:

Create an Office of Coordinated Solutions for Johnson County Businesses

LONG TERM GOAL

Create an Office of Coordinated Solutions that will provide for county-wide coordination, evaluation, and dissemination of information regarding all services and programs available to businesses in the Johnson County Kentucky area. Additionally, this position will provide for the analysis and recommendation of technological application implementation within the business community through steady interaction.

WHY IT'S IMPORTANT

Currently multiple community partners are offering many valuable services to different sectors within the county. However, these efforts are not well coordinated and often end up disjointed and redundant. This office will provide coordination between local government, economic development, public service and business officials to maximize limited resources by focusing on collaboration and feedback. This position will also be able to assess the business community to determine needs and identify barriers faced by area business.

SPECIFIC MEASURABLE OUTCOMES

1. Publish a comprehensive list of services and solutions offered by various entities in the County.
2. Function as a clearinghouse of support information and solutions for area businesses.
3. Assist and compliment the position of Economic Development Director in determination of services and programs offered to area businesses and make recommendations where appropriate.
4. Focus on bringing together service providers in ways that will demonstrate value to both providers and their business customers.

STEPS TO ACHIEVE MEASURABLE OUTCOMES

1. Inventory existing resources and programs available to Johnson County businesses at all levels, from investment to worker training to government incentives.
2. Work with local technology solutions providers to establish a protocol for handling business inquiries regarding tech questions.

3. Launch a coordinated marketing effort within the county by developing a “brand” for the Coordinated Solutions office.
4. Develop a survey instrument to identify greatest needs of Johnson County businesses.
5. Focus on identifying (or recruiting) providers who can assist businesses in meeting their greatest needs.

IMPLEMENTATION CHAMPIONS

Kentucky Highlands Entrepreneur Center, <http://www.kyhighlands.com/>
Big Sandy Community and Technical College, <http://www.bigsandy.kctcs.edu/>
Paintsville/Johnson County Chamber of Commerce
Paintsville/Johnson County Tourism, <http://www.paintsville.org/>
Johnson County Judge-Executive and Economic Development,
<http://www.johnsoncountyky.com/>
Paintsville Mayor’s Office

POTENTIAL ACTION ITEMS

Business and Industry

- Conduct educational outreach forums that demonstrate case studies to the public. Utilize organizations that are successfully employing broadband in an effort to demonstrate what they are doing from a general perspective by showing how they are utilizing broadband applications to compete globally.
- Promote Voice-Over-IP and encourage its use among businesses as a way to save money.
- Educate all businesses, especially small businesses, on available telecommunications services and the benefits of using technology in business. Part should be educating that IT infrastructure should be a major budget item.
- Create a technologically capable workforce through training and skills development.
- Develop services directory for local IT related services in the County, including business-to-business opportunities.
- Develop a community application that allows local businesses and other sectors to easily go online with a basic web presence.
- Identify ways to reduce the costs of connecting to the Internet and potential funding sources for small businesses.

K-12 Education

- Provide training in information technology resources for districts. All faculty and staff are first in need of awareness building for what opportunities an increased focus on technology in the classroom can do for them, and then most importantly, once enthusiasm is created, actual training in how to implement these applications.

- Employ additional technology resource teachers and specialists to assist in the teaching and learning process so that the level of technology integration can be increased.
- Eliminate the outdated computer lab concept and begin transition to more direct student access to technology, e.g., the concept of a laptop for every student.
- Revisit budgetary priorities to establish both school districts' commitment to investment in technology, and allow for complementary investment priorities to avoid duplication. Funds must be set aside to maintain and update equipment.
- Evaluate the possibilities of open source applications to make best use of limited school technology budgets.
- Create network storage facilities and applications to allow students and faculty to have portable storage available on any campus computer.
- Include additional community partners that can support and help finance the expansion of technology services in the school districts.
- Win support of the school boards for increased resources for technology and training.
- Develop strategies for bridging the digital divide - after school programs, community centers, etc.
- Improve district websites for all schools to highlight interactive features currently available and expand upon application offerings.

Healthcare

- Encourage state provider and insurance companies willing to improve reimbursement for adoption.
- Facilitate a state-wide awareness initiative for physician awareness and acceptance.
- Provide safe, vendor neutral, basic education and training on information technology for healthcare providers using the state and community colleges, adult education programs, and libraries.
- Seek grants for implementing technological upgrades and training for medical staff.
- Educate providers on available technologies and the benefits of technology in medicine.
- Increase use of video and web conferencing tools: (a) educate healthcare professionals through distance learning; (b) use as medium to inform public of current healthcare activities.

- Accept immunization records online so they can be accessed in hospitals and physicians' offices.
- Provide ability to access birth certificates online, along with other vital statistics.
- Mobile enable field staff with wireless connections and laptops to enable data tracking, onsite input, and access to patient information at the time of service.
- Develop a communications system between health department nurses and other health agencies, both internal and external, to allow for collaborative treatment of patient, rather than isolated efforts by individual healthcare providers.
- Acquire all record-keeping online and into a database. Reduce many paper files and update vital information in those files at that time.
- Extensive computer training and application development, to include "listening sessions" with staff of front-line staff in healthcare organizations to custom tailor specific needs.
- Seek funding for technology investments and updates, especially in the antiquated computer systems on most desks.

