



Statement by

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*Exploring Challenges and Opportunities Faced by  
Underserved Businesses in the 21st Century*

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## INTRODUCTION AND BACKGROUND

Chairman Kim, Ranking Member Hern, and members of the Subcommittee, thank you for this opportunity to testify today on the challenges faced by small businesses and underserved populations. I am Michael Romano, Senior Vice President of Industry Affairs & Business Development of NTCA–The Rural Broadband Association, which represents nearly 850 small, community-based carriers in 46 states that offer advanced communications services throughout the most sparsely-populated areas of the nation.

Small, hometown-based rural telecom providers like those in NTCA’s membership connect rural Americans with the world – making every effort to deploy advanced networks that respond to consumer and business demands for cutting-edge, innovative services. These cooperatives and locally-operated companies serve the most rural parts of the United States, reaching areas that contain less than five percent of the U.S. population, but which are spread across more than 35 percent of the U.S. landmass. The average density in these rural service areas is about seven customers per square mile – roughly the average density for the entire state of Montana.

While the economics of operating in these very rural areas would make them likely candidates for being unserved or underserved in terms of communications connectivity, NTCA’s small business members have led the charge in deploying broadband in rural America and closing the digital divide for those rural areas fortunate enough to be served by these hometown providers. Fixed and mobile broadband, video, and voice are among the many services that some rural Americans can access thanks to our industry’s commitment to serving sparsely populated areas. The rural telecom industry has always been innovative, currently exemplified by the mission to deploy the more future-proof fiber-based systems that will provide the foundation small businesses can rely on to invest, relocate, and thrive in rural America.

Of course, as much as we wish NTCA members could expand into other rural communities – and they often try to do so where they can – there are many rural areas lacking access to sufficient broadband, and some that lack access to any broadband at all. The distance and population density of rural America present unique challenges for service providers, but the effects are ultimately felt by the residents and businesses that live and work in these areas. To compound matters further, on average, rural areas in the U.S. are poorer than urban areas<sup>1</sup> and have lower broadband adoption rates.<sup>2</sup> Thus, it is important to take a holistic view of what it means to be an undeserved small business, for example, in the 21<sup>st</sup> century. NTCA submits that available, affordable broadband is essential to overcoming such challenges, and my testimony will provide examples of broadband’s benefits and also discuss effective policy for ensuring universal broadband service.

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<sup>1</sup> Brakkton, Booker, [Report: Rural Poverty In America Is ‘An Emergency’](#), npr.org (May 31, 2018).

<sup>2</sup> Tomer, et al, [Signs of Digital Distress](#), The Brookings Institution Metropolitan Policy Program (Sep 2017).

## **BROADBAND IS ESSENTIAL INFRASTRUCTURE THAT DRIVES ECONOMIC GROWTH AND VIABILITY IN RURAL AMERICA**

### *Broadband Benefits Rural and Urban Areas Alike*

One means of helping underserved businesses grow and thrive is to connect them to markets for their products and services. Such concerns exist across America, in rural and urban areas alike, of course. But in rural areas, as discussed earlier, this connectivity can be a unique challenge due to geographical barriers – barriers that broadband can help break down and overcome. Indeed, in rural and urban areas alike, broadband availability and adoption strongly correlates with increased economic opportunity and prosperity. A 2016 government study found that just 41 percent of adults with household incomes less than \$20,000 had home broadband access, while 90 percent of adults with household income higher than \$100,000 had access.<sup>3</sup> Other studies reveal that the availability of broadband services, regardless of adoption, added as much as 1.4 percent to the U.S. employment growth rate.<sup>4</sup>

Investing in rural broadband has far-reaching effects for both urban and rural America, creating efficiencies in healthcare, education, agriculture, energy, and commerce, and enhancing the quality of life for citizens across the country. A report released in 2016 by the Hudson Institute in conjunction with the Foundation for Rural Service underscores the nationwide benefits that arise from rural broadband; this study found that investment by rural broadband companies contributed \$24.2 billion to the economies of the states in which they operated in 2015.<sup>5</sup> Of this amount, \$8.3 billion accrued to the benefit of rural areas, while nearly \$16 billion accrued to the benefit of urban areas. In addition, better broadband access in rural America is helping to drive growth in online transactions – a recent survey found, for example, that rural consumers account for more than 10.8 billion internet-driven transactions annually, representing approximately 15% of the national total.<sup>6</sup>

### *Broadband Benefits Consumers and Communities*

The benefits of rural broadband, however, go beyond sheer numbers – it is helpful as well to understand the productive uses of broadband and what they mean to those communities that get and stay connected. Rural America needs broadband not only to help farmers efficiently produce the crops that are sold around the world, but to help rural small businesses participate in the global economy and help all rural citizens experience the potentially life-changing healthcare, educational, and employment benefits of broadband.

