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Before the

United States Senate
Agriculture, Nutrition & Forestry Committee

Washington, DC

September 28, 2017

INTRODUCTION

Chairman Roberts, Ranking Member Stabenow and members of the committee, good morning and thank you for the opportunity to testify on the importance of rural broadband to the U.S. economy and how sound policies can promote the deployment and sustainability of broadband in rural America.

I am Denny Law, Chief Executive Officer of Golden West Telecommunications Cooperative, Inc. in Wall, South Dakota. My remarks today are on behalf of Golden West and NTCA–The Rural Broadband Association, which represents approximately 850 community-based companies and cooperatives that offer advanced communications services in the most rural parts of America. NTCA members and companies like them serve less than five percent of the U.S. population spread across over 35 percent of the U.S. landmass. In the vast majority of these wide-ranging rural areas, they are the only fixed full-service networks available. Small telecom providers therefore are essential to connect rural America 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 many rural Americans can access thanks to our industry's networks and our commitment to service. These technologies have been recognized time and again as a small business incubator in rural areas that would otherwise see entrepreneurial activity – and population – gravitate toward urban areas.

While every story is unique, I believe the history of telecommunications in our sparsely populated part of South Dakota is relatively indicative of the challenges of serving consumers and businesses throughout rural America. Golden West Telephone Company was incorporated in 1916 to provide telephone service between the towns of Interior and Quinn, SD. During the Great Depression, Golden West suffered setbacks and the assets were sold by the county sheriff to pay taxes. After President Truman signed the telephone amendments to the Rural Electrification Act in 1949, residents of the community in Quinn met to form Golden West Telephone Cooperative and soon applied for a loan from the Rural Electrification Administration (REA). From those early days of telephone line strung along fence posts to farms and ranches, Golden West Telecommunications and its subsidiaries now provide service to over 35,000 telephone customers, 24,000 broadband internet subscribers, and 10,000 cable television customers across 24,500 square miles – an area larger than the states of Maryland, New Jersey, Connecticut and Delaware combined.

As perspective for how rural this area is, the largest community Golden West serves is Dell Rapids, with a population of approximately 3,700 people. At the other end of the spectrum, Golden West provides services in Hayes, South Dakota – an unincorporated area of 1,119 square miles with only 166 customers, which equates to roughly 0.15 connections per square mile. Nonetheless, residents and businesses in Dell Rapids and Hayes alike have access to broadband services due to an effective combination of Golden West's entrepreneurial spirit and use of private capital, our commitment to community, and Rural Utilities Service (RUS) and federal universal service fund (USF) programs that have all worked effectively together – at least in the past – to enable and sustain deployment of communications infrastructure in rural America.

Golden West also provides telecommunications service on portions of five Native American tribal reservations in South Dakota, including the Pine Ridge Indian Reservation. Golden West's diverse service area includes rolling farm land and vast prairie expanses, as well as National Parks and National Forest land, all without leaving South Dakota.

Throughout Golden West's history, we have been borrowers through the RUS or its predecessor agency, the REA. RUS telecommunications lending has helped enable and unleash billions of dollars in private capital investment in rural communications infrastructure. Due to the availability of this financing, many communities served by independent telephone cooperatives and other community-based firms throughout the United States have significantly higher broadband deployment than neighboring communities served by larger carriers such as the regional Bell operating companies. In fact, what Golden West has been able to achieve in South Dakota in terms of broadband deployment is similar to what many other small, rural telecom providers have achieved across the country.

But given the sparsely populated nature of the markets at issue and the great distances to cover in rural America, none of this would be possible in South Dakota or elsewhere without that essential combination that I mentioned earlier of entrepreneurial spirit, access to capital (both private and RUS), commitment to community, and federal USF programs. Indeed, support from the USF High Cost program is an indispensable component of this mix, as it helps rural carriers make the business case for providing the service and securing loans from RUS and the other, very few lenders committed and willing to finance broadband-capable plant in rural America.

