



SUBMISSION FORM

All submission forms must include the following information. Separate submission forms must be turned in for each eligible program. **Deadline: July 1, 2021.** Please include this submission form with the electronic entry. If you do not receive an email confirming receipt of your entry within 3 days of submission, please contact [Gage Harter](#).

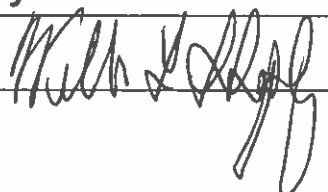
PROGRAM INFORMATION

County: Grayson County
Program Title: Connecting People with the Rest of the World and with Each Other
Program Category: Communications (for Broadband)

CONTACT INFORMATION

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SIGNATURE OF COUNTY ADMINISTRATOR OR DEPUTY/ASSISTANT COUNTY ADMINISTRATOR

Name: William L. Shepley
Title: County Administrator
Signature: 

Virginia Association of Counties Achievement Awards 2021 Application
Grayson County – Broadband Project
Connecting People with the Rest of the World and with Each Other

The Challenge

Grayson County, located in Southwest Virginia, is 446 square miles of mountainous terrain with a population of just over 15,000 residents. It is the most mountainous county in the state and is home to the two highest peaks in Virginia, White Top and Mount Rogers, in addition to several miles of the New River, hundreds of acres of national forest, and Grayson Highlands, one of Virginia's most popular State Parks. While these natural assets contribute to a positive quality of life and drive entrepreneurship and tourism, this same topography and a limited customer base of just over 9,000 housing units present a significant challenge for broadband service providers. However, these challenges did not deter Grayson County from exploring the feasibility of greater broadband access.

Grayson has the least connectivity in the region with 57% of households having no broadband access and more than half of the fire and rescue stations in the County without access. Many families have lived in Grayson County for over 200 years. Agriculture is the main industry with livestock, timber, and other forest related products, and small business is a strong core of the economy. Businesses and families commonly travel to hotspots for internet access. As a result, County officials have been approached by residents of all ages and backgrounds about the need for better connectivity.

How the Challenge was Addressed

The lack of broadband came to light as younger generations left the County due to lack of connectivity, and companies that were considering locating in Grayson made the decision

not to locate due to lack of broadband. It became increasingly obvious how necessary broadband infrastructure is to a viable, thriving county.

Broadband discussions began in earnest in 2017 with the Wired Road Authority, a collaborative effort between private sector service providers, local governments of Grayson County, Carroll County, and the City of Galax, and the Carroll-Grayson-Galax Regional Industrial Facilities Authority (dba Blue Ridge Crossroads Economic Development Authority).

As Bill Shepley came into the role of County Administrator in July 2017, he met collectively and individually with members of the Board of Supervisors to understand community priorities. Of his meeting with Supervisor Fant, Mr. Shepley shared, "The first thing John mentioned was the lack of broadband." From his conversations, Mr. Shepley presented 16 initiatives to the Board of Supervisors with broadband agreed upon as the top priority. An eight-member Broadband Committee was formed with Supervisor Fant as chair. Core members of the committee included Brian Reed of the Mt. Rogers Planning District Commission for funding expertise; Carl Caudill, Director of IT/Economic Development and GIS for Grayson County; County Administrator Bill Shepley, and Board of Supervisors member Tom Revels representing the remote community of Whitetop.

With recognition that the committee did not have necessary expertise in broadband, they sought technical assistance. In 2018, the County hired a consultant, Sandie Terry, president of Rural Broadband Consulting, LLC. The committee met with her every couple weeks as she conducted a detailed assessment of broadband availability and strength across the County. The study revealed that more than 5,000 households (greater than 50 percent of households) had no internet access, and a plan was developed for a five-phase program with a

map identifying the five areas where fiber optic stations would need to be installed. At this stage, the County thought the entire process might take up to ten years for completion.

