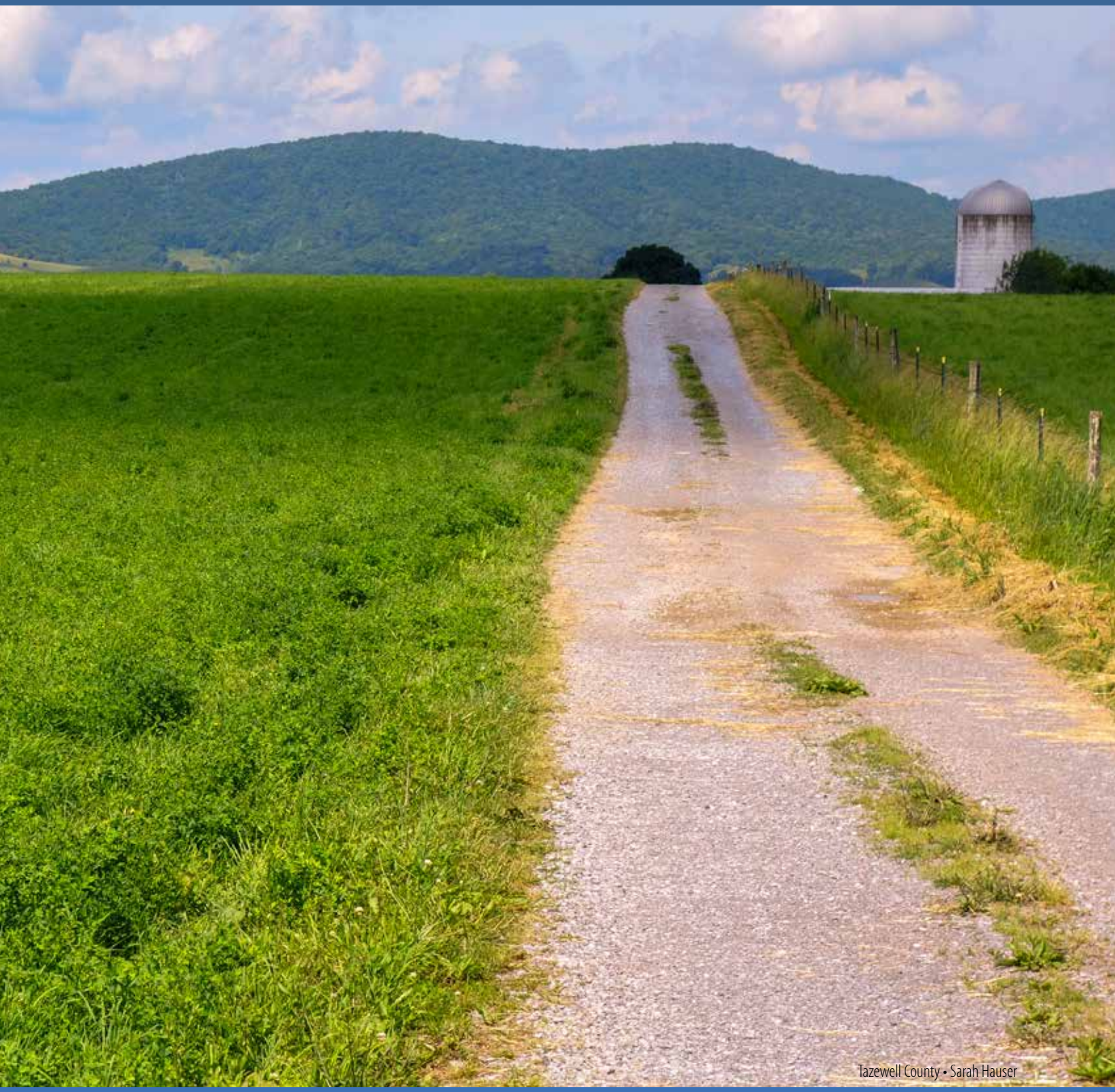
Broadband Internet Supporting Rural Virginia



Tazewell County • Sarah Hauser

Broadband Internet Supporting Rural Virginia

Overview

Broadband internet allows communities to stay connected and informed. With high-speed broadband, communities can attract and retain businesses, and individuals can apply for a job, shop, stream entertainment, use smart devices, and access educational opportunities. These activities are only possible when there is adequate connectivity to homes. Adequate connectivity through broadband, cable, or cell phone is defined by the Federal Communications Commission (FCC) for a basic business broadband connection at 50-100 Mbps (Megabits/sec). According to the 2018 American Community Survey 5-year estimates, seven out of ten rural Virginians have internet access, compared to nine out of ten of non-Rural Virginians. This means that one-third of rural Virginia homes do not have adequate broadband coverage, which creates what is called the digital divide (1).