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<sup>3</sup> [Digital Inequality and Low-Income Households](#), HUD Office of Policy Development and Research (2016).

<sup>4</sup> Galperin and Viacens, [Connected for Development? Theory and evidence about the impact of Internet technologies on poverty alleviation](#), Development Policy Review (2017).

<sup>5</sup> [The Economic Impact of Rural Broadband](#), The Hudson Institute, Washington, D.C. (2016).

<sup>6</sup> [A Cyber Economy: The Transactional Value of the Internet in Rural America](#), White Paper, iGR (2018).

A major benefit of rural broadband, for example, comes in the form of distance learning. With a shortage of teachers in many areas of rural America, many schools must rely on high-speed connectivity to deliver interactive-video instruction for foreign language, science, and music classes. For example, one rural South Dakotan teaches Level 1 and 2 Spanish to over 100 students in over a dozen high schools from a small office located on her farm. Her broadband connection enables her to instruct hundreds of students who otherwise would not have the opportunity to learn Spanish.

Access to healthcare is a critical issue for rural areas, where the lack of physicians, specialists, and diagnostic tools normally found in urban medical centers creates challenges for both patients and medical staff. Telemedicine applications help bridge the divide in rural America, enabling real-time patient consultations and remote monitoring, as well as specialized services such as tele-psychiatry. A small provider in Georgia recently partnered with the county public school system to deploy telehealth equipment to connect the school nurses' offices with physicians at a regional hospital. Through this partnership, the hospital, the school system, and the rural broadband provider facilitate better healthcare for students who might not otherwise see a physician in an area where parents can ill afford to miss a half or full day of work for a doctor visit.

A small telco opened the nation's first "Virtual Living Room" in rural Kentucky in 2017 to enable U.S. service veterans to access broadband-enabled U.S. Department of Veterans Affairs (VA) telehealth and other online services for no fee at publicly accessible locations. The Virtual Living Room saves travel time and costs while enabling connections to skilled physicians and other providers in the VA medical system. The innovative project blends rural technology, VA resources, and local support to encourage veteran use of advanced medical technologies.

Fast, high-capacity broadband in rural areas also creates jobs. In Sioux Center, Iowa, a major window manufacturer built a 260,000 square-foot plant to employ 200 people. The company considered more than 50 locations throughout the Midwest, but selected Sioux Center in part because the rural broadband provider enabled this plant to connect with its other locations throughout the U.S. using a sophisticated "dual entrance" system that could route traffic to alternate paths, ensuring that the main headquarters 250 miles away and other facilities would remain connected. Similarly, in Cloverdale, Indiana, a rural broadband provider met with developers and helped bring an industrial park to its service area. Powered by this provider's broadband, the facility created more than 800 jobs in the area. In Havre, Montana, a rural broadband provider is partnering with a tribally-owned economic development agency to create a Virtual Workplace Suite and Training Center that is expected to create about 50 jobs.

These stories are repeated throughout NTCA member service areas and are recognized annually by NTCA's Smart Rural Community (SRC) program that promotes rural broadband networks and applications that communities can leverage to support innovative economic development,

education, healthcare, government services, public safety and other vital public functions. SRC recognizes top-performing broadband providers and their communities through its Showcase Awards; offers grants for innovative technology deployments in the Collaboration Challenge program; and provides educational resources and programming. NTCA also recognizes the providers of the fastest, most robust rural networks with its “Gig-Capable Provider” certification. Recipients must demonstrate that gigabit technology is commercially available within 95% of one or more exchanges or census blocks in their service area. NTCA’s membership already boasts over 100 “Gig Certified” providers.

