

# **The Impact of Connectivity in Small, Rural Communities**

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## **Introduction:**

Access to high-speed internet can change the economic thread of a small, rural community and is a crucial tool in economic, community and workforce development. As the State of Tennessee economic development team works to recruit high-paying, high-skill jobs to the state, high-speed internet access is critical. The internet has become an indispensable tool that people today use to enhance their daily life. Researching products, paying bills, managing bank accounts, finding directions, taking online classes, and even tracking the weather are a few of the ways the internet has made daily tasks more efficient. It is almost impossible to imagine how a business in 2018 could function without access to the internet. The internet's impact on business has been dramatic. The internet has allowed businesses to cut communication time and costs, finalize financial transactions faster, reach new audiences via social media marketing and gather specific, beneficial customer information to make better decisions. This list highlights just a few of the ways the internet has become a critical part of the world today.

Although a rural community, the city of Henderson, located in Chester County, Tennessee, has had access since 2015 to one gigabit fiber. However, fiber optic internet is limited outside the city and is available to just seven percent of county residents. Only 26 percent of county residents have access to fixed wireless internet service. Henderson has experienced economic and community development successes since gig fiber was installed, but there is more work to be done to connect those outside the city limits and in the extreme rural areas "out in the county." As the economic development team in Chester County works to recruit new business, support entrepreneurs, help existing businesses expand, and educate our workforce, one of the main priorities must be high-speed internet. For Henderson and Chester County to continue to move in a positive direction they need to consider becoming a Broadband

Ready Community, a State of Tennessee led initiative. They must also collaborate with the local electrical cooperative, continue communication with state legislature representatives, and work with local providers to make installing high-speed internet in the community both available and uncomplicated.

### **Henderson Background and History:**

Henderson is located in southwestern Tennessee and is the seat of Chester County. It is located 85 miles northeast of Memphis, 135 miles southwest of Nashville and 15 miles south of Jackson, Tennessee. Henderson has a population of just over 6,300 and is home to Freed-Hardeman University, a four-year, private liberal arts college.

The community has long placed a priority on education and this has played an active role in shaping the direction of Henderson's growth and advancement. In 1869, the Henderson Male and Female Institute was incorporated by an act of the Tennessee General Assembly. Over the years, the institution has changed names, but the mission to place education and workforce development at the forefront of Henderson's agenda has not. In fact, during the post-Civil War era boom in Henderson, times were good for accountants, businessmen and secretaries; programs in which Henderson Male and Female Institute specialized to train the workforce pipeline of the day. Today, the Henderson Male and Female Institute is known as Freed-Hardeman University and it encompasses over 150 acres in the heart of downtown Henderson. Freed-Hardeman University has approximately 2000 students. The university stands out as a major asset to the rural Chester County community. Indeed, it is rare that in a town of 6,300 residents, one can advance from Pre-K to a doctoral degree without leaving Main Street. FHU, along with the

Chester County School District and the local Tennessee College of Applied Technology campus, is leading the way in training today's workforce.

In 1976, a group of businessmen and education leaders in Chester County came together to form the Henderson | Chester County Chamber of Commerce. Over the years, the chamber has grown from just a phone line in the county courthouse, to becoming a 162-member organization with a full-time staff of two. Overseen by a volunteer board of directors, the chamber serves as the economic development team for Chester County. The primary function of the chamber is to support the growth of the local economy. The chamber accomplishes this through the recruitment of new business and industry, as well as through business expansion, workforce development and tourism. These functions are all important aspects of the chamber's work. Successful communities must have strong local partnerships and this is very much the case in Chester County. The chamber's board of directors and staff have an exceptional working relationship with the Henderson mayor as well as the Chester County mayor and county commission which makes collaboration on economic and community development projects less complicated and more successful.