By way of telehealth or telemedicine, broadband internet provides patients and healthcare providers with access to technologies that enhance quality of care. These technologies allow patients to access urgent, primary care.

Internet Access Metrics

	Rural	non-Rural
Share with Broadband (Cable, Fiber Optic, DSL)	66.1%	84.4%
Share with Satellite Only	3.0%	1.0%
Share with Cellular Only	13.1%	8.0%
Share without Internet Service	28.5%	12.0%

Source: US Census Bureau, ACS 5-year Estimate, 2018

and specialty appointments and increase opportunities for obtaining health information and education from the comfort and convenience of the home, a solution to transportation and mobility limitations faced by many rural Virginians. Healthcare providers, including emergency service personnel such as firefighters and police officers, are able to obtain accurate information in real time, connect with community health workers (CHWs) via remote patient monitoring, and exchange health information in a timely manner, all of which improves the quality of patient care.

Household Computer Access Metrics

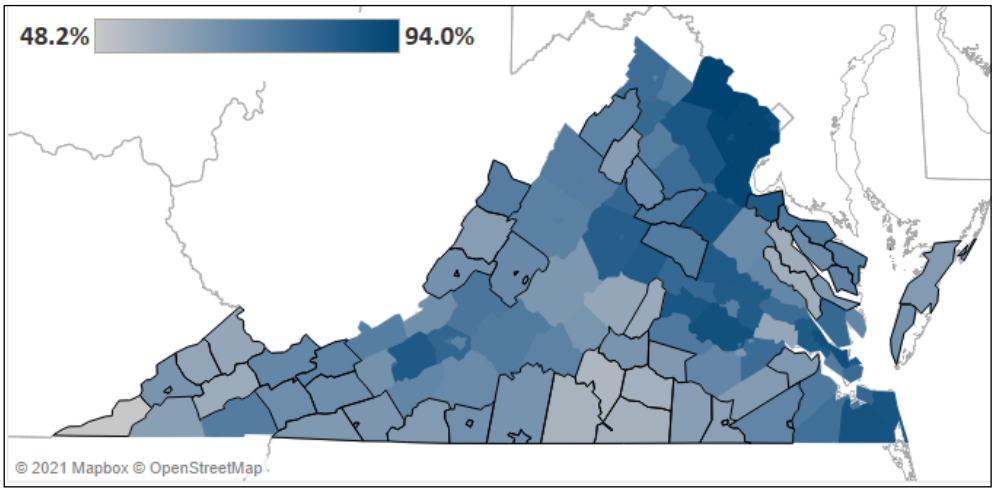
	Rural	non-Rural
Households with a Desktop or Laptop	64.3%	83.2%
Households with no Computer or Mobile Device	21.9%	8.3%

Source: US Census Bureau, ACS 5-year Estimate, 2018

In America, the digital divide is not only a matter of geography, it is also a matter of affordability. Among the quarter of Americans without broadband, a connection fast enough to stream video, are many who simply cannot afford the monthly bill for service. Less than half of households living on under $20,000 are connected. The collective deficit in opportunity, education, and prospects,–everything implied in being connected,–further separates us (3).

Telemedicine is not possible without sufficient connection for both the provider and the patient. Ideally, broadband connections need to be in place throughout the state so that all patients can access telemedicine services. Even with the proper infrastructure in place, internet cost will

Share of Households with Broadband



Source: US Census Bureau, ACS 5-year Estimate, 2018

continue to be a barrier for rural and economically disadvantaged residents to access adequate broadband connections for telemedicine.

