



Statement by

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On behalf of

NTCA–The Rural Broadband Association

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INTRODUCTION

Chairman Chabot, Ranking Member Velázquez, and members of the Committee, thank you for this opportunity to testify about the importance of broadband infrastructure to rural areas and how rural broadband networks are deployed and sustained. I am Kevin Beyer, the General Manager of Farmers Mutual Telephone Company, which is headquartered in Bellingham, MN, and Federated Telephone Cooperative, which is headquartered in Chokio, MN. My remarks today are on behalf of Farmers and Federated, as well as NTCA–The Rural Broadband Association, which represents approximately 850 rural community-based carriers that offer advanced communications services throughout the most sparsely-populated areas of the nation.

NTCA members and companies like them serve just under five percent of the U.S. population spread across approximately 35 percent of the U.S. landmass; in most of this vast expanse, they are the only fixed full-service networks available. Small telecom providers 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 that help rural communities overcome the challenges of distance and density. Fixed and mobile broadband, video, and voice are among the services that millions of rural Americans can access thanks to our industry’s networks and commitment to serving sparsely populated areas.

Farmers and Federated are local, community-based telecommunications providers with 26 employees serving a combined area of 2,736 square miles with an average of two customers per square mile. The total connections – or homes/businesses passed – are 6,166 with the capability of delivering voice and Gigabit broadband services. We employ fiber-to-the-home technology to provide both voice and broadband services to our customers.

Our networks allow rural small businesses to communicate with suppliers and sell to new markets, they enable education of our children on par with opportunities in urban areas, and they make our communities attractive destinations for people and businesses to relocate. In rural America, that translates into economic development that produces jobs, not only in agriculture, energy, manufacturing, and other industries with a strong rural presence, but in the healthcare sector, and just about any other retail industry that requires broadband to operate.

BROADBAND IS ESSENTIAL RURAL INFRASTRUCTURE

Rural Broadband Benefits the Entire U.S. Economy

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 (FRS) found that investments by rural broadband companies contributed \$24.1 billion to the economies of the states in which they operated.¹ While \$8.2 billion (or 34 percent of this sum) accrued to rural areas, the remaining 66 percent – \$15.9 billion of economic activity – accrued to the benefit of urban areas. Additionally, the report found that the rural broadband industry directly and indirectly supported nearly 70,000 jobs nationwide in 2015, with 46 percent of those being in rural areas and 54 percent located in urban areas.

In addition, iGillotResearch and FRS released a paper in March 2018 that underscores the value of Internet transactions and further reveals how rural broadband benefits the entire economy:

- Rural consumers are responsible for more than 15% of all internet-driven transactions – approximately 10.8 billion internet-driven transactions.
- Internet-driven transactions drive a substantial portion of U.S. gross domestic product (GDP) – approximately \$9.6 trillion annually.
- The estimated value of rural online transactions is nearly \$1.4 trillion – or 7% of the U.S. nominal GDP.²

The economic impacts of broadband can be seen close to home for Farmers and Federated. We have deployed fiber-to-the-home networks in 28 exchanges – enabling 1 Gbps for more than 6,000 homes and businesses over 2,736 square miles. Our fiber deployment has enabled many local success stories, including Superior Industries, Inc. – an American manufacturing company headquartered in Morris, MN. Superior employs approximately 1,600 people across multiple divisions that engineer, manufacture, service, and sell dry bulk processing and handling equipment, fuel delivery and storage equipment, and precast concrete products. More than half of Superior’s work force is employed at one of its three campuses in Stevens County, with the remaining employees spread throughout 25 other manufacturing, engineering, or repair center facilities in the United States, Canada, and Brazil. Federated provides Superior with a broadband connection that not only allows the customer to efficiently connect its three Stevens County locations together with a WAN, but also allows Superior to communicate with its additional locations throughout the United States, Canada, and Brazil, as well as its numerous customers around the globe.

Broader Benefits for Consumers and Communities

Beyond these economic impacts of broadband network investment and operations, the broader socioeconomic benefits of broadband services for users and communities cannot be ignored. A Cornell University study, for example, found that rural counties with the highest levels of

¹ [The Economic Impact of Rural Broadband](#), Hanns Kuttner, Hudson Institute (April 2016).