As described in a recent CoBank report on rural economic challenges, “Rural America faces a unique set of economic challenges, but it has demonstrated resilience during the past eight years of recovery. The rural population, jobs, and incomes are all trending in the right direction. And current efforts to improve rural broadband access offer the greatest opportunity to make a significant dent in the rural/urban economic divide. As broadband becomes more widely available in rural communities, enhanced access to education, healthcare, and business opportunities can markedly improve the quality of life and the economic vitality in these communities. Rolling out broadband to rural communities will take several more years in some areas. But as access increases, so will rural America’s economic potential.”<sup>7</sup>

## **BARRIERS TO RURAL BROADBAND DEPLOYMENT**

NTCA believes it should be clear that a key to helping underserved communities in the 21<sup>st</sup> century is to provide them with 21<sup>st</sup> century connectivity – high-speed broadband upon which they can rely to invest and operate businesses that will create jobs and provide opportunities for residents and consumers alike. This task, however, is easier said than done. In many cases, in rural areas in particular, communities (and the residents and businesses within them) are underserved (or even unserved) because the economics of connecting them are difficult, if not impossible, to overcome.

Building broadband networks is capital-intensive and time-consuming. Indeed, the primary challenge of rural network deployment is in making a business case for constructing networks across hundreds or thousands of miles where the population is sparse, the terrain is diverse, and the permitting and contractual considerations can be substantial. Then, even when and where networks are built, they must be maintained over those hundreds or thousands of miles – this maintenance requires technicians who regularly travel long distances to make service calls and customer service representatives trained to deal with questions about router and device configurations in ways that were unimaginable for “telephone companies.”

Moreover, even the best local or “last mile” networks in rural markets are dependent upon “middle mile” or long-haul connections to internet gateways dozens or hundreds of miles away in large

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<sup>7</sup> [THE YEAR AHEAD: Forces that will shape the U.S. rural economy in 2018](#), CoBank Knowledge Exchange Report (2018).

cities. Reaching such distant locations is expensive, and as customer bandwidth demands increase – moving from Megabytes to Gigabytes to Terabytes of demand per month per customer – so too does the cost of ensuring sufficient capacity to handle customer demand on those “long-haul” fiber routes that connect rural America to the rest of the world.

All these factors make the delivery of broadband in rural America an ongoing effort that requires sustained commitment. We will miss the mark as a nation if we treat the broadband challenge as a one-time declaration of “success” just for the very preliminary act of connecting a location. After initial construction of rural broadband networks, much work remains to ensure consumers and businesses can adopt and make effective uses of networks, and to upgrade and sustain those networks over time to keep pace with consumer demand – this undertaking is where public policy plays an important role in helping both to build *and* sustain broadband in rural markets.

## **OVERCOMING BARRIERS TO BROADBAND DEPLOYMENT IN UNSERVED AND UNDERSERVED COMMUNITIES**

### *Making the Business Case for Broadband Infrastructure Investment and Sustaining Operations*

So how do we overcome these significant challenges of deploying and sustaining rural broadband infrastructure? The first step is to clearly identify those challenges and think carefully and creatively about measures to address them. Above all else, the economics of rural broadband present the primary barrier to deployment. The rates that rural consumers pay are rarely sufficient to cover even the costs of operating in rural areas, much less the enormous capital expenditure required in the first instance to deploy reliable, high-speed broadband in rural America. Without a reasonable business plan, providers are hard-pressed to justify borrowing funds or using one’s own capital to build and then even harder-pressed to sustain networks in areas where densities are low, distances are great, and terrain and topography complicate construction.

These challenges highlight why sufficient ongoing support from the High-Cost Universal Service Fund (USF) program overseen by the Federal Communications Commission (FCC) is so important, allowing providers to keep rates affordable for consumers and to help justify use of one’s own capital and/or obtaining financing from the few lenders that tend to serve rural Internet service providers. In short, support from the federal High-Cost USF program is essential to make the business case for broadband in many unserved and underserved rural areas. In fact, the USF is the primary, if not the only, tool to ensure – as mandated by the Communications Act – that those living in deeply rural areas can purchase telecom services that are reasonably comparable to what urban Americans receive at rates reasonably comparable to what urban consumers pay.

Put another way, USF does not itself “pay for” upfront network construction; instead, the USF program supports ongoing operations (and the repayment of loans and private capital) by ensuring

that rural consumers can pay reasonable rates for their use of services atop networks, thereby allowing consumers to buy such services and operators to justify the business case for investments in those networks in the first instance. USF is thus perhaps the best, most successful example of a public-private partnership that exists in the broadband space, having helped to justify the business case for private network investments that can total tens of billions of dollars per year when measured as gross plant in service.