Study findings were presented to the Board of Supervisors in May 2018, with the following recommendations approved unanimously by the Board:

- Improve residential and public safety (fire/rescue) broadband access.
- Improve capacity at schools and libraries.
- Adjust local policies to lower costs of deployment.
 - Modify zoning, tower and related ordinances to allow for small tower/community data poles as needed.
 - Review/modify permitting procedures and lower/eliminate permit fees to facilitate communications infrastructure deployment.
- Consider actions to make uneconomic areas profitable to service.
 - A community computer refurbish program to provide devices to lower income families.
 - Lessen broadband deployment costs by providing market research data, broadband planning data and facilitate marketing efforts for the new network.
 - Leverage public funding — local, state and federal — to offset capital costs of network deployment.
 - Grayson County budgeted for broadband expansion and fully understands the need for public funding to offset the capital costs of deploying a network.
 - The Wired Road Authority was awarded a small grant through the Tobacco Commission (\$150,000 for Grayson and the same for Carroll County) to construct vertical assets to support a wireless deployment.

- o The County is aware of the Virginia Telecommunication Initiative (VATI) and the potential federal broadband grants such as USDA's Community Connect grant and is prepared to work with the Partner on all available funding opportunities.

Their vision was further documented in the 2018 County Comprehensive Plan as Strategy 11 of Chapter 5 – Economy, and Strategy 1 of Chapter 8-Public Services, Facilities, and Utilities. The document states, "Grayson County recognizes the need to develop an effective and efficient telecommunications infrastructure, which will support and promote economic development, education, quality of life, and public safety of its citizens. The County continues efforts to increase wireless and broadband communication to improve the quality of life for its citizens and to encourage economic development. Challenges include lack of cell phone coverage and limited wireless capabilities in some areas of the county." Also within the Comprehensive Plan is reference to results of a 2013 survey continuing to be relevant in the current Plan process, along with input from public meetings in communities across the County. The number one weakness identified was, "Lack of connectivity in certain areas, be it roadway, cellular, or broadband."

Grayson County worked with Mt. Rogers Planning District Commission to put out a Request for Proposals, in coordination with the Wired Road, for Broadband Services to construct, deploy, maintain, own and operate a fee-for-service broadband network to provide Internet Service to underserved areas throughout the County with the goal to serve as many as possible of the more than 5,222 unserved/underserved homes and businesses. Three companies expressed interest, with GigaBeam Networks the successful applicant.

Timing and Being Ready for What Comes Before Us

While Grayson was moving forward with securing broadband access, Appalachian Power (AEP) was performing a broadband feasibility study to open the possibility for the state to allow energy companies to play a key role in broadband access. AEP was looking for a remote county of challenging terrain to serve as a pilot; they wanted to begin with the most challenging area of the state. They approached Grayson as they knew the County was actively exploring broadband, had done much of the prep work, and had a contract in place with a service provider. As County Administrator Shepley shared, "They actually picked the hardest county to do the work. Appalachian Power wanted to convince the state that if it could establish broadband in the most challenging county, it could install broadband anywhere."

Kenneth Belton, a member of the County Board of Supervisors, serves as Distribution System Supervisor with Appalachian Power. He suggested the County Administrator reach out to Amanda Cox, AEP Regional Ambassador, who was working closely with Del. Israel O'Quinn representing Grayson within the Fifth District. AEP hired a Regional Ambassador to work with counties to offer expertise and knowledge to help them grow outside of electric power. Amanda met with Grayson on a regular basis and saw that the County could help make a difference with the broadband issue.

Delegate O'Quinn sponsored HB 2691 which was signed into law March 2019. The legislation requires the State Corporation Commission (SCC) to establish a three-year pilot program in which Virginia's two largest electric utilities, Dominion Energy and Appalachian Power, may submit a petition to provide broadband capacity to nongovernmental Internet service providers in areas of the Commonwealth that are unserved by broadband.

The legislative intent is to reach unserved or underserved areas or areas with very slow internet speed and capability; areas that would not be served otherwise. Electric utilities apply to the SCC, with the legislation allowing each utility to spend up to \$60 million annually on the pilot. The cost can be recovered through the company's ratepayers.

The power companies could choose one county to work with. Del. O'Quinn and Amanda Cox of AEP were instrumental in advocating for Grayson County as the pilot and Grayson County officials were asked to share their exploratory progress with analysts and decision makers in Richmond. As a result of the combined effort, Grayson County, GigaBeam and Appalachian Power formed a partnership to implement the pilot.