At times, some confuse the roles of RUS programs and the USF, thinking them repetitive or redundant. But this reflects a fundamental misunderstanding of the unique and distinct role each plays. USF does not finance networks; private banks and other lenders (including RUS programs) provide the kind of upfront financing necessary to construct networks (although not too many 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 make services atop them affordable for consumers; again, loans from private lenders or through the RUS programs focus upon financing the upfront costs of deployment. It is the federal USF program that is essential to ensure that consumers can obtain reasonably comparable services at reasonably comparable rates atop the networks once financed and built.

In other words, USF is the linchpin of making the business case in the first instance to *obtain* financing from RUS or any other lender to build networks in rural areas where the business case would otherwise not exist. Congress was therefore quite prescient in calling for reasonably comparable services and rates between rural and urban America in the 1996 Telecom Act. It recognized that access to capital would be difficult, if not impossible, unless a program like the federal USF could enable consumer adoption and use of telecom networks and services on rural networks once financed and built. The Federal Communications Commission (FCC) in turn was wise to follow this principle by crafting rules for USF that enable ongoing support of robust networks that can keep pace with increasing consumer demand and expectations. Anything less would not allow rural consumers to experience the same educational, economic, healthcare, and public safety benefits of broadband that other Americans take for granted.

Even if USF rules are designed at least well enough, the High Cost budget is not designed to meet the challenge of rural broadband – it has been under the same hard cap for more than six years. The implications of this hard cap on High Cost USF are now coming home to roost. After reforms last year intended to "modernize" the program further for broadband, we are seeing that the budget limits are single-handedly driving consumer rates higher, deterring rural broadband investment, and even cutting USF support for investments already made. It is not an overstatement in my view to say that the artificially low High Cost budget is the greatest barrier to rural broadband investment that carriers face right now, as it guts that effective mix of private efforts and access to capital that I mentioned earlier.

For this reason, as I will discuss further in my testimony, we have been urging Congress and the FCC to provide sufficient funding for High Cost USF support to enable both deployment and sustainability of broadband infrastructure in rural America. Put another way, even as policymakers always seem to search for new ideas on how to drive rural broadband deployment, as someone who serves one of the most rural parts of the United States, I can tell you unequivocally that there is no more direct route to stimulating investment in broadband infrastructure than providing full funding of the FCC's existing High Cost USF programs and thereby allowing operators to justify use of private capital and/or make the case for obtaining loans from the RUS or other lenders.

RURAL BROADBAND DEPLOYMENT BENEFITS AND PROGRESS

Before further discussing several specific recommendations regarding how to address the policy issues raised in my introduction, I thought it would be helpful to provide context as to why rural broadband is important to our national well-being, and why attention to these issues are for the benefit of all Americans. In short, rural broadband is not a rural issue – it's a national issue.

Rural Broadband Benefits the Entire U.S.

Investing in rural broadband has far-reaching effects for both urban and rural America, creating efficiencies in health care, education, agriculture, energy, and commerce, and enhancing the quality of life for citizens across the country. A report released last year by the Hudson Institute in conjunction with the Foundation for Rural Service found that investment by rural broadband companies contributed $24.1 billion to the economies of the states in which they operated in 2015.[1] 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 determined that while small telcos provide 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 in connection with broadband deployment and operations. 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.

Immense Benefits for Consumers and Communities

Beyond the direct impacts of investment activity for job creation, 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 have the highest levels of income and education, and lower levels of unemployment and poverty.[2] Access to healthcare is

[1] "The Economic Impact of Rural Broadband" (2016), The Hudson Institute, Washington, D.C.

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

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.[3]

Other benefits accrue in the form of things like distance learning and commerce. 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. Broadband networks also enable farmers and ranchers to use the Internet to employ precision agriculture tools and gain access to new markets.

