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On behalf of

NTCA–The Rural Broadband Association

Before the

United States House
Committee on Energy and Commerce
Subcommittee on Digital Commerce and Consumer Protection

"Disrupter Series: Smart Communities"

March 16, 2017

INTRODUCTION

Chairman Latta, Ranking Member Schakowsky, members of the Subcommittee, good morning and thank you for the invitation to participate in today's hearing focused on smart communities.

I am Kurt Gruendling, Vice President of Marketing and Business Development at Waitsfield and Champlain Valley Telecom (WCVT). My remarks today are on behalf of WCVT, as well as NTCA–The Rural Broadband Association, which represents approximately 850 member-owned cooperatives and commercially-owned carriers in 45 states that are largely based in the communities they serve and offer a variety of communications services throughout the rural far reaches of the nation. The small telcos like those in NTCA's membership serve less than five percent of the population of the United States, but cover approximately 37 percent of its landmass.

These companies operate in rural areas left behind by other service providers because the markets were too sparsely populated, too high cost, or just too difficult in terms of terrain. These small broadband providers have been leaders in deploying advanced communications infrastructure that responds to consumer and business demands and connects rural America with the rest of the world. For rural America, such infrastructure enables economic development and job creation not only in agriculture, but for any other industry or enterprise that requires robust connections to operate in the modern world.

Our company is a 113-year old, third-generation, family-owned telecommunications provider servicing the Mad River and Champlain Valley regions of Vermont. Being locally owned allows us to truly understand the telecommunications needs of our customers – our neighbors – and share in a commitment to improving our communities. We provide local and long distance telephone service, cable TV, and high-speed Internet services to more than 16,000 customers. Our service area spans 669 square miles including twenty-four rural communities in parts of three counties with a population of 28,858.

While Vermont might be best known for its picturesque landscape, world-class skiing and quaint inns and Bed and Breakfasts, look deeper and you will find a vibrant high-tech business community served by a state-of-the-art telecommunications network that continues to evolve. Residences and businesses, both large and small, connect to this network and utilize the technology to compete on a global basis. Access to affordable broadband service is a critical component of economic development in rural communities and we are committed to finding ways to make this happen. In our service territory, all schools, many of the larger businesses and some residential customers are now served by fiber-to-the-home technology offering speeds up to 1Gbps.

Our employees are working hard to complete the next evolution of our network to support continued growth in higher speed Internet services and an increased level of reliability and redundancy in the network. This takes an enormous amount of planning, resources and a significant capital investment to make this happen and there is a lot more work and investment that needs to be done. It's a time and money equation.

I recently spoke to Steve Butcher, the owner of VickeryHill, a web development firm located on Lincoln Gap Road in Warren, Vermont. I asked him what high-speed Internet means to him and his business and he replied:

> WCVT's constant efforts to improve the technology backbone in our remote region of Vermont puts our company on an even (and often advantageous) position with our competitors. We get to work from the comfort of paradise at the same speeds and service level as those locked in the skyscrapers of the big city. We can choose to live where we want, in the middle of beautiful nowhere, yet still compete with the big city web developers solely because of the gigabit fiber connection WCVT provides for us. We recently celebrated our 15th year in business and now employ six people and work with clients from St John USVI, Whistler, San Francisco and Boston.

This is just one good example of the types of small businesses that we need to continue to work together to incubate, attract and retain here in Vermont and throughout other areas of rural America.

WHAT IS A SMART RURAL COMMUNITY?

The vitality of a community is dependent on its access to first-rate health care, blue-ribbon education, strong public safety services, and robust economic opportunities. Rural communities in particular face unique challenges to accessing these types of benefits and services, which many times are taken for granted in urban areas. For example, access to healthcare is a critical issue, where the lack of physicians, specialists, and diagnostic tools normally found in urban medical centers creates challenges for both patients and medical staff in rural areas. There is also a shortage of teachers in many areas of rural America and those public-school districts rely on high-speed connectivity to deliver interactive-video instruction for foreign language, science and music classes, amongst others.

Smart Rural Community℠ (SRC) is an initiative of NTCA, and promotes the development and deployment of broadband-enabled applications that the community can leverage to improve these vital community services. SRC recognizes that broadband access is foundational to community success, but

just one part of the equation. These communities understand the importance of embracing and relying upon dedicated local leaders from many fields and industries who work collaboratively to deploy broadband-enabled solutions to create and improve opportunities in rural America. From manufacturers and application developers to telecommunications providers and, ultimately the users who adopt and employ broadband-enabled services, a "smart rural community" reflects a team effort of continuing development and evolution. This collaboration in turn helps with the sustainability of the networks once built, as well as driving greater demand for broadband within the community itself and in other areas as others see the potential applications and uses in practice.

