Statement by

Denny Law
Chief Executive Officer
Golden West Telecommunications Cooperative, Inc.
Wall, SD

Before the

United States Senate
Committee on Commerce, Science, and Transportation
Subcommittee on Communications, Technology, Innovation, and the Internet

The Impact of Broadband Investments in Rural America

March 12, 2019

INTRODUCTION

Chairman Thune, Ranking Member Schatz and members of the Subcommittee, thank you for the opportunity to testify on the importance of rural broadband.

I am Denny Law, Chief Executive Officer of Golden West Telecommunications Cooperative, Inc in Wall, South Dakota. For over a century, Golden West Telecommunications and its subsidiaries have provided communications services to rural South Dakota, starting initially with the stringing of line along fence posts. Today, we have over 30,000 accounts, 25,000 broadband internet subscribers, and 10,000 cable television customers. These customers are located across 24,500 square miles – an area larger than the states of Maryland, New Jersey, Connecticut and Delaware combined – equating to 1.42 customers per square mile. The largest community we serve has just over 3,500 residents. Yet with more than 14,000 network route miles in service, our network could stretch from Wall, South Dakota to Hong Kong and back again.

In addition to our demonstrated commitment to consumers and businesses across this wide swath of South Dakota, we serve numerous anchor institutions, including 72 K–12 schools, 62 health clinics/hospitals, 22 libraries, and five Veterans Administration facilities within our service territory. Golden West also provides telecommunications service on portions of five Native American tribal reservations in South Dakota.

Golden West was a 2018 recipient of a "Smart Rural Community" Showcase award for its efforts in connecting rural South Dakota with the rest of the nation and the world. We were one of just over a dozen award recipients nationwide, and several dozen other smaller operators have received similar awards in prior years. Such awards highlight the importance of not only getting broadband to rural areas in the first instance, but the value of keeping it there and empowering consumers, businesses, and anchor institutions to make the most of it as part of "smart communities."

While every rural area is unique, I think Golden West's efforts and its community commitment is representative of the hundreds of small, community-based companies and cooperatives in the membership of NTCA–The Rural Broadband Association. Smaller operators like those in NTCA's membership 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, companies like Golden West offer the only full-service fixed networks available, and we provide many of the critical links for mobile services as well. Small broadband providers therefore are essential to connect rural America with the world – making every effort to deploy advanced networks that respond to demands for cutting-edge, innovative services that help rural communities overcome the challenges of distance and density.

THE IMPACT OF BROADBAND INVESTMENTS IN RURAL AMERICA

Investing in rural broadband has far-reaching effects for urban and rural America alike, creating critical connections and efficiencies in health care, education, agriculture, energy, and commerce, and enhancing the quality of life for citizens across the country. Indeed, while we are proud of the broadband speeds we deliver and the route miles of network we have built, the benefits of rural broadband go beyond sheer numbers – when looking to develop a "Smart Rural Community," it is helpful and important to focus upon the productive uses of broadband and what they mean to those communities that get and stay connected. The last time I testified before this Committee, I shared stories about the benefits of rural broadband to rural South Dakotans, including a teacher able to offer Spanish classes to over 100 students in 14 rural high schools from her home office; a rancher able to simultaneously operate a small electronics business because of broadband; and a professional writer able to use her internet access to self-publish a book.

In fact, the feedback that has perhaps resonated with me most about the importance of broadband in rural areas came from a Golden West customer in a very rural area near Hayes, South Dakota. She does software development for an international firm. After living and working in an urban area, she and her husband decided they wanted to move home to South Dakota. She was able to negotiate a telecommuting arrangement with her employer. As a result, she is now managing software teams across the world, all from her rural home near Hayes. Her statement to me that her broadband connection meant "being able to work where you want to live instead of having to live where you want to work" rings true every time we build fiber to a community or roll a truck to upgrade a customer's broadband service.

These stories are not exceptions to the rule. Golden West recently completed a survey of our customers that posed the question "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. Nor are these stories, I believe, unique to Golden West or South Dakota – instead, my sense is that they are repeated in rural areas across the country, especially in places where smaller rural operators have, like Golden West, led the charge in deploying robust, high-capacity, low-latency networks and in taking pride in the delivery of high-quality customer service for the communities in which we live.