Retail e-commerce has benefited tremendously from sales in rural America as well, where consumers may lack access to local retail outlets, but through the availability of rural broadband networks, can access a variety of shopping options. According to the Hudson Institute, rural consumers generated $9.2 billion in online sales in 2015 and if all rural Americans had access to broadband networks, the authors estimate that Internet sales would have been $1 billion higher.[4] A recent Pew Study further finds that among those Americans who have looked for work in the last two years, 79 percent used online resources in their most recent job search and 34% say these online resources were the most important tool available to them.[5]

Indeed, job creation appears to abound when fast, high-capacity broadband is deployed in a rural area. In Sioux Center, Iowa, a major window manufacturer recently 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. 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 brought more than 800 jobs to the area. In Havre, Montana, a rural broadband provider is partnering with a tribally-owned economic development

[3] "Telemedicine Consultations and Medication Errors in Rural Emergency Departments" (2013), Center for Healthcare Policy and Research and Department of Pediatrics, University of California Davis.

[4] "The Economic Impact of Rural Broadband" (2016), The Hudson Institute, Washington, D.C.

[5] "Searching for Work in the Digital Era" (2015), Pew Research Center, Washington, D.C.

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.

On a smaller scale, robust broadband services in rural areas enhances and expands employment and career opportunities for individuals wishing to remain in or relocate to rural areas. Golden West recently completed a survey of our customers and one of our questions asked "Does anyone in your household telecommute, or in other words, use an internet connection to work from home?" Twenty-three percent of the respondents answered "Yes," and of those, 40 percent indicated they telecommuted for their employment five days a week.

I have numerous examples of telecommuters in high-level professional positions located in very rural areas, including an HR Manager of a firm that provides staffing on state and federal government contracts that is currently working and providing staffing in eight states and one foreign country. Another example is a person who works in the Information Technology field, traveling extensively the first 11 years of her career before moving back to the family farm and working from home for the past five years: "I am able to help on our family farm, raise our two children and still bring in a salary from my job," she said.

Another Golden West customer is a software development manager who lived and worked in a large urban area for 16 years, but wanted to move back to South Dakota. She was able to work out a telecommuting arrangement with her employer and moved to a rural area of South Dakota. She now manages teams located in the United States and internationally. This Golden West customer perhaps stated it best when she said that her broadband connection means "being able to work where you want to live instead of having to live where you want to work.

Unique Rural Challenges

Building broadband networks is capital-intensive and time-consuming; as discussed in my introduction, building them in rural areas involves a special further set of obstacles. The primary challenge of rural network deployment is in crossing hundreds or thousands of miles where the population is sparse and the terrain is diverse. Especially when crossing federal lands or railroad rights-of-way in rural America, small rural providers must address environmental and historical permitting concerns or contractual obligations that can delay projects and increase their already high costs. Then, where networks are built, they must be maintained over those hundreds or thousands of miles – this 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."

And even the best local networks in rural markets are dependent upon "middle mile" or long-haul connections to Internet gateways dozens or hundreds of miles away in large cities. Reaching those distant locations is expensive as well, 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.

Consumer Demand and Future-Proof Networks

Despite these unique rural challenges, NTCA members have made remarkable progress in deploying advanced communications networks in their communities. Based in the communities they serve, these companies and cooperatives are committed to improving the economic and social well-being of their hometowns through technological progress wherever possible. Indeed, in the face of these challenges, rural telcos like those in NTCA's membership have truly led the charge within the telecom industry toward ensuring that every consumer in the rural areas they serve has the chance to access broadband and other communications services that are as robust and reliable as anything an urban American consumer would expect.

A survey of NTCA members conducted earlier this year found that 41 percent of respondents' customers are served via fiber-to-the-home (FTTH). Thirty-six percent of customers are served via copper loops, 12 percent by cable modem, 9 percent by fiber-to-the-node (FTTN), 1 percent fixed wireless, and 0.2 percent satellite.[6] Due in no small part to continued efforts to invest, rural customers have access to faster broadband speeds. Per the most recent 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.

Such progress in rural broadband deployment is even more remarkable given the regulatory instability of recent years, with USF reforms and budget shortfalls having challenged the business case for many deployments or undermined the sustainability of networks already in place. As I will discuss later in this testimony, changes in the programs that have enabled such significant success to date are now putting this progress in peril and undermining incentives to keep investing. Nonetheless, policies that encourage sustainable future-proof networks will be most efficient in responding to consumer demand over the lives of those networks, particularly when compared to short-term strategies that focus on getting lower-speed broadband deployed quickly only to find that consumer demands outpace the capabilities of such low-speed networks in a few short years.