² [A Cyber Economy: The Transactional Value of the Internet in Rural America](#), iGR (March 2018).

broadband adoption have the highest levels of income and education, and lower levels of unemployment and poverty.³

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. One study found that doctors in rural emergency rooms are more likely to alter their diagnosis and their patient's course of treatment after consulting with a specialist via a live, interactive videoconference. A rural Wisconsin community experienced the broadband difference when a rural telco deployed a fiber network to a 25-bed critical access hospital and its satellite clinics to enable patients to obtain broadband-supported healthcare closer to home. Telehealth services enabled by high-speed broadband also facilitate "aging in place," as seen in rural North Dakota where a small, rural broadband provider developed a telemedicine link with a local pharmacist that enabled a neighboring community pharmacy to remain open upon the retirement of its pharmacist.

The unique "hometown focus" of smaller providers, as captured in NTCA's Smart Rural Community initiative, helps in promoting innovative uses of these networks for the benefit of rural America. For example, in western Oklahoma, high-speed broadband supports a community-based charitable organization that assists clients with mental health therapy and foster child placement; the broadband connection enables rapid transfer of data across great distances to speed the settlement of children in new homes. A Wisconsin rural telco serves as technology partner to local children's charities that rely on electronic auctions for fundraising revenue.

Other benefits accrue in the form of distance learning. A shortage of teachers in parts of rural America means public school districts rely on high-speed connectivity to deliver interactive video instruction for foreign language, science, and music classes. For example, high school students in a rural Nebraska community can now receive college credits for courses taken online thanks to fiber connectivity to area school systems and community colleges, and students at a small private college in rural South Carolina use high-speed broadband to engage coursework in programming, advanced mathematics, engineering, research, and design – preparing them to enter a tech-centric job market.

Consumer Demand, Fiber, and Future-Proof Networks

Despite unique rural challenges of high deployment costs due to distance, density, and terrain with too few customers gained to even cover the costs of operating a network, small rural telcos have made remarkable progress in deploying advanced communications networks. A survey of NTCA

³ [Broadband's Contribution to Economic Health in Rural Areas](#), Community & Regional Development Institute, Cornell University (February 2015).

members conducted in 2016 found that 41 percent of respondents' customers are served via fiber-to-the-home (FTTH), up 12 percent from 2013. Forty-five percent of customers are served via DSL service, 12 percent cable modem, 1 percent fixed wireless, and 0.2 percent satellite. Due in no small part to increased fiber deployment, rural customers have access to faster broadband speeds. Per the 2017 survey, 87 percent of NTCA members' customers can purchase broadband at speeds of 10 Mbps or higher. Sixty-seven percent can now access speeds above 25 Mbps.⁴

Farmers and Federated serve many important community anchor institutions, including four rural hospitals and related EMS services, eight school districts, a public liberal arts college, and numerous public libraries and public safety entities – including police and rural volunteer fire departments.

Farmers and Federated's tag line is "Future. Communications. Today." This concept means we will look beyond the next year or two as we attempt to forecast the future needs of our customers and our communities. Not unlike many of our rural counterparts, we have seen our average data usage increase over 1,000 percent over the last five years. This number will continue to grow exponentially as we move to continued growth in all forms of data services including precision agriculture, distance learning, telemedicine, 4k video, virtual reality, and autonomous vehicles.

We have responded to this demand by taking aggressive steps for our customers. Over the past 15 years, Farmers and Federated have invested \$60 million in their networks, primarily with fiber and fiber-related electronics. It is clear that the speed and sustainability of fiber deployment will depend on both reasonable access to capital to finance construction and the availability of USF support to make sure user rates on these rural networks, once upgraded, are not astronomical and unaffordable.

Much Progress, but Much More Work to Do

Despite this great progress, many parts of rural America still need better connectivity. Thirteen percent of NTCA member customers don't have access to even 10/1 broadband. And while the Federal Communications Commission (FCC) has indicated that 90 percent of Americans already have affordable access to 25/3 Mbps service and many urban consumers and businesses benefit from 100 Mbps or Gigabit speeds, broadband access in rural America lags behind urban areas despite the best efforts, innovation, and entrepreneurial spirit of NTCA's members. Thirty-three percent of NTCA member customers still cannot obtain 25/3 speeds given the very rural nature of the areas in which they live. And even where broadband has been deployed, sustaining it in areas where consumers are scattered across great distances is itself a substantial and often underappreciated challenge.

⁴ [NTCA 2016 Broadband/Internet Availability Survey Report \(2017\)](#), NTCA–The Rural Broadband Association, Arlington, VA.