Fortunately, after receiving dozens of bipartisan letters signed by hundreds of members of Congress over several years calling for an updated and sufficient High-Cost USF program, the FCC in December agreed to substantially increase the support available to small, rural carriers through USF and also set a baseline requirement of 25/3 Mbps for supported networks. The recalibrated resources are needed and welcome after many years of budget shortfalls and capped support, and now that Congress received much of what it asked for on USF, it becomes increasingly important to coordinate funds appropriated to the U.S. Department of Agriculture's Rural Utilities Service (RUS) for broadband loans and grants with High-Cost USF support to ensure federal broadband support efforts aren't duplicated.

It is also important to note that USF does much more than support rural networks. This work is the discrete mission of the High-Cost program – to help ensure that networks are available in rural areas, and that consumers and businesses can afford to adopt and make good use of the services offered atop them. But universal service policy aims to do more, holistically considering potentially unserved and underserved users of all kinds. More specifically, in first codifying the USF in 1996, Congress wisely structured the USF as a combined umbrella program with components that seek to address discrete sets of potentially underserved populations through coordinated programs – E-Rate for schools and libraries, Lifeline for low-income consumers, Rural Health Care, and High-Cost for rural networks.

Indeed, in helping to ensure rates for services are affordable on rural networks, High-Cost also helps millions of low income Americans connect to broadband, as many of the nation's poorest counties are rural.<sup>8</sup> For these reasons, we believe the federal universal service mechanisms as a whole represent a well-thought, comprehensive strategy that aims to ensure that every American – regardless of the specific challenge that renders them at risk of being unserved or underserved – will have the chance to obtain access to advanced communications services at affordable rates.

### *Financing Deployment of Broadband Infrastructure to Reach Unserved and Underserved Communities in Rural America*

If the business case for investment in rural broadband networks can be made – which, as noted above, often relies upon USF support in the first instance – the question then turns to how a provider can

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<sup>8</sup> Stebbins, Samuel, [The Poorest County in Every State](#), *24/7 Wall St* (Jan 9, 2019).

obtain the resources needed to build the network. Deploying a communications network in an unserved or underserved rural area requires a large capital outlay due to the challenges of distance and terrain. In some cases, a provider may have capital on hand to self-finance the construction of such a network, but this is not often the case – especially when smaller operators are the ones typically most focused on expanding broadband into underserved rural markets.

There are very few lenders, however, willing to provide capital for rural broadband construction given the long-term nature of the returns involved and the limited nature of the returns as compared to more densely populated markets. Indeed, in many cases, smaller rural operators have only a handful of lenders to turn to for capital to deploy broadband infrastructure, with RUS, CoBank, Rural Telecommunications Finance Cooperative (RTFC), and some community banks prominent among those lending entities.

The RUS in particular has long played a crucial role in addressing rural broadband challenges through its telecommunications programs that finance network upgrades and deployment in rural areas. Since at least the early 1990s, the RUS telecom programs have financed advanced network plant at a net profit for taxpayers and helped deploy state-of-the-art networks to rural Americans left behind by providers unable or unwilling to serve low-population-density markets.

Not only does RUS help rural America remain connected, but its Broadband Loan & Loan Guarantee program and traditional Telecommunications Infrastructure Loan & Guarantee program make loans that must be paid back with interest – creating a win/win situation for rural broadband consumers and American taxpayers. With the passage of new legislation last year, RUS will figure even more prominently in rural broadband deployment strategy as Congress has begun providing RUS with substantial additional resources to make broadband grants and grant/loan combinations. In addition to the creation of a new \$600 million RUS broadband loan/grant pilot program in the Fiscal Year 2018 Omnibus appropriations bill (with plans to add more funds in Fiscal Year 2019), the recently-reauthorized Farm Bill added a grant component to the Broadband Loan Program and increased the program's authorization from \$25 million to \$350 million.

Far from supplanting the High-Cost USF program, RUS telecom programs will need to continue to work in concert with USF as RUS finances the substantial upfront costs of network deployment and the High-Cost program helps to make the business case for such construction and then sustains ongoing operations at affordable rates. In particular, USF by law aims to ensure “reasonably comparable” services are available at “reasonably comparable” rates, making adoption of services possible by consumers and small businesses that need such access to thrive as described earlier in this testimony. Not to be confused or conflated, RUS capital and ongoing USF support therefore serve distinctly important, but complementary rather than redundant, purposes in furthering rural broadband deployment.



It is essential that these complementary roles continue, and that we avoid the prospect of two, dueling federally-supported networks built in a rural area that could not sustain either one without such federal support. We can make smarter, better use of federal resources by reaffirming and codifying yet again the complementary nature of coordinated RUS and FCC programs, rather than allowing these programs and the resulting networks to be pitted against one another in a manner that undermines the sustainability of the networks and the integrity of the programs themselves.