Following in Henderson's educational tradition, workforce training remains a priority for the chamber. Other top priorities include businesses recruitment, supporting entrepreneurs and improving quality of life for all Chester County residents. Because of these priorities, the Henderson | Chester County Chamber of Commerce recognizes the importance for the county to become a Broadband Ready Community and for high-speed internet service to be available for all residents, regardless of location. The chamber believes that access to the internet is important for supplying Chester County's existing and future businesses with an educated workforce.

## **Importance of Available Broadband Connectivity:**

In the Tennessee Entrepreneurship and Small Business Development Course, entrepreneurship trends were discussed. One of the major trends discussed was the need for fiber in small communities. One case study presented was Sallisaw, Oklahoma (population 8,874), a rural town that provided fiber to every home. They saw a 186 percent increase in self-employed businesses increasing employee numbers from one up to nine after the internet connections. Sallisaw has 3,600 residential homes and has approximately a thousand internet customers. Sallisaw used a marketing campaign called, “Hometown Connection to the World.” Sallisaw city management granted an interview with the Oklahoma Cooperative Extension Service and reported that since the broadband installation, businesses have been using the high-speed internet to transfer data, develop a website presence, and are taking advantage of online training.

Benefits of having entrepreneurs in small communities help provide diversified local economies, wealth, and place making. The entrepreneurship spectrum presented in the course stated that micro-enterprise, small business, innovators, and venture companies can all spawn from the entrepreneur sector. One of the strongest emerging sectors was “laptop-preneurs.” 8<sup>th</sup> Day Software’s Dave Loschinsky said that small towns have a problem with self-esteem. “We believe that small towns can do manufacturing and retail,” he said. “We believe that small towns can have a doctor’s office and a couple of nurses. Why don’t we believe that small towns can have engineering firms and creative design firms and software development firms” (2016).

The digital divide between rural and urban connectivity is astonishing. According to a CBS report, only three percent of those living in urban areas lack access to high-speed internet versus 39 percent of people in rural areas. The FCC defines high-speed internet as download speeds at 25 megabits a second. The Pew Research Center reports that rural residents go online

less frequently than their urban and suburban counterparts. The “want” of high-speed internet has turned into a “need” over the last 20 years. Jonathan Spalter of USTelecom estimates that five million rural students will be pursuing online degrees by 2020, but 21 percent of schools in rural areas will still lack fiber connection.

The digital gap and lack of connectivity is troubling when one understands the consequences. Reports indicate that there could be 45,000 fewer rural doctors by the end of 2019 making the need for telemedicine critical. As rural communities get connected, unemployment falls, incomes go up, and online education opportunities increase. As reported in the Entrepreneurship and Small Business Development Course, companies less than five years old are creating the newest U.S. jobs and that trend will continue into the foreseeable future. Small, rural areas must pay attention to this trend. It would be almost impossible to create a new company in today’s market without high-speed internet, and if small, rural communities want to flourish and encourage new business growth, high-speed internet must be a priority.

### **Broadband: Introduction and Impact:**

Tennessee is the 24<sup>th</sup> most connected state in the United States according to [broadbandnow.com](http://broadbandnow.com). However, this relatively high level of connectivity is not universal in the state. While, 90 percent of Tennesseans have access to wired broadband of 25mpbs or faster, only 48 percent of Chester County residents enjoy this level of service. Similarly, 18 percent of Tennesseans have access to one gigabit fiber, but only seven percent of residents in Chester County have this same level and the majority of these are located within the city limits of Henderson.