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

Much Progress, but Much More Work to Do – Both Building and Sustaining

Despite the progress discussed above, many parts of rural America still lack access to broadband that is reasonably comparable to what one would expect in urban America. Fifteen percent of NTCA member customers don't have access to even 10/1 Mbps broadband. In a country where the 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.

And the cost of broadband for the consumer must be considered too. As I will discuss later in this testimony, it does little good to have a network built in a rural area and even to have high-speed services available atop it if consumers must pay far in excess of what an urban customer would pay for the same service. Federal law recognizes this by mandating that the federal USF ensure reasonably comparable services are available at reasonably comparable rates in rural and urban areas alike. Yet, in many of the rural areas served by smaller providers today, this is not happening, as USF budget cuts have resulted in broadband prices that can be tens or even hundreds of dollars more per month for rural Americans than for urban consumers.

Finally, once a network is built, it is not self-effectuating, self-operating, or self-sustaining. Services must be activated and delivered atop it, maintenance must be performed when troubles arise, and upgrades must be made to facilities or at least electronics to enable services to keep pace with consumer demand and business needs. In addition to these ongoing operating costs, networks are hardly ever "paid for" once built; rather, they are built leveraging substantial loans that must be repaid over a series of years or even decades.

All of these factors make the delivery of broadband in rural America an ongoing effort that requires sustained commitment, rather than a one-time declaration of "success" just for the very preliminary act of connecting a certain number of locations. Particularly when one considers that even where networks are available many rural Americans pay far more for broadband than urban consumers, it becomes apparent that the job of connecting rural America – and, just as importantly, sustaining those connections – is far from complete. I am proud of the work Golden West has done to invest in rural South Dakota, and the rural broadband industry as a whole has a great story of success. But there is also much more work still to do – and this is where public policy plays an important role in helping both to build *and* sustain broadband in rural markets that would not otherwise justify such investments and ongoing operations.

RURAL UTILITIES SERVICE TELECOM FINANCING

The Strength of RUS Experience

Deploying a communications network in a rural area requires a large capital outlay due to the challenges of distance and terrain. The RUS under the U.S. Department of Agriculture 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 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. With rare exception, RUS, CoBank and the Rural Telecommunications Finance Cooperative (RTFC) are the primary lenders that small rural providers can turn to for outside financing. Not only does RUS help rural America remain connected, 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.

RUS and USF Work in Concert

As noted earlier in my introduction, while RUS lending programs finance the substantial upfront costs of network deployment, the USF High Cost Fund helps make the business case for construction and sustains ongoing operations at affordable rates. More specifically, USF by law aims to ensure "reasonably comparable" services are available at "reasonably comparable" rates. Not to be confused or conflated, RUS capital and ongoing USF support serve distinctly important, but complementary rather than redundant, purposes in furthering rural broadband deployment. The availability of USF – the ability to make sure that consumers can actually afford to buy services on the networks once built – is so essential to the RUS telecom loan calculus that uncertainty in the Federal USF program in recent years has hindered some of the success, momentum, and economic development otherwise and previously enabled by the RUS telecommunications programs.

Farm Bill Considerations

The pending expiration of the current Farm Bill affords opportunity to review specifically the Farm Bill Broadband Loan & Loan Guarantee program that was first authorized in the 2002 Farm Bill. Each subsequent Farm Bill has made extensive reforms to the program with the goal of greater accountability, efficiency, and effectiveness. Two rounds of program reforms in less than 15 years – the first of which was significantly delayed by the need to implement 2009 stimulus funding programs – means that the Broadband Program has been almost continuously "under construction" since its inception, rendering the program inaccessible to borrowers for long periods of time. Therefore, it would be prudent to make only very targeted changes to the program that focus on improving effectiveness and accountability – such as the updates proposed by the "Broadband Connections for Rural Opportunities Program Act," also known as B-CROP, which was introduced by Senators Gillibrand and Capito in July. This bill would add a grant component to the program to spur investment in the most high-cost areas and would have RUS coordinate with the FCC to determine where support is most needed.