*Expediting Broadband Deployment to Reach Underserved Communities More Quickly and Effectively*

As mentioned earlier in this testimony, a further barrier to broadband deployment can arise in the form of disparate applications, fees, and reviews across federal and state land-owning and land-managing agencies. Such concerns can be particularly acute for smaller broadband providers, who have fewer staff and financial resources to navigate multiple agency procedures. Efforts to streamline federal permitting processes would free resources for broadband investment. The RAY BAUM'S Act laid a great foundation for reforming federal permitting by standardizing applications and introducing shot clocks.<sup>9</sup> More could be accomplished on this front by requiring better coordination among federal agencies for broadband projects, expediting use of existing federal rights-of-way, and allowing states to conduct reviews for federal lands.

**DELIVERING BROADBAND TO UNSERVED AND UNDERSERVED RURAL COMMUNITIES: PROGRESS AND REMAINING WORK**

Despite the many challenges of deploying broadband in rural areas, a survey of NTCA members conducted in 2017 found that 58 percent of respondents' customers are served via fiber-to-the-home, up by 17 percent from 2017. Over 38 percent of customers are served via DSL technologies, 2.6 percent by cable modem, 1.2 percent via fixed wireless, and 0.1 percent through satellite.<sup>10</sup> Due in no small part to increased fiber deployment, rural customers served by NTCA members have access to faster broadband speeds, including 70 percent that can now access speeds at or above 25 Mbps download. These statistics confirm what we already know, but occasionally overlook – that through the work of small, local operators committed to the rural areas in which they live, we are making strides year-over-year to reduce the digital divide.

But the job is far from done. The statistics noted above are good news, but they also tell a story of many rural consumers and communities waiting for services to come. Despite the community commitment of NTCA members, twelve percent of consumers still cannot get even 10 Mbps broadband, while 30 percent are unable to obtain 25 Mbps broadband – a speed that is considered average for most urban Americans today. In these cases, even those providers that live and work in the communities they serve cannot muster the resources or make the business case for investment

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<sup>9</sup> H.R.1625 - [Consolidated Appropriations Act](#), 2018, Division P (Public Law No: 115-141).

<sup>10</sup> [NTCA Broadband/Internet Availability Survey Report](#) (2018), NTCA–The Rural Broadband Association, Arlington, VA.

and ongoing operation. And the story is even worse in areas that are not served by cooperatives and other small hometown-based telecom companies like those in NTCA's membership; in other rural communities, we hear frequently that many more consumers, businesses, schools, and medical facilities are lacking in access to even basic levels of broadband.

And, finally, even where broadband *is* available, sustaining it and upgrading it to keep pace with today's economy and user demands is a challenge unto itself; the job is not finished when broadband networks are deployed, because consumers' use of broadband depends upon reliable and affordable services that will remain high-quality and keep pace with advances in technology and user needs. For example, while DSL and fixed wireless technologies are important "tools in the toolkit" to provide customers with some basic level of broadband access, it is difficult to see as a long-term proposition how these technologies can keep pace with consumer demand and business need. Thus, even as we have successes to celebrate and proven track records of success to emulate, we as a nation have much more to do to reach underserved populations and unserved areas, and to also sustain robust and affordable rural broadband where it is available today.

## **CONCLUSION**

Robust broadband must be available, affordable, and sustainable for rural small businesses and underserved populations to realize the economic, healthcare, education, and public safety benefits that advanced connectivity offers. As noted in this testimony, it takes an effective mix of entrepreneurial spirit, access to capital (whether from RUS or otherwise), commitment to community, and federal USF support to enable and sustain deployment of communications infrastructure in many parts of rural America.

The RUS and the High-Cost USF programs play important, but complementary rather than redundant, roles in promoting the deployment and sustainability of broadband infrastructure in rural America. Promoting greater access to capital through strong, well-tested RUS loan and grant programs, ensuring sufficient funding of USF to make the business case for use of private and/or borrowed capital in rural areas, and demanding continued coordination between essential federal programs that aim to promote broadband access in rural America are all critical pieces of a comprehensive and thoughtful national rural broadband strategy.

I thank the committee for its leadership on and interest in all these issues, and we look forward to working with you to realize a vision of true universal service in the form of robust and sustainable networks that will deliver reliable, high-quality, and affordable communications services throughout rural America now and for years to come.