The rural broadband industry and our nation as a whole has a great story of success but we also have much more work to do – and this is where public policy plays such an important role in helping to build and sustain broadband in rural markets that would not otherwise justify such investments and ongoing operations.

KEY PRINCIPLES FOR BROADBAND INFRASTRUCTURE POLICY

As policymakers consider potential initiatives to promote broadband infrastructure deployment, we believe it is essential to build upon what has worked to date, leveraging successes and taking account of lessons learned from prior efforts. In doing so, there are several key principles that should guide next steps on infrastructure policy.

1. Nothing Else Matters Without a Business Case for Investment and Operation

Because of the distances and population densities involved, and in some cases the terrain as well, it is difficult, if not impossible, to make the business case for investing in broadband in many rural markets. Moreover, even if the upfront capital expenditures can be justified, the markets are so rural that the high ongoing costs of operation undermine the business case for deployment. Therefore, ongoing support from the High-Cost Universal Service Fund (USF) initiatives overseen by the FCC has been central to promoting rural broadband. USF programs help providers offer rural Americans more affordable rates, consistent with the Communications Act mandate for reasonably comparable rates and services in urban and rural areas alike. Without USF, rural consumers in many areas could not cover the costs of building and operating the network and delivering services that go far beyond what was once imaginable in a legacy “telephone” business.

It is the availability of a predictable and sufficient universal service mechanism that justifies use of a provider’s own cash or financing from the few lenders that tend to serve rural Internet service providers – the Department of Agriculture’s Rural Utilities Service (RUS), CoBank, the Rural Telephone Finance Cooperative, or community banks. For these reasons, it is critical that any infrastructure initiatives include resources dedicated to making the business case for deploying and sustaining broadband in rural America. Without such resources, any effort is likely to be effective only on the margins or in very limited respects, leaving behind many areas that still lack broadband access and/or putting at risk investments already made to deploy advanced broadband networks in deeply rural areas.

2. Leverage Existing Experience and Expertise

The know-how that an operator needs to construct a network in a downtown business district in a large metropolitan area – where there could be more people in a single building than in an entire rural town and surrounding areas – does not necessarily translate into success in rural broadband.

With finite resources available for supporting deployment, it is necessary to leverage the real experience and technical expertise of those providers that have in fact previously deployed and operated networks over many miles of rural terrain. It is particularly important to “screen” the technical claims of those promising a solution for rural broadband to ensure that their networks are engineered to deliver on that promise – to reach all consumers within the proposed rural service area and provide them with a consistent, reliable service that will not fail over time as more users adopt and greater demands are placed on the network.

3. Rural Broadband Is Not a Short-Term Business Proposition

Rural broadband depends upon long-term capital investments that last for (and must be recovered over) decades. Putting resources toward inferior infrastructure that might seem cheaper upfront but needs to be substantially rebuilt in only a few years’ time could turn out to be resources wasted – and risks leaving rural America behind. To get the best return for the users of a given network and for America as a whole, rural broadband networks must be scalable and still capable of delivering value a decade or more after being built.

4. Targeting Resources for New Construction Is Critical

It is important to target any resources made available to the areas where they are needed most. Unfortunately, today’s broadband maps are incomplete and imprecise, depending upon self-promoted claims of coverage that represent an entire census block as served even if only one customer in that block can actually get service. While not perfect and still in need of improvement, the FCC employs a variety of processes in its USF programs aimed at validating where service is or is not already available in order to direct funding to where it is needed most. Regardless of which agency ultimately administers these programs, such efforts to target support should be part and parcel of any infrastructure initiative moving forward to ensure both that funding remains in place where it is needed and, conversely, funding is not put to work in areas where another provider can already deliver service.

5. Coordination of Efforts Among Governmental Programs Is Key

Rather than creating new programs from scratch, we believe it makes sense to leverage existing programs that have time-tested processes and procedures to direct funds to the right places and already have experience in vetting proposals to deploy and sustain rural broadband. If, however, new programs are to be created or existing programs expanded, these programs must complement – and not compete with – the existing efforts already underway. It will be a waste of finite government resources if one agency finances the deployment of a network in an area where another agency is already supporting the deployment and operation of a network by another provider.

6. Streamlining Construction Processes Will Be Helpful

While making the business case for deployment and operation of a network in the first place is vital, steps can and should be taken to mitigate permitting delays, complicated application procedures, and high costs of access once that business case is made. Such efforts are especially important so that any federal resources made available as part of an infrastructure plan can help consumers as soon as possible.