In 2015, Aeneas Internet and Telephone, a telecommunication provider based in Jackson, Tennessee, announced that it would roll out a pilot program in Henderson providing affordable one gigabit fiber to businesses, two industrial parks, and residents. Johnathan Harlan, CEO of Aeneas, said, “Henderson was a good choice for our first fiber build for several reasons; it was a thriving community, in close proximity to our home base in Jackson, and the city leadership was very receptive to the idea” (2016). Recognizing the need for high-speed internet in small West Tennessee communities, Harlan believed affordable fiber would be a huge economic development win for Henderson and other small towns. The gig fiber availability on Main Street allows for the Chamber of Commerce to recruit new types of business that were never considered in the past for small towns such as software development companies, public relation and marketing firms, and specialized healthcare companies. “Encouraging entrepreneurs is important to us in Henderson,” said Mayor Bobby King. “Offering gigabit Internet, high school coding classes, a strong Chamber of Commerce and a quality of life that people of all ages can enjoy, Henderson is an ideal incubator for business start-ups” (2016).

As hoped, fiber connectivity allowed for new business creation in the rural town of Henderson. Dave Loschinsky, a Fortune 50 technology executive, saw a need for domestic software vendors and he founded 8<sup>th</sup> Day Software. Loschinsky believed that high quality work could be done from anywhere in the state that had a fast internet connection and desired to bring back offshore jobs. Loschinsky said, “There is myth and common belief in America that you have to live in a big city to be smart. All the people sitting in Silicon Valley didn’t grow up there, they grew up in rural America” (2016). With two employees above a sandwich shop on Henderson’s Main Street, 8<sup>th</sup> Day Software opened its first rural development center in the country. Over the last few years, 8<sup>th</sup> Day has expanded in Henderson and currently has 50

employees. 8<sup>th</sup> Day has three offices in Tennessee and in October of 2017 was acquired by Diplomat and integrated into EnvoyHealth. The growth and success of 8<sup>th</sup> Day would not have been possible in a rural community such as Henderson without high-speed internet.

Another story of success in the heart of downtown Henderson is Bramblett Group. Bramblett Group is a full-service public relations and marketing firm. Entrepreneurs, Jason and Dawn Bramblett, came to Henderson to attend college at Freed-Hardeman University and decided to make their home in Chester County. After several years working for other people, the Brambletts took a chance and started a business in their home in 2006. Over the years, Bramblett Group has expanded to 14 employees including graphic designers, writers, photographers, and marketing experts. They also renovated a desolate building on Main Street which now serves as their headquarters. Bramblett Group works with clients nationwide from Denver to Mobile to Michigan.

The Bramblett's believe, like Loschinsky, that talent lies in rural Tennessee and that if they created high-paying jobs, the talent will stay in their small town. With clients all over the country, great connectivity is a must. The Brambletts often mention that clients are astonished at the speed that they can download and upload files. In fact, Dawn has a friend from college who has lived for many years in Manhattan and is currently building a house in Henderson. She is a national public relations specialist and her husband is in the software development field. Because of the gigabit fiber access, this successful, professional couple left the stressful and expensive life of New York for a new life in Henderson. They are excited to live where housing is affordable, there are no traffic jams, and taxes are much lower, but they can still stay connected in their jobs. This couple illustrates another, less tangible benefit of improved connectivity. Ultimately people are one (if not the) most important assets of a community to

foster its growth and the ability to attract and retain talent of this type will yield positive effects that will ripple through the community in unforeseen ways as they engage in civic involvement and invest back in the community. Indeed, it is evidently clear that connectivity plays a major role in job creation and in recruiting the jobs of today and fostering where successful people desire to locate.

Success stories like 8<sup>th</sup> Day Software, Bramblett Group, and the individual couple reveal that small towns can compete in the global economy and create high paying jobs if they have access to high-speed internet. While these successes have changed the economic thread of the Henderson community, there is much work to be done.

Not only software and computer based businesses require internet connections. Indeed, one of the county's oldest and largest industries is agriculture and modern farming practices require a connection to both broader markets and suppliers as well as satellite technology to succeed. There are over 415 people in Chester County working in the agriculture industry and it has a \$33.7 million economic impact in the county. Currently, 29 percent of U.S. farms have no access to the internet according to a USDA report. Farmers and agriculture industry specialists are using precision agriculture techniques to sustain their crops, order fertilizer, collect data, and even program the GPS on their tractors. Farmers also need high-speed connectivity to manage the business aspects of their farm, follow markets, and communicate with current and potential customers. High-speed internet is essential to the modern farm operation.