Now entering its fifth year, NTCA's Smart Rural Community initiative supports three major programming components, including rural recognition awards, grants, and educational programming. Since 2013, 44 NTCA members have been recognized with the Smart Rural Community Showcase award for demonstrating excellence in collaborating with other local leaders to incorporate broadband-enabled solutions to support economic development, education, health care, public safety, and other vital community functions. Their applications are reviewed by the Smart Rural Community Advisory Council, which includes representatives from independent organizations with deep stakes in rural America, including the American Farm Bureau Federation, the Rural School and Community Trust, American Library Association, and rural technology experts. These organizations are able to recognize how broadband technology can spark innovation and remarkable achievement across many layers of rural life.

Expanded interest in the SRC program has led to additional ways of acknowledging innovation by small business telecom providers like WCVT. NTCA has awarded SRC Collaboration Challenge grants to support community economic development, job creation and training, K-12 education, computer literacy training for senior citizens, and healthcare. These grants require rural broadband providers to "partner up" and secure matching funds from other rural institutions. This requirement compels and ensures the type of collaboration among rural broadband providers and other local leaders that SRC promotes. Since 2016, nearly $30,000 in grants have been awarded to support rural America.[1]

SRC also produces and hosts educational programming events in Washington and beyond. These programs have addressed smart agriculture, distance education, and telemedicine. SRC has published

[1] "Smart Rural Community Collaboration Challenge Report", NTCA-The Rural Broadband Association (2016): https://www.ntca.org/images/stories/Documents/src%20collaboration%20challenge%20report%20july%202016.pdf

academic papers addressing issues ranging from broadband adoption to social and economic relationships among rural and urban areas, and is set to release on March 29, 2017, a paper that will explore the economic impacts of rural telehealth.

Separately, more than 80 telco members of NTCA have been recognized as Certified Gig-Capable Providers since July of 2015, a designation that highlights how independent telecommunications providers are delivering the Internet of tomorrow – today.[2] These certified providers have demonstrated, through confirmation by an engineering firm or other independent source involved in the company's network planning, deployment or operation, that gigabit technology is currently commercially available with 95 percent of a designated portion of their serving areas, and that such service can be provided without substantial new deployments. The program has been a huge success – a sign of vitality not only for independent telecommunications providers but also for the communities they serve. The SRC web site provides an interactive map of the country highlighting the communities that have GIG-capable certified providers, and SRC Showcase and Collaboration Challenge grant winners.[3]

RURAL BROADBAND COLLABORATION IN ACTION

In 2014, WCVT earned a Smart Rural Community Showcase Award for working collaboratively with government and business leaders in the Mad River Valley (MRV) to promote economic development efforts through broadband access. WCVT had worked extensively with the MRV Chamber of Commerce and the Central Vermont Economic Development Council to deploy the infrastructure required to attract businesses to the MRV Business Park. After hurricane Irene hit Vermont hard in September of 2012, the State of Vermont sought to relocate more than 100 employees that worked in the flooded state office complex in Waterbury. A vacant space in the MRV Business Park was one of the potential options on their list. WCVT worked closely with State and local economic development officials to quickly wire the building with fiber-optics and to deploy a state-of-the-art phone system to meet their needs so they could quickly relocate to vacant space in our service area.

In 2015, WCVT also secured an SRC Collaboration Challenge grant, which matched community funding to provide free Wi-Fi coverage to parts of the MRV. The grant focused initially on two towns

[2] "Become a Certified Gig-Capable Provider", NTCA-The Rural Broadband Association (2017): http://www.ntca.org/awards-recognition-programs/gig-certification.html

[3] "Smart Rural Community Interactive Map", NTCA-The Rural Broadband Association (2016): http://www.smartruralcommunity.com/

in the MRV and has since been deployed to an additional community in the Champlain Valley. We also replicated the MRV deployment in Bristol, Vermont. Our goal was to keep people in the downtown shopping areas. The Warren Store is a quintessential Vermont country store and has an outdoor deck overlooking the river, and if people can grab a sandwich, take a seat on the deck overlooking the river, and get on-line, we suspected they would visit longer. In Waitsfield, we have the Mad River Green, which features a lot of small businesses, including a farmer's market that operates on Saturdays from May through October and sees thousands of visitors weekly.