7. Accountability Must Be Expected

Any infrastructure plan must hold recipients of any resources accountable for their use. One framework to consider is what the FCC has done in the USF programs, where it will require recipients of support to: (1) report on the latitude and longitude of every location to which they deploy broadband going forward using such support; and (2) comply with performance testing measurement standards still under development. Similar measures should be considered in connection with disbursement of any resources through an infrastructure plan.

RECOMMENDED NEXT STEPS

With these principles in mind, policymakers should consider several steps moving forward.

1. Leverage Existing Programs

a. Universal Service Fund

Given its track record and the many efforts made in recent years to recalibrate the program toward promoting broadband availability and affordability, strong consideration should be given to leveraging – and supplementing – the existing High-Cost USF program as a means of implementing a broadband infrastructure initiative.

The High-Cost USF/Connect America Fund (CAF) initiatives are essential both in justifying the business case for broadband infrastructure investment in the first instance, and then in sustaining such investments by keeping consumer rates for services more affordable atop the networks once they are built. While the FCC recently adopted a much-needed and welcomed reprieve from USF funding shortfalls, this reprieve is temporary and partial in nature, and these initiatives remain underfunded.

For example, more than \$60 million per year is still needed to fund an alternative USF model that the FCC created to promote broadband deployment – and that level of funding is needed for 10 years, making the shortfall for the model more than \$600 million in total. In addition, under a

budget control mechanism that is applied only to some carriers, many small rural telecom operators were seeing their support slashed by an unpredictably escalating budget control that reached 12.3 percent on average, translating into denied recovery of more than \$170 million in actual costs for private broadband network investments *already made*. The recent FCC action patched this shortfall through June of this year. But if the agency does not act by then to provide more sufficient and predictable High-Cost funding over the long term, such cuts in USF support will resume in July, and will likely grow in coming years.

These shortfalls make it difficult, if not impossible, to justify effective use of available capital for rural broadband, and they translate into real harm for rural Americans in the form of lower speeds or no broadband at all, or higher rates where broadband is available. Budget shortfalls force carriers to recover costs by increasing prices for rural Americans (if possible) well above what urban Americans pay – and, if rates cannot be increased, these shortfalls may lead to defaults on loans used to finance the construction of those broadband networks.

If sufficiently funded, the FCC's High-Cost USF efforts could have a meaningful near-term impact on our nation's broadband goals. By contrast, creating new programs from scratch requires much more administrative effort than leveraging existing programs, and the rules for any such new programs must still be informed by the principles articulated above in terms of administration and accountability – while also making sure not to undermine the important work that the FCC's USF/CAF efforts and other existing programs (such as some described below) are already achieving despite being underfunded.

b. Rural Utilities Service

Another alternative to tackle our nation's rural broadband infrastructure challenges would be to direct additional resources for rural broadband to the Department of Agriculture's RUS programs that have been and remain critical for so many small rural operators in stimulating infrastructure deployment. If any infrastructure resources are directed to RUS rather than to the FCC's USF/CAF efforts, it will be essential to ensure that those programs are coordinated effectively and complement, rather than compete with, the ongoing efforts of the federal USF programs.

Although some people may confuse the roles of RUS programs and the USF, these initiatives play unique and distinct roles. USF does not finance networks; private banks and other lenders (including RUS programs) provide upfront financing necessary to construct networks (although few banks lend to construct broadband infrastructure in rural America where the return on investment is typically measured in decades). On the other hand, RUS programs and other banks and financing programs do not sustain networks or aim to make services atop them affordable for consumers; again, these efforts focus upon upfront deployment financing, with the USF then helping to sustain

networks by ensuring that consumers can obtain reasonably comparable services at reasonably comparable rates atop the networks once financed and built.

This long-standing complementary relationship between RUS and the USF initiatives must continue by ensuring that each program continues to focus upon its core mission, and that they help to provide complementary, rather than competitive, support for rural broadband efforts. Congress acknowledged the important role that RUS can play when it appropriated \$600 million recently for a new rural broadband loan and grant pilot program in the FY18 Omnibus bill. Congress also rightly recognized the importance of targeting funds and coordinating broadband initiatives in this bill by requiring that 90% of locations in project areas be without 10/1 Mbps and barred awardees from duplicating existing networks financed by RUS.