### **The Next Step: A Broadband Ready Community:**

The State of Tennessee has recognized the need for high-speed internet in the rural areas and in 2018 the state legislature approved the Tennessee Broadband Accessibility Act (TBAA).

There are three components to this legislation; Investment, Deregulation, and Education. The TBAA provides \$45 million over three years through grants and tax credits that focus on the state's underserved communities, which are primarily in rural areas. Tennessee has also created a "Broadband Ready Community" designation for cities/counties whose city alderman/county commissioners approve an ordinance which establishes certain local commitments.

Communities that receive this designation agree to uncomplicate the opportunities for their citizens to receive fiber internet service. Additionally, the internet service providers receive extra points on grant applications with the state to assist with the investment needed to extend internet service.

As the Chester County Economic Development team sets goals and priorities for the future, access to high-speed internet must be at the top of that list. The Henderson | Chester County Chamber of Commerce will be the driving force in fighting for internet access for all of Chester County. The identified project is to become a Broadband Ready Community. One of the first steps in accomplishing this goal is to identify who needs to be on the team. The Chester County mayor, the Henderson mayor, the chamber of commerce executive director, director of the public school system, agriculture representative, electric cooperative representative and chamber board of directors will be on the team. It is important for these team members to be champions of the project and to understand why connectivity is a crucial economic development need so they can spread the word and build momentum around the project. Another important aspect of this project is gathering resources and understanding where access gaps are located in the county. This information will be gathered from internet service providers, so that both the team and providers have a clear understanding of the local gaps in service availability. The project timeline is fairly quick. By October 15, 2018, a community broadband ready team will

be formed, and the team will meet and set goals. As the team researches the project, they will begin reaching out to county commissioners to educate them on the Broadband Ready Community ordinance. For the project to be successful, the Chester County Commission must pass the ordinance in a county commission meeting. The county commission meets every other month, so it is very possible that this ordinance can be read and passed by December 28, 2018.

Another important issue, that may not be a direct project goal, but needs to be part of the overall scope, is working with the local electric cooperatives. In 2018, the state of Tennessee passed the TBAA allowing electric cooperatives to help bridge the broadband gap. Electric cooperatives have experience in dealing with lower population densities and are well positioned to help extend fiber infrastructure to this unserved population using existing infrastructure. The local electrical cooperative serving Chester County and Henderson is Southwest Tennessee Electric Membership Corporation (STEMC). STEMC has already played an important role through their leasing of fiber to Aeneas. Indeed, it was their early involvement that helped Aeneas with their successful deployment. The continued involvement of STEMC in the community and their inclusion in the broadband team is essential. STEMC recently completed a feasibility study and reported it would be a \$110 million investment to provide internet to all of their customers. STEMC's Vice President of Engineering reports they are staying informed on what other rural cooperatives are doing to get in the internet game, learning from them, and setting strategic plans for the future.

### **Conclusion:**

In conclusion, since only 26 percent of Chester County residents have access to fixed wireless internet and only seven percent have access to gig fiber, the economic development

team in Chester County must make access to internet service a top priority. The gig fiber installation in Henderson by Aeneas in recent years has allowed for job growth, job creation and new business investment, but to continue the growth, Chester County must work to close connectivity gaps. The goal of this capstone project is to establish the need and importance for high-quality internet connectivity to a rural community and how local efforts by business leaders, entrepreneurs, and local government must work in unison to facilitate the extension of the infrastructure the connectivity requires. In order to accomplish this, Chester County is in the process of creating a community broadband team, identifying digital gaps, and becoming a certified Broadband Ready Community. With the economic development team, the county leaders, and partners all working together this is an achievable goal and the findings of this paper support this effort and the benefits Chester County can expect.

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