We now provide free, controlled Wi-Fi connectivity to these highly-visited locations. The area is home to more than 100 businesses and the majority of commercial activity in the MRV (excluding the ski areas). Our Wi-Fi network is an extension of our fiber optic network and allows visitors to gain free Wi-Fi access, while enabling local vendors using Wi-Fi devices to process transactions. It is not intended to replace the wired broadband infrastructure that we have invested heavily in, but instead is designed to extend the value of that service outside of the home and business, and to provide value to both local community members as well as visitors.

We also partner with another key industry – the three Vermont ski resorts located in our service area. We work very closely with Sugarbush, Mad River Glen and Bolton Valley to provide them with the telecommunications infrastructure they need to compete in a highly competitive industry. This includes high-bandwidth fiber-optic circuits for high-speed Internet, business class Wi-Fi, managed phone systems, and video services. The ski areas are a major economic driver and critical to the economic viability of our local economy.

In addition to my company, other SRC broadband providers showcase the many examples of what the availability and sustainability of broadband infrastructure can mean for consumers, business, and communities in rural areas. For example, SRC Showcase companies have worked with U.S. border control officials to support critical security functions along our Nation's southern border; and enabled local firemen to view reported fires and locate nearby hydrants before firefighting teams arrive.

ComSouth Telecommunications in Hawkinsville, Georgia, serves more than 270 square miles with a population of more than 11,500 people with 1 Gbps capability to almost every business in its area, including the Taylor Regional Healthcare System. ComSouth serves an economically challenged area in which many children do not have regular access to physicians. As part of a telehealth initiative, ComSouth supports connected health carts in schools that enable school nurses to connect to and

obtain guidance from remote physicians. This innovative use of health care technology serves students in need.

In Milltown, Wisconsin, an NTCA member serving six villages, 15 townships, and a Native American Reservation community connected six hospitals across two states to enable telemedicine services, including the ability to share critical diagnostic files with a major medical center for life-saving decisions when specialists are not available in the rural areas.

Garden Valley Telephone Company, based in Erskine, Minnesota, provides fiber-to-the-home (FTTH) broadband connections with speeds of up to 1 Gbps to most of its customers in its service area, which spans 3,700 square miles across eight counties. In December 2015, Garden Valley partnered with local school districts to create a dedicated broadcast channel for each school. The company equipped schools with broadcast equipment and training for students and staff, providing opportunities to learn about the broadcast industry and acquire skills.

Rainbow Communications, located in Everest, Kansas, received an SRC Showcase Award in 2015 for highlighting as many as 20 different local organizations and businesses that utilize broadband to enhance growth and innovation. The company hosted an SRC Road Tour to 14 communities, along with ten businesses and organizations, to recognize their contributions.

NTCA's members are fuelling broadband-enabled vitality in rural America. Smart Rural Community recognizes their achievements, supports their collaborative undertakings with other local leaders, and shines a light through its educational programming on how broadband innovations can ensure a strong rural future.

RURAL BROADBAND INVESTMENT IN ACTION: ECONOMIC DEVELOPMENT AND JOB CREATION

NTCA member companies continue to lead the way in deploying high-speed, sustainable broadband that responds to the needs of consumers and businesses in rural America. The broadband infrastructure they deploy enables applications that rural and urban communities can leverage for education, commerce, health care and government services. Broadband-capable networks facilitate greater interconnection of community resources and enable greater participation in the national and global economy.

In April of 2016, the Hudson Institute, in conjunction with the Foundation for Rural Service (FRS), released a report examining the economic benefits of rural broadband infrastructure.[4] It determined that investment by rural broadband companies contributed $24.1 billion to the economies of the states in which they operated in 2015.[5] Of this amount, $17.2 billion was the direct byproduct of the rural broadband companies' own operations while $6.9 billion was attributable to the follow-on impact of their operations.

The Hudson study also confirmed that while small, rural telcos produce a range of telecommunications services in rural areas, much of the benefit goes to the urban areas where the vendors, suppliers, and construction firms that rural telcos use are based. Only $8.2 billion, or 34 percent of the $24.1 billion final economic demand generated by rural telecom companies accrues to rural areas – the other 66 percent or $15.9 billion accrues to the benefit of urban areas.