As the legislation was enacted, Gov. Northam visited Grayson to connect the first piece of fiber at the historic 1908 Courthouse. County residents then became very involved using an app/website created for users to enter an address and the app would indicate what phase of the project the address was in for accessing broadband.

Originally, the County estimated they would invest about \$300,000-400,000 into broadband each year. As the project progressed, they were awarded \$150,000 from the Wired Road, \$325,000 from the Tobacco Commission and \$1.8M from Virginia Telecommunications Initiative (VATI).

Economic Development and Health Care

Grayson County recognized the need for broadband on many levels and was fully cognizant that health care was a challenge for County residents, many of whom traveled about 50 miles for medical care. They saw broadband addressing the issue through availability of telehealth. They also realized that increased access to health care would benefit residents while also attracting new businesses to the County.

About 50% of the County's population are ages 50 and older, with 24% being 65 and older, many of whom live alone in fairly remote areas. Grayson joined the AARP Network of Age-Friendly States and Communities in January 2017. A lack of broadband and cell service have been on residents' minds for some time and were identified by the County Senior Advocacy Committee in its age-friendly action plan of 2018. Retirees who have come back to the County, those who chose Grayson for retirement and are new to the area, and those with second homes in the County represent an active group in the County. They see a lack of cell and broadband service as a primary barrier to economic growth. As they suggest, as beautiful and inviting as the area may be, retirees and business owners are not likely to locate in the County if they do not have access to reliable cell and broadband service.

County Administrator Bill Shepley visited with residents of the most mountainous and remote parts of the County with no access to the internet and where phone service can be challenging as well. Most of these residents were females between the ages of 60-90 who explained their system of visiting one another regularly to make sure all was well. It was quickly noted that access to telehealth would provide medical assistance directly from their homes.

Milestones Accomplished and Status of the Project

In May 2020, the Virginia SCC approved a three year pilot project in which Dominion Energy and Appalachian Power would install cables to carry broadband into hard-to-reach areas. As a result, also in May 2020, Grayson County began partnering with Appalachian Power and Bluefield-based GigaBeam Networks to provide internet service. The project came at a crucial time, during the COVID-19 pandemic, necessitating a transition to remote access for education, work, and many basic needs.

Installation of the first of 240 miles of fiber began in December 2020. The initial timeline was to have completion within two years. As of March 2021, about 20% of the 240 miles of fiber had been installed with up to 40% having been installed by June 2021. Wherever the line is, households can start coming online. As AEP shared, they are way ahead of schedule, and are moving forward with additional unserved/underserved counties now that they know the process is viable.

Grayson County receives inquiries from counties across the country about the broadband project and happily shares their experience so that others may also succeed. Their continuing broadband experience has been shared through local newspapers, the Roanoke Times, and the AARP Network of Age-Friendly States and Communities. Grayson appreciates the media coverage of the County's broadband project in attracting individuals and businesses.

How it Provides a Model that Other Local Governments May Learn from and Implement

Key players in the project share the following for those considering broadband access:

1. Find a Champion: Actively engage with the Board of Supervisors and County residents and be open to finding a champion. A key to Grayson's success is one or more community champions, such as John Fant, member of the County Board of Supervisors. Once leadership knew of his interest, he was invited to serve as Chair of the Broadband Committee. The County also relied upon Supervisor Belton, with his knowledge and expertise with Appalachian Power. This project also demonstrates the value of the tenacity of the Board and County residents. As they describe it, they were united in wanting to be "a perfect example" for other counties to also succeed.
2. Enlist Expertise: The Broadband Committee knew they needed to bring in someone with expertise in the project, thereby hiring a consultant to identify the extent of the issue and develop a plan to overcome the challenges. The County Administrator also relied on the skills

and expertise of Carl Caudill, the County's Director of IT/Economic Development and GIS. As Mr. Shepley stated, "I needed someone by my side who could help translate the technical aspects of the project."

3. Have a Plan: The main reason Appalachian Power chose Grayson County for its pilot was because the County had done its homework and had a plan. The County pursued an identified challenge and was ready when an opportunity presented itself.