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."[1]

What's more, 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.[2] 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.[3]

THE HURDLES TO REALIZING THE BENEFITS OF BROADBAND INVESTMENTS IN RURAL AMERICA

The Business Case for Rural Broadband is Driven by Both Investment and Operating Challenges

Building broadband networks is capital-intensive and time-consuming. This is hard enough in urban areas, but rural areas present unique considerations and complications. Indeed, the primary challenge of rural network deployment is simply in making the business case for deployment at all. This business case turns, of course, not only upon the one-time act of constructing networks across hundreds or thousands of miles where population is sparse and terrain is diverse, but it is also affected significantly by the ongoing costs of delivering quality services and maintaining and upgrading networks across such rural expanses.

Many factors can affect the costs and timing of construction – an important consideration particularly in areas like South Dakota where the "build seasons" can be quite short due to weather. For example, especially when crossing federal lands or railroad rights-of-way in rural America, small hometown providers must address environmental and historical permitting

[1] *The Year Ahead: Forces that will shape the U.S. rural economy in 2018*, CoBank Knowledge Exchange Report.

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

[3] *A Cyber Economy: The Transactional Value of the Internet in Rural America*, White Paper, iGR (2018), at 1.

concerns or contractual obligations that can delay projects and increase already high costs. Then, even once networks are built, those networks must be maintained over 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."

Moreover, even the best "last mile" networks in rural markets depend upon "middle mile" or long-haul connections to Internet gateways dozens or hundreds of miles away in large cities. As an example, Golden West's operations are more than 300 air miles – not network route miles – from the closest Tier 1 Internet peering point. 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.

In fact, Golden West's analysis found that our average broadband customer monthly data usage was 150GB as of February 2017. As of February 2019, the average broadband customer monthly data usage was 270GB. In less than two years, we estimate the average usage will exceed 500GB a month. By contrast, some networks that use less robust technologies may often impose caps on data usage and/or slow data when they exceed these levels; for example, even in the context of their "unlimited" plans, certain wireless operators will use thresholds far lower. These figures indicate the wisdom, the necessity, and the efficiency of investing in robust future-proof "last mile" access networks that can handle demands for years to come *and* the importance of robust "long-haul" capacity to connect rural areas to the rest of the world.

The delivery of broadband in rural America is therefore an ongoing effort that requires, among other things: (1) a holistic and realistic look at the business case challenges; (2) a sustained commitment on the part of the providers who want to overcome them; (3) a sustainable partnership between committed private operators and federal and state initiatives that seek to promote universal connectivity; and (4) the deployment of technology that will meet the test of time in the face of massive increases in user demand. 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 certain number of locations with basic broadband. I am proud of Golden West's nearly $193 million in total capital investment in rural South Dakota over the past five years, and the rural broadband industry as a whole can tell a great story of success. But there is also much more work to do – and this is where public policy plays an important role in helping both to build *and* sustain broadband in rural America.

OVERCOMING THE CHALLENGES TO THE BUSINESS CASE FOR SUSTAINABLE RURAL BROADBAND INVESTMENT

The Importance of Universal Service as a National Policy – and the Importance of Sufficient and Predictable Support to Fulfillment of that Policy

Support from the High-Cost Universal Service Fund (USF) overseen by the Federal Communications Commission (FCC) is essential to make the business case for broadband in many rural areas. In fact, while other programs and initiatives focus on the upfront capital costs of building networks, the USF is the primary, if not the only, tool to help cover the costs of ongoing operations and ultimately to ensure – as mandated by the Communications Act – that consumers in rural areas like those served by Golden West can purchase services that are reasonably comparable to what urban Americans receive at rates reasonably comparable to what urban consumers pay.

In short, USF does not itself "pay for" upfront network construction. Instead, the USF program helps to justify the use of loans or private capital to build networks by supporting ongoing operations and ensuring that rural consumers can pay reasonable rates for their use of services atop networks. Put another way, without a reliable and sufficient USF program, the business case for expending capital and building networks in many rural markets simply does not "pencil out." 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. Without USF support, it would have been impossible for Golden West to do all that it has done in seeking to continuously improve access to quality voice and broadband services across approximately one-third of rural South Dakota.