Additionally, the report found that the rural broadband industry supported nearly 70,000 jobs nationwide in 2015, both through direct employment and indirect employment from the purchases of goods and services generated. Jobs supported by economic activity created by rural broadband companies are shared between rural and urban areas, with 46 percent in rural areas and 54 percent in urban areas.

Other, earlier studies reinforce these findings. For example, the Center for Economic Development and Business Research at Wichita State University found that the total economic impact of Kansas rural telecom companies (in the form of direct wages and induced economic activity) averaged $137.2 million dollars a year between 2011 and 2014.[6] The companies included in the report spent an average of $98 million dollars per year on capital improvements to maintain and expand communication capacity in rural Kansas.

Of course, these referenced studies only look at the direct and indirect economic impact of the investments and operations of the telcos themselves. As the Smart Rural Community program celebrates, the broader socioeconomic benefits of broadband for *users* cannot be ignored. A Cornell University study, for example, found that rural counties with the highest levels of broadband adoption

[4] The Hudson Institute, "The Economic Impact of Rural Broadband," April 2016, ("Hudson Paper"). https://s3.amazonaws.com/media.hudson.org/files/publications/20160419KuttnerTheEconomicImpactofRuralBroadband.pdf
[5] "The Economic Impact of Rural Broadband" (2016), The Hudson Institute, Washington, D.C.
[6] "Economic Impact of Kansas Independent Rural Telephone Companies" (2016), Center for Economic Development and Business Research, W. Frank Barton School of Business, Wichita State University.

have the highest levels of income and education, and lower levels of unemployment and poverty.[7] A recent Pew Study further finds that among those Americans who have looked for work in the last two years, 79 percent utilized online resources in their most recent job search and 34% say these online resources were the most important tool available to them.[8]

PROMOTING POLICIES THAT ENSURE BROADBAND NETWORK DEPLOYMENT AND SUSTAINABILITY

To not have access to high-speed Internet today should be unimaginable, yet millions of rural Americans have limited or even no access to robust broadband. Smart Rural Community depends upon a mix of private entrepreneurship, public and private capital, and universal service programs. These resources enable not only network deployment, but also the ability to ensure that the services provided over those networks remains robust and affordable (and can be upgraded over time) over the decades-long lives of the underlying networks. Recent reforms to the Universal Service High-Cost fund, however, have resulted in a budget shortfall that will result in fewer locations being reached, comparatively lower speeds being delivered to locations that are being reached, and higher rural consumer broadband rates. This budget shortfall cuts support to companies like WCVT that still need to upgrade portions of their network, and it thus undermines the ability of committed companies like WCVT to deliver – and keep delivering – on the promise of broadband that creates Smart Rural Communities.

While it is critical to deliver broadband to the unserved, it is just as critical that those already receiving broadband remain served. There are many places in rural America where networks have been built by committed companies like those in NTCA's membership, but the sustainability of that infrastructure and the affordability of services remain in question. In many parts of rural America, the challenges of distance and density are so great that they cannot sustain even one broadband network. Section 254 of the Communications Act therefore rightly recognizes that our national policy is not merely about deploying infrastructure, but also ensuring that such infrastructure, once deployed, means something for the consumer – that is, "reasonably comparable" services at "reasonably comparable" rates for urban and rural consumers alike. If a network is built but then becomes unsustainable, or if the services offered over it are unaffordable or unreliable or cannot keep pace with increasing consumer

[7] Broadband's Contribution to Economic Health in Rural Areas" (2015), Community& Regional Development Institute, Cornell University.
[8] Searching for Work in the Digital Era" (2015), Pew Research Center, Washington, D.C.

demand, then these outcomes deny rural Americans the benefits of broadband and represent a terrible waste of the resources that help to make broadband infrastructure available in the first instance.

CONCLUSION

It is clear that broadband enables and fosters innovative economic development, commerce, health care, education, and other activities and capabilities that contribute to the success and well-being of communities. Many of these achievements in leveraging broadband infrastructure for the benefits of communities have been highlighted in NTCA's Smart Rural Community program. Small, rural broadband providers are eager to continue deploying infrastructure and delivering services that rural America needs to participate in the modern world. We look forward to working with policymakers and other stakeholders on comprehensive strategies that provide the tools and capabilities needed to achieve our nation's shared broadband goals.

Thank you for the opportunity to testify, and for the Subcommittee's commitment to creating an environment conducive to innovation.