4. Know What you Need from Others and What you can Provide: From the outset, Grayson County made clear their intent to fully participate as a project partner. While the County requested the service provider to 1) procure required permits; 2) design, implement, operate and maintain the broadband network; 3) provide a map showing predicted coverage and number of households estimated to be served; 4) provide marketing, sales, customer billing and account billing and collections; and 5) perform a post-construction verification for coverage, speeds and quality, the County is doing their part to facilitate and ensure success of the project.

The County is providing: 1) a portion of funding for procurement and construction of infrastructure; 2) an exclusive five-year lease for the Vendor to use the County/Authority-funded portion of the infrastructure; 3) assistance in permitting and navigation of County processes; 4) support in negotiating access to bandwidth and/or vertical assets from the Wired Road Authority; 5) access (as feasible) to County facilities for mounting wireless infrastructure and hosting equipment; 6) promotion of County library digital literacy training to increase adoption rates; 7) a community computer refurbish program to provide devices to lower-income families; and 8) public meetings to solicit committed demand, awareness and education of the broadband expansion initiative and offered services.

As Supervisor Fant shared, the biggest advancements with broadband will be telehealth and recruiting small businesses; “We have a beautiful river that runs through one of our towns, a low cost of living and an amazing connection with nature. Having this internet connection will be the perfect setup for us to have people who want to live in a low-cost, pristine environment and work remotely.”

County Administrator Shepley also shared, “The availability of high-speed internet will improve our citizens’ overall quality of life. It also strengthens our business recruitment efforts by affirming we have access to what today is considered an essential service...This will transform us into one of the most connected rural counties in the United States. Broadband is going to be a revolutionary change.”

And when other counties ask Supervisor Kenneth Belton how Grayson did it and how they can be ready for broadband, he responds, “Get started for broadband now and then it will be ready for you; don’t wait – get ready for it.”

Executive Summary

Grayson County is 446 square miles of mountainous terrain with a population of just over 15,000. It is the most mountainous county in the state and home to the two highest peaks in Virginia, White Top and Mount Rogers, hundreds of acres of national forest, and Grayson Highlands, one of Virginia's most popular State Parks. While these natural assets contribute to a positive quality of life and drive entrepreneurship and tourism, this same topography and a limited customer base of just over 9,000 housing units present a significant challenge for broadband service providers. However, these challenges did not deter Grayson County from exploring the feasibility of access and taking steps to make it happen.

Grayson has the least connectivity in the region with 57% of households having no broadband access and more than half of the fire and rescue stations without access. In 2017, broadband was deemed the County's top priority. They worked with the Wired Road, hired a consultant, and put out a Request for Proposals for broadband services. At the same time, Appalachian Power (AEP) was in the midst of securing state approval for a pilot program serving unserved/underserved areas with broadband. AEP approached Grayson as they knew the County was actively pursuing increased access. By May 2020, Grayson County was partnering with Appalachian Power and GigaBeam Networks.

When the County conducted a feasibility study in 2018, they thought broadband would be a ten year project. Fast forward to June 2021, with about 40% of the 240 miles of fiber having been installed. Wherever the line is, households can start coming online. When asked by other counties how did Grayson do it, the response is, "Get started for broadband now and then it will be ready for you; don't wait – get ready for it."

Brief Overview

Grayson County is 446 square miles of mountainous terrain with a population of just over 15,000. Grayson also has the least connectivity in the region with 57% of households having no broadband access and more than half of the fire and rescue stations without access. While the natural assets contribute to a positive quality of life and drive entrepreneurship and tourism, this same topography and a limited customer base of just over 9,000 housing units present a significant challenge for broadband service providers. However, these challenges did not deter Grayson County from exploring the feasibility of increased broadband access.

In 2017, broadband was deemed the County's top priority. They worked with the Wired Road, hired a consultant, and put out a Request for Proposals for broadband services. As a result, in 2020, the County began a partnership with Appalachian Power and GigaBeam Networks. When the feasibility study was conducted in 2018, the County thought broadband would be a ten year project. Fast forward to June 2021 with about 40% of the 240 miles of fiber having been installed.