NTCA urges the Committee to continue to support the RUS Broadband Loan program that is subjected to the Farm Bill reauthorization process at or above current funding levels as you formulate recommendations. Furthermore, we urge the Committee to continue its long history of support for the Telecommunications Infrastructure and Community Connect programs that have been and remain vital to the ongoing deployment and maintenance of advanced communications infrastructure throughout rural America.

THE FCC'S UNIVERSAL SERVICE FUND HIGH COST PROGRAM

The High Cost Program Budget and Universal Service Reform

As noted earlier, providing robust, scalable, and sustainable broadband in rural areas is not the kind of endeavor that tends to attract substantial capital from multiple private lending sources or tends to excite Wall Street. But even where capital may be available from RUS or private lenders, it can be difficult, if not impossible, to justify loans (or the use of a firm's own cash flows) for investment in rural areas without a better business case. The costs of deploying networks and maintaining the service are considerable, and the few customers gained (typically less than seven per mile, and often less than one per mile) cannot afford to pay hundreds of dollars a month for broadband to cover those costs.

As highlighted in my introduction, direct support from the federal USF High Cost program is essential to make the business case for rural broadband. In fact, it is the primary, if not the only, tool to ensure – as mandated by the Communications Act – that consumers in deeply rural areas like those served by Golden West can purchase telecom service reasonably comparable to what urban Americans receive at rates reasonably comparable to what urban consumers pay.

Put another way, USF does not "pay for" networks; instead, the USF program ensures 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.

Enabling the business case for delivery of advanced telecom services across rural America is a big job for a program, and yet the High Cost USF has been confined under the same budget (without even just an inflationary adjustment) since 2011 – even as small rural carriers have sought to deliver more robust networks that will scale to meet the anticipated enormous consumer demands for bandwidth in the future and last over the lives of the loans taken out to build them. A new, even stricter budget control adopted last year by the FCC – again based upon 2010 support levels and applied only to smaller rural carriers – has only exacerbated this problem.

No justification is available for why the current cap is the appropriate level of funding to meet the program's goals, beyond a judgment back in 2011 that 2010 support levels seemed like the "right" amount to carry out a National Broadband Plan. In fact, precisely because they have tried to keep investing where possible in broadband, small rural carriers are now facing escalating cuts to USF support for investments already made – revealing how much the High Cost program is woefully underfunded to do the job that the law requires and that Congress wants in terms of making robust, affordable broadband available in rural America.

While the FCC took steps to provide some level of additional funding earlier this year within the fixed overall USF budget for a subset of small carriers that elected model-based High-Cost USF support, this funding was insufficient to achieve the goals of the model the FCC designed. More than $100 million per year is still needed to fund an alternative 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 $1 billion in total. Because of this limit, tens of thousands of rural consumers will see lower speeds or no broadband at all – precisely what the reforms were intended to alleviate.

And the concerns are just as significant, if not greater, for rural areas served by Golden West and those other small carrier recipients of High Cost USF that could not or did not elect model support. The FCC tried last year, in response to multiple calls from Congress over many years, to update these actual cost recovery mechanisms to enable consumers access to more affordable standalone broadband. But under the new budget control mechanism included within last year's reforms and applied only to some small carriers, many small rural telecom operators will see their support slashed by 12.3 percent on average over the next 12 months, meaning that hundreds of small rural network operators will be denied recovery of a total of $173 million in actual costs for private broadband network investments *that they have already made*. This means that small rural network operators – and, more importantly, the rural customers they serve – now must somehow come up with $173 million to pay for broadband that the USF program would have supported prior to the adoption of the harsh new budget control mechanism last year.