The Impact of USF Programs on South Dakota Communities

Thankfully, Congress and the FCC recognize the pivotal role that the USF plays in connecting – and then keeping connected – South Dakota specifically and rural America more broadly. In 2011, the FCC attempted to update the USF mechanisms for broadband, but those efforts focused primarily on larger operators (who frankly had not done as much to invest in rural America as smaller providers). An unfortunate collateral effect of this understandable focus upon the many unserved consumers in larger carriers' territories was the creation of significant uncertainty in the USF programs that had allowed smaller operators like Golden West to lead the charge in rural broadband until then.

In the wake of the 2011 order, hundreds of members of Congress on both sides of the aisle wrote repeatedly to the FCC over several years, asking the agency to: (1) eliminate the persistent regulatory uncertainty; (2) reorient the USF programs that support smaller operators to enable delivery of both voice *and* broadband services; and (3) overcome shortfalls in the USF programs that flew in the face of the Communications Act's mandate for sufficiency and were deterring network investment. These bipartisan letters signed by hundreds of members of Congress were critical in highlighting these concerns, and the FCC responded in a series of orders over the past several years attempting to address each of these issues.

Most notably, the FCC took landmark steps in an order released last December to eliminate the USF budget shortfalls that had undermined advancement of networks in rural areas and had precluded operators from offering affordable broadband services to consumers. This watershed order is poised to put the USF programs on more sound footing for years to come, and smaller operators like Golden West are eager for the chance to get back to focusing on the business of building and delivering broadband in rural America.

Indeed, just for Golden West, I can report that the FCC's order will translate to direct benefits for rural South Dakotans. Prior to the December order, as I reported to this Committee last year, Golden West had postponed nearly $4 million in network upgrades for 2019 due to the ever-increasing cuts in USF support. The course has now reversed in the wake of the FCC's December order, and I have been making trips to communities throughout our service area in recent weeks to announce that Golden West will be deploying fiber and delivering high-speed broadband. Because we are a hometown provider, Golden West did everything we could even in the face of insufficient and uncertain support in 2018 to upgrade networks in Pine Ridge, Martin, Custer, Marion, Midland, and Bonesteel. This year, however, thanks in no small part to the FCC's December 2018 order, we have renewed our efforts to improve or provide broadband to the communities of Murdo, White River, Hot Springs, Kadoka, Menno, Interior, and Vivian. And, with even more time now to adjust our 2020 plans, Golden West expects to increase its capital budget for network construction considerably and reach even more locations than all of those identified for 2019.

Golden West is not alone in this mission, however. According to the South Dakota Telecommunications Association (SDTA), in less than two years, 93% of SDTA customers are expected to be served by fiber broadband as opposed to 65% at the end of 2017. Likewise, by the end of 2021, South Dakota small carriers plan to invest an additional $306 million in fiber broadband, resulting in an additional 7,900 miles of buried fiber. In short, smaller telecommunications providers like Golden West are committed to making sure the USF resources provided as a result of the FCC's order – resources that can be attributed ultimately to the interest of leading policymakers like so many of those on this committee – will go "back into

the ground" for the benefit of rural American consumers and businesses. We are therefore deeply grateful to the FCC for its unanimous vote on the December order, and for this Committee and other elected officials for their strong support over the years for our national universal service mission.

The Need for Good Data to Make Good Policy Decisions

There is no question that good decisions about infrastructure policy generally and universal service policy more specifically must be driven by good data. "False positives" – claims of voice and broadband services where none actually exist – could leave rural consumers and businesses stranded without access in defiance of the national mandate for universal service. Meanwhile, "false negatives" – areas that are perceived as unserved but actually have voice and broadband services available – run the risk of wasting scarce resources from important governmental programs on redundant networks.

At this point, nearly every governmental communications program has some mechanism intended to ensure that funds are directed toward where they are needed most to build and sustain advanced networks. Problems arise, however, when the data driving these programs are incomplete or incorrect – and, unfortunately, it's not easy to discern when that is the case on the face of existing databases and maps.

The FCC, for example, gathers data on voice and broadband service availability through its Form 477. There has certainly been a lot of concern – especially from among members of this Committee – about whether the Form 477 data accurately capture coverage in the mobile context. This is an understandable focus given the efforts to implement the Mobility Fund and the visceral feeling of having no cell phone coverage in an area where provider maps say one should.