Congress should include similar provisions in any future legislative initiatives. Indeed, if new resources are provided (as they should be) to spur broadband deployment, there should be an explicit prohibition against one entity obtaining financing or funding from any such new federal program to overbuild or duplicate *another entity's* network that has itself been built and operated leveraging *other* federal programs. We must ensure that the nation's broadband efforts work in concert rather than conflict, and that they continue to complement one another so that resources go as far as possible in addressing rural broadband challenges.

2. Collect Better Data on Service Availability

More accurate data on service availability is essential to ensure that government efforts to support broadband target resources as efficiently as possible. We need to ensure both that any such support goes to where it is needed *and* ensure that support is not eliminated based upon a false impression of where providers claim to serve.

Since the National Broadband Map has not been updated for years, the FCC's Form 477 data represents the best current source for information on broadband coverage. But even the Form 477 data suffers from imprecision and an inherent lack of granularity. Although the Form 477 is certified by the provider, there is no means of validating the data submitted. Moreover, the Form 477 data is submitted by census block – this unit of measure means that in a rural area, just one consumer with service can result in unserved consumers miles away looking “served.” To help address this issue in the Universal Service Fund context, the FCC has engaged in periodic data collections and “challenge processes” to try to develop a record of better evidence to validate where service truly does and does not exist notwithstanding the claims of Forms 477 received. But even these efforts have been incomplete, and some have questioned whether some of the processes work well enough to achieve the desired result.

Better mapping and more robust challenge processes are ultimately going to be essential to drive broadband policy. The FCC's High-Cost USF program has attempted to get better data by requiring recipients of support to geocode individual locations where new broadband is installed (and, in some cases, for prior deployments too, which is a rather burdensome task). The geocoding of *new* installations and upgrades going forward on a wider scale could help bring us closer to identifying where broadband exists with much greater precision, which would allow better identification of where resources are needed to fill gaps.

The FY18 Omnibus bill included \$7.5 million for NTIA to “update the national broadband availability map in coordination with” the FCC, even as the FCC recently updated the map with Form 477 data from 2016. More guidance from Congress will probably be necessary for an accurate map that can be readily updated. Regardless of the means that might ultimately be chosen to obtain more accurate and granular data, it will be important to: (1) avoid unreasonable burdens in the data-gathering process; and (2) reconcile and coordinate data-gathering and mapping efforts so that we do not end up with duplicative, burdensome reports at different agencies or, even worse, inconsistent data among agencies.

3. Streamline Permitting

Where the business case for deploying rural broadband can be made, removing barriers to deployment through streamlining of governmental permitting procedures can then promote quicker rural broadband deployment at relatively lower cost. We are pleased that so many in Congress, at the FCC, and elsewhere in the Administration are considering these questions and taking a fresh look at how to remove unnecessary or inefficient barriers to deployment. For example, standardization of application forms and fees to the extent possible across various federal agencies could offer great help for small businesses trying to navigate approval processes, and the steps taken in this direction by including RAY BAUM'S Act in the recent Omnibus bill are welcome. Reliance upon prior environmental and historical preservation approvals in areas where a network has already been built would also aid in upgrading services for consumers while continuing to achieve appropriate levels of protection.

Finally, ensuring that application processes consider the need not only for wireless facility installations, but also fixed network (*e.g.*, fiber) deployments, is essential too. Any changes and coordination with respect to permitting should be made on a “technology neutral” basis. Although much of the discussion with respect to streamlining of permitting processes appears to focus on the promise of 5G wireless services and small cell deployment, the ultimate success of these services – especially over vast rural areas – will depend upon massive fiber investment to connect all those small cells. The fact is that “wireless needs wires,” and thus any efforts to streamline permitting must factor in both wired and wireless networks if these efforts will pay off.

CONCLUSION

Robust broadband infrastructure is crucial to the current and future success of rural America. Small, rural telecom providers like Farmers and Federated are deploying faster broadband throughout their service areas, but no carrier – regardless of size – can deliver high-speed, high-capacity broadband in rural America without the business case to justify and then recover the initial and ongoing costs of sustaining such infrastructure investment in high-cost areas.

A national infrastructure initiative offers a unique opportunity to help promote these broadband investments, and mechanisms that ensure efficiency and accountability in the expenditure of resources toward this mission are already in place. Our industry is excited to participate in this conversation regarding broadband infrastructure initiatives, and we look forward to working with policymakers and other stakeholders on a comprehensive infrastructure strategy to ensure that all Americans will experience the numerous agricultural, economic, health, and public safety benefits of broadband.

Thank you for the opportunity to testify, and for the Committee's commitment to creating an environment conducive to broadband infrastructure investment in rural America.