Even worse, this USF budget control varies from period to period, undercutting the kind of predictability that is mandated by law and needed when evaluating long-term future investments in broadband infrastructure. For the last 4 months of last year, the budget control was 4.5% on average; for the first six months of this year, it rose to 9.1% on average. Now, as of July 1 of this year and for the twelve months after that, the budget control is reducing USF support for small carriers by 12.3% – but even then, within certain parts of the USF program, the budget cut has already increased to more than 14% just this quarter. This kind of unpredictability is challenging, if not defeating, for smaller operators seeking access to capital and trying to identify the business case for sizeable, fixed long-term investments in rural America.

Golden West and its customers have been directly impacted by these budget controls. The loss of USF support for network projects we have already completed has forced us to reduce our future investment plans. We have postponed or cancelled nearly $4 million of network upgrade plans scheduled for 2018 in rural South Dakota. Given the level of uncertainty surrounding future budget controls, I expect our network investments in 2019 will decrease even further. The end result will be fewer customers receiving broadband or upgraded broadband services.

Golden West is not alone in feeling this pain. Because of these support cuts, many rural network operators are cutting back on future broadband infrastructure investments and cannot charge affordable standalone broadband rates for rural consumers – the very issue Congress asked the FCC to fix in the reforms last year. For example, one NTCA member company in the Southeast has indicated that it cannot justify seeking a $26 million loan to build high-speed broadband infrastructure due to the USF cuts; a project that would have delivered approximately 1,000 miles of fiber to over 7,000 rural customers is now on indefinite hold. Similarly, in Nebraska, a small company with only 12 employees that just recently completed a significant fiber

construction project has declined to fill four open positions – effectively cutting its workforce by 25% – because of concerns with declining USF support and the ability to pay for the network construction already completed. And in Iowa, a small carrier has been unable to lower its prices for standalone broadband to reasonable levels because the USF budget cuts are effectively wiping out any support for such connections, despite the intention of the reforms and the repeated calls for such a fix from Congress.

Fortunately, policymakers across the spectrum are already expressing concern about the USF budget shortfall. In May 2017, nearly 170 Members of Congress – including many members of this committee – wrote to the FCC yet again, this time expressing serious concern about how the USF budget shortfalls will undermine private infrastructure investment and consumer broadband rates. The letters demonstrated the sizeable, shared, and sustained bipartisan interest in prompt action on this issue, and a window of opportunity exists. Most of the FCC's commissioners have also testified or otherwise expressed a shared concern about how this budget control is affecting broadband availability and adoption in rural America.

So, with an apparent consensus that there is a problem, why has this not been solved or resolved? As with anything involving funding, the question has often been how to "pay for it." Fortunately, after years of trying to identify how to do so, there appears to be a near-term solution that could at least help mitigate the effects of this shortfall. Specifically, the current overall budget for High Cost USF was initially intended to cover a period from 2012 to 2017. Pending the completion of a comprehensive and thoughtful budget review as promised years ago, the Commission could and should continue to collect the same overall amount for High Cost USF as it does today. Any additional amounts collected through this exercise above then-current High Cost USF obligations could and should then be put toward relieving the stricter budget cuts that are specifically penalizing small rural providers like Golden West. Once the Commission has performed the budget review, it can then set new overall budgets for the High Cost USF program and for the support provided to small rural providers.

This approach, paired with the use of any "unobligated" High Cost USF "reserve funds" that are available, may offer the best promise of at least helping to mitigate the negative effects of the budget control and the best prospect of giving the reforms adopted last year a chance at working as intended. But it is important that this be achieved by year end. If this drags into next year, it could get much harder to adopt and implement this solution – and in the interim, it will continue to mean delayed or denied investment by rural operators and higher rates and lesser service for rural Americans.

With an apparent consensus as to the problem and an apparent "solution" that could be implemented in short order, it is essential to move forward with all due speed. In the end, remedying this USF budget concern is imperative to the sustained delivery of affordable, high-quality broadband service to consumers and small businesses that this subcommittee and so many other members of Congress hope to see in rural America. We urge Congress to help press for a fix to this problem, and we beg the FCC to take action as promptly as possible to adopt and implement such a fix. The effective mix I mentioned earlier in my testimony of entrepreneurial spirit, access to capital, commitment to community, and federal USF programs cannot work if the last of those components fails miserably.