The Virginia Telecommunication Initiative is a state-funded program administered by the Virginia Department of Housing and Community Development. Its goal is to create strong, competitive communities throughout the Commonwealth by preparing those communities to build, utilize, and capitalize on telecommunications infrastructure.

Leading Practices and Approaches

Whenever possible, examples of leading practices and approaches were taken from rural Virginia communities. Otherwise, examples were gathered from localities with comparable demographic characteristics.

E-Rate Schools and Libraries USF Broadband Program

Need addressed: Many of Virginia's rural communities struggle to provide affordable and accessible broadband connection.

Approach: In 1998, the Federal Communications Commission created the E-Rate Schools & Libraries USF (Universal Service Support) Program, which assists schools and libraries in attaining cost-effective broadband connection. This nationwide program offers discounts ranging from twenty to ninety percent of the cost of eligible services. In 2014, a modernization order addressed the gap in connectivity that many rural communities face, giving any community not designated as "urban" an additional discount (4).

Outcome(s): In the late nineties, less than one fifth of classrooms in the United States had internet access. Today, nearly 100% have access due in part to the E-Rate Program (4).

Rockbridge Broadband Initiative (RBI) and the Virginia Telecommunication Initiative (VATI)

Need addressed: Mountainous terrain in much of the central and western regions of Virginia has created an obstacle that in the past prevented broadband connection as well as communication between public safety entities (5).

Approach: In 2013, the Rockbridge Broadband Initiative collaborated with Rockbridge Area Network Authority (RANA), a public-private partnership between Washington and Lee University and local rural governments, to propose construction of 134 miles of new fiber in west central Virginia. The new fiber was intended to help governments deliver improved healthcare, education, and public safety in regions with difficult terrain. Over 10,000 households and almost 1,500 businesses were to experience improvements in the affordability and quality of their broadband connections (5).

Outcome(s): The Rockbridge Broadband Initiative experienced several challenges, but was able to build seventy miles of fiber backbone, about half of its original goal. Outlying customers in west central Virginia saw 27 DSL cabinets installed to meet their internet needs (6).

In early 2020, the Virginia Telecommunication Initiative announced over $18 million in grants, $2.2 million of which was awarded to a project being led by the Central Shenandoah Planning District Commission (CSPDC) in partnership with Rockbridge County and BARC Electric Cooperative. The project intends to provide over one hundred miles of gigabit last-mile fiber infrastructure to areas in Rockbridge County (7).

The Virginia Tobacco Region Revitalization Commission (TRRC)

Need addressed: Southside Virginia is another region of the commonwealth which experiences challenges to the provision of adequate broadband.

Approach: The Virginia Tobacco Region Revitalization Commission (TRRC) awarded the Mecklenburg Electric Cooperative (MEC) a $2.6 million grant. MEC will work with its subsidiary, EmPower Broadband Cooperative (EBC), to install 135 miles of last-mile fiber broadband (8). MEC has extensive and detailed plans to deploy fiber cable, providing service to citizens from Gretna to Emporia. High speed, low cost internet will be available to those within a certain distance of the fiber, including Brunswick, Charlotte, Greensville, Halifax, Mecklenburg and Pittsylvania Counties (8).

Outcome(s): MEC has initiated procurement of parts of its fiber backbone and has already received an additional grant of $1.8 million to be awarded over ten years. The newer grant will provide fiber for over 800 more homes in Southside Virginia (9).

Bipartisan Policy Center (BPC) and the Rural Health Care Report

Need addressed: Rural communities continue to struggle to provide their citizens with quality healthcare due to limited access to technology and broadband connection.

Approach: In April of 2020, the Bipartisan Policy Center published its Rural Health Care Report, containing policy recommendations from its Rural Health Task Force. It suggested that lawmakers support increased broadband access and data collection and lengthen the list of authorized originating sites for telehealth to include patient homes. It also recommended providing rural-specific training programs for those who work in health information technology systems. The BPC urged lawmakers to implement the Broadband Deployment Accuracy and Technology Availability Act (Broadband DATA Act), which calls for the FCC to collect broadband availability data. The act also encourages the identification of locations that need broadband the most (10).