Libraries

- Provide Internet access on our bookmobile for users during bookmobile stops to remote portions of the county.
- Seek grants and other alternative forms of funding to expand and build upon current basic computer classes offered for free at the library.
- Teach basic computer classes through mobile lab on the bookmobile.
- Provide the book database online so that users can determine availability of certain books before actually coming to the library.
- Connect the online book database to a book reservations tool that will enable users to request specific books be placed on the bookmobile so they could then check out the requested book during local bookmobile stops.
- Promote/raise awareness of wireless access that is available so patrons know they can bring their own computer to get high-speed access without waiting for limited number of library PCs.

Higher Education

- Develop and refine the college's information technology plan to focus on two primary areas: 1) training and education of students, faculty and staff; and 2) greater access to technology resources.
- Expand remote education and classes to expand eLearning Curriculum offerings to increase the access to education for people of eastern Kentucky, especially important in the wake of rising transportation costs.
- Increase training and incentives for faculty to adopt web-enhanced and web-based course offerings.
- Expand on-campus wireless infrastructure to make Internet more available to students anywhere on campus. This will also serve as an incentive for students to bring laptops to campus.
- Create network storage facilities and applications to allow students and faculty to have portable storage available on any campus computer.
- Expand and build upon online and paperless college administrative functions.
- Provide more computers to students on campus, especially addressing the needs for after-hours computer lab use.
- Encourage the institutions of higher education, especially within the KCTCS network, to work together to develop on-line courses and programs.
- Provide continuous training to all educators and staff on technology usage and applications. This may include an expanded help-desk.
- Revisit budgeting priorities to carefully weigh alternatives to traditional bricks and mortar investment and focus more on "virtual" learning investments.

Community-Based Organizations

- Develop a portal type website for all community-based organizations that will highlight their service offerings and allow customers to more easily find the support resources for which they are looking. Will also allow for greater and more efficient referrals from within the community.
- Create an e-commerce side of portal site to allow for easy online donations.
- Encourage use of e-mail and the web to reduce paper and provide better, faster and more responsive communications with customers.
- Expand wireless availability to provide for better and more informative applications to be used by field staff/volunteers.

- Increase training available in the technology possibilities and use of new applications to all staff/volunteers.
- Facilitate and encourage greater involvement of computers and computer-based training for school students to increase those students' likelihood of success.

Government

- Develop a county-wide Technology Plan to bring all governmental entities of the county together in support of uniform standards, applications, and training for more inter-departmental collaboration.
- Create more applications for internal use so that computers can be used for more than basic office administrative tasks.
- Create more applications in conjunction with a single community website for external use to bring government to the citizens of Johnson County. Ideas include:
 - RSS Feeds for agendas and minutes of all government public meetings
 - Pay local taxes online
 - Make services of county elected officials available online – PVA maps, Clerk's office records, sheriff's crime statistics, etc.
 - Citizen complaints/suggestions should be received online and a system developed to insure that person gets feedback on the problem reported
 - Tracking of government services and spending so as to ensure that taxpayers are getting the most efficient use of their tax dollars
- Better education and training in technology possibilities for government employees. Needs to be thorough and focused. All employees of all government agencies in the community should be required to participate.
- Educate community leaders on the importance of keeping up with the broadband technologies, working with business and industry to lead the way.
- Implement WiFi system beginning with City of Paintsville for a multitude of functions including emergency management, business and industry use, and public education.
- Allow for donation of appropriate surplus computers to non-governmental organizations and individuals.
- Make all applications and documents on the Internet downloadable; increase the number of paperless transactions both internally and externally.
- Seek grant funding to improve the technology infrastructure and information technology support functions.

Tourism, Recreation, and Parks

- Update Community websites to integrate into a single web portal for the county. Encompass all functions needed on the site with particular focus on attracting visitors/tourism promotion.
- Provide visitors with “one-stop shopping” where they can plan their trip, have an itinerary, book hotel and attraction tickets all online.
- Increase community communications between tourist sites of interest.
- Use technology to market our county attractions to potential in-state and out-of-state tourists. Ideas include:
 - Placing an “Amber Alert” sign on US 23 to display current events and tourism promotion.
 - Developing a regional tourism radio station to share events, happenings, as well as tell the stories of the region’s history, i.e, Jenny Wiley, Hatfields and McCoys, etc.
- Use technology to provide for better and more efficient communications, specifically use of webcam videoconferencing, universal adoption of e-mail and web-based office management functions (like calendaring).
- Provide training for staff to make best use of these new technology applications.
- Create a local Office of Technology funded jointly by all agencies of city and county government to offer advanced technical support for all local government and non-profit community organizations. Such advanced functions might include website development, localized wireless access deployment, etc.
- Increase training using KTLN and other networks.

Agriculture

- Evaluate the feasibility of creating a local agricultural portal to connect the agriculture community together for advance information sharing, news and market distribution, etc.
- Stay abreast of the new technology in the farming industry from equipment to chemicals using the Internet.
- Emphasize technology education to producers.
- Promote e-commerce for those agriculture enterprises that already utilize e-mail and websites.
- Increase Internet access awareness among the agricultural community.

- Create a listing of providers in the community to allow for the agriculture sector to better understand what service is available and from whom.
- Develop educational materials to help the agricultural community to understand the importance of broadband.