Contributions – How All This Gets Paid For

Of course, beyond the immediate funding questions, the long-term sustainability of all of the USF initiatives ultimately depends on updating a contributions framework that is not built for a 21st century communications ecosystem. While there are many differing views on how this should be done, the basic notion that those who make use of communications networks should contribute to the well-being and universal availability of those networks is hard, if not impossible, to argue.

Nonetheless, the important USF initiatives discussed above are supported by a shrinking base of legacy services that do not represent the majority users of our communications networks – we are building and trying to sustain universal broadband on the backs of telephone services that are declining over time. This would be like trying to recover the costs of building a highway system based upon assessments on only horseshoes and buggy wheels. Assuming all agree that universal service is an important public policy – and Congress long ago said it is by statute – rationalizing and reforming contributions requirements is essential to firm up the foundation of universal service for the 21st century. The record on how to reform the USF contributions mechanism has been developed over years and the options really have not changed materially, so we believe such reform must be undertaken promptly for the system to be more equitable and sustainable.

INFRASTRUCTURE INVESTMENT AND BARRIERS TO DEPLOYMENT

As the Administration and Congress consider broader new efforts relating to "infrastructure," it has become clear and largely agreed by all involved that broadband is an essential part of any such initiative. As Congress works with the Administration on an infrastructure package, NTCA has offered several key objectives for consideration to ensure that any components of such a package addressing rural broadband have the greatest likelihood of success:

1. Any plan that aims to stimulate rural broadband infrastructure investment should at least account for, if not specifically leverage, what is already in place and has worked before. Creating new programs from scratch is not easy, and if a new broadband infrastructure initiative conflicts with existing efforts, that could undermine our nation's shared broadband deployment goals.

2. There should be accountability for those who leverage any resources made available through such an initiative. Looking to providers with proven track records in delivering real results makes the most sense, but whomever receives any support should be required to show that they used those resources to deliver better, more affordable broadband that can satisfy consumer demand over the life of the network in question.

3. A broadband infrastructure plan needs to be carefully designed and sufficiently supported to tackle the challenges presented. In particular:
    - An infrastructure plan should aim *both* to get broadband where it is not and sustain broadband where it already is; deployment of duplicative infrastructure in rural areas that are uneconomic – and may not even support a single network on their own – will undermine the sustainability of existing network assets.
    - Deploying and sustaining rural broadband is neither cheap nor easy; we obviously need to recognize that finite resources are available to address any number of priorities, but any plan that calls for broadband deployment – especially in high-cost rural America – must match resources to the size of the problem to be solved.

4. Any resources provided as part of an infrastructure initiative should look to get the best return on such long-term investments. For networks with useful lives measured in decades – especially private investments that leverage federal dollars – this should mean the deployment of infrastructure capable of meeting consumer demands not only today and tomorrow, but for ten or twenty years. Putting resources toward infrastructure that needs to be substantially rebuilt in just a few years' time could turn out to be federal resources wasted – and still risk leaving rural America behind.

5. While the economics of deployment are an essential component of any infrastructure plan, a comprehensive approach to promoting deployment is required. Barriers or impediments to broadband deployment must also be addressed as part of any holistic plan to promote and sustain infrastructure investment. For example, a lack of coordination and standardization in application and approval processes across governmental agencies often complicates the deployment of broadband infrastructure. Moreover, local franchises, pole attachments, and railroad crossings can create substantial costs and concerns in deploying broadband infrastructure.

CONCLUSION

Robust broadband must be available, affordable, and sustainable for rural America 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, 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 lending programs, ensuring sufficient funding of USF to make the business case for use of private and/or borrowed capital in rural areas, and streamlining and standardizing of the permits and other regulations that can hinder network deployment must all be seen as critical pieces of a comprehensive, thoughtful national rural broadband strategy.

Golden West and NTCA member companies thank the committee for its leadership on and interest in all of these issues, and we look forward to working with you on behalf of the hundreds of small operator members of NTCA and the millions of rural Americans that we all serve.