Outcome(s): Lawmakers' adoption of the policy recommendations from the Bipartisan Policy Center's Rural Health Care Report can transform Virginia's rural communities from being devoid of technological opportunities to a place where health care and other services are more readily available through increased access to broadband.

Appalachian Regional Commission (ARC)

Need addressed: The Appalachian region of the United States struggles with issues like remoteness and poverty, which makes it difficult for its citizens to access the internet and technology in a manner that is comparable to urban areas.

Approach: Starting in 2004, ARC began distributing $41 million in grants to Appalachian communities, including those in Virginia. The funds were used to upgrade hospital computer systems, install school computer labs, lay fiber, and train citizens on effective internet use.

Outcome(s): ARC has helped many rural Appalachian communities expand their access to technologies. In 2016, the commission created the ARC Broadband Planning Primer and Toolkit in order to assist rural communities in adding broadband to their communities (11).

Cross Sector Partnership Pilot Program: Expanding Telehealth Services for Rural Veterans in Martinsville, VA

Announced in September 2021, a two-year pilot program partnership between the Virginia Department of Health and the Salem Veterans Affairs Health Care System will establish a new point of access at the Martinsville Health Department for telehealth services provided by the U.S. Veterans Health Administration. Services will be provided at the Martinsville Health Department, utilizing the "telehealth-in-a-box" model that the Salem Veterans Affairs Health Care System has utilized at several sites in their region. A registered nurse, hired by the Veterans Health Administration, will conduct quality health assessments prior to and during the exam for the physician connected remotely to the veteran patient. For the first time, a local Virginia health district will provide access to telehealth services provided by the U.S. Veterans Health Administration without having to travel significant distances or have difficulty connecting to the internet.

Broadband Expansion: Bi-Partisan Infrastructure Investment Plan: GA approves $700 million investment to Achieve Universal Broadband

Of the $4.3 billion in federal coronavirus relief funding under the American Rescue Plan, the 2021 Virginia General Assembly approved the $700 million broadband investment that would accelerate Virginia's goal of deploying broadband infrastructure by 2028 to it's rural and underserved areas, pushing the timeline forward to 2024. The investment positions Virginia on track to be one of the first states in the nation to achieve universal broadband service. The investment to achieve universal broadband connectivity will be a boost for rural economic development, possibly drawing new businesses to rural regions, bringing new career opportunities.

Opportunities for Growth

1. **Build broadband infrastructure as quickly as possible**
   - Building broadband has always been important as it gives Virginia's rural population access to internet and electronic services. However, access has never been more important given the current need for social distancing while remaining in contact with health providers and academic resources

2. **Ensure affordability, in addition to accessibility**
   - The poverty rate in rural areas is twice that of the urban areas of the Commonwealth (11). The benefit of broadband access would not be optimized if the citizens most in need did not have access. It is imperative that the affordability of broadband is made a priority so that quality of life is raised for all Virginians, including those most vulnerable.

3. **Continue relaxed "COVID-19" policies by CMS for telemedicine**
   - The Centers for Medicare and Medicaid Services (CMS) has expanded access to Medicare telehealth services so that citizens are able to access healthcare from their homes (12).
     - CMS has approved the originating site to be a patient's home in order to reduce social contact during the COVID-19 pandemic.
     - Patients are able to receive a wider variety of healthcare services from their homes.
   - The emergency measures taken due to the pandemic circumstances have given insight into the benefits of increased access to telehealth services:
     - Providers are able to administer low-risk urgent care (13)
     - Services can be provided for patients in long-term care facilities (13)
     - Chronic conditions can be monitored at a low risk to both patient and provider (13)
4. **Provide training for professionals (e.g., healthcare, teachers, etc.) on the use of virtual technology**
   - Studies support virtual technology training for providers in behavioral health professions (14). Training for professionals in all health, academic, and other essential professions will prove to be useful as the population of the Commonwealth has varying degrees of comfort with technology.
5. **Incentivize existing utility providers to leverage infrastructure as a means to provide broadband access**
   - The infrastructure of Virginia's power industry could serve as a platform to provide internet access to Virginia homes without access.

Jeff Greenough