But what is often lost is that these concerns are just as prevalent in the context of *fixed* voice and broadband services, too. On Form 477, a census block is reported as served simply because one location in that block *could* be served by a provider at an *advertised* speed within 10 business days. In other words, there may be no service *actually* installed in a census block, or the speeds *actually* delivered in that block may not be equal to what is advertised – and, yet, that area can show as served. Even more troubling in rural census blocks that can stretch large distances, the theoretical delivery of service to *one* customer in a census block could result in the denial of funding for voice and broadband to another customer located miles away, yet still in the same census block, who literally has no choices for such services.

At this point, the reaction is often to say that we need to get more granular in the data – and this is probably correct as a partial response. But getting more granular alone is not going to solve the problem or potential for "false positives" specifically. In particular, no one is vetting in advance whether data submitted on Form 477 are accurate. Providers submit the data based upon what they advertise. Thus, whether by accident or on purpose, Form 477 data can contain errors that in turn lead to support being denied in areas where it is in fact very much needed.

Fortunately, there is a way to care for the fact that broadband coverage maps are always at risk of being inaccurate even if they get more granular. For years, agencies like the FCC and the Rural Utilities Service (RUS) under the U.S. Department of Agriculture have developed and used "challenge processes" that treat service coverage information like Form 477 data as *informative* but not *dispositive*. Mapping databases are used as a "baseline" for determining where support should or should not go, but a "challenge process" is then used to confirm whether the maps are correct and to adjust them when they are not.

Certainly, the recent experiences with the Mobility Fund show the value and wisdom of a challenge process. Without such a process, the concerns that have been raised about overstated mobile coverage would never have been identified. At the same time then, it was disappointing and somewhat shocking to see the FCC now considering moving away from challenge processes in the fixed voice and broadband context. Specifically, the FCC has proposed to eliminate the prior existing challenge process to validate Form 477 data in the context of fixed USF support, and instead to default to the Form 477 data effectively as gospel.

If the Mobility Fund experience provides any lessons, however, it is that a meaningful challenge process is a necessity in determining where funding should go or be denied. We therefore are hopeful that the FCC will reverse course on its suggestion to eliminate a challenge process in the context of distributing USF to support fixed networks, and that it will return to a data-driven process that ensure rural consumers are not left on the wrong side of a digital divide due to inaccurate information. This is more work, to be sure, for all involved – but the stakes of getting it wrong are too great to leave to chance.

Balancing Accountability and Burdens in Ensuring that Consumers Receive the Services Expected

The FCC has taken numerous commendable steps to promote accountability in the use of USF support in recent years. While Golden West has always focused on putting such resources "into the ground" for the benefit of our cooperative members and their communities, we understand that it is important to have measures in place to ensure this happens systematically and to be able to show what the American public has realized through USF and other infrastructure programs.

At the same time, it is important to balance the burdens of such accountability measures – especially on smaller operators who need to have their employees focus first and foremost on delivering top-notch services to consumers and businesses. One area in which this tension arises right now is a new FCC requirement that USF recipients test their networks. The basic concept is important, and one we agree with – in particular, we certainly do not want to see providers "overpromise" what their networks can do, but then "underdeliver" when it comes to using technologies and architectures that are not capable of realizing what was expected. Testing is going to be very important as part of that accountability, and so we support it.

But the process by which the testing is being implemented is a problem. Certain standards – such as how systems may need to be modified to select and then report upon testing at random locations – have yet to be prescribed. Moreover, nearly every association representing nearly every kind of potential USF recipient has filed some sort of petition or application asking the FCC to modify or reconsider certain aspects of the testing standards that present challenges or even just are unworkable in current form. Those petitions were filed last September, and the FCC has yet to act on those – but they are critical even just to *starting* to design the solutions by which testing will be accomplished. Key questions that are still open include how many locations need to be tested and the extent of the networks to be tested.

While vendors are starting to market potential solutions and some providers are trying to develop their own, this task is difficult, if not impossible, when the rules governing testing are not yet finalized. In addition, there appears to be little attention to the practical concerns about approaching rural customers and ask them to allow a company to attach a device to the Internet router located in their home or business in order to test pursuant to a government mandate.

All of these considerations make it such that a reasonable, right-sized delay should be provided to work through these questions and reach a workable set of solutions. Again, we support implementation of testing, but it should be done right from the start – and with the questions still to be resolved, rushing to do that this year is neither realistic nor practical. Instead, the FCC should work through the pending petitions and applications and finalize all of the standards that will govern testing. After that, time should be given for vendors and service providers to design, manufacture, and/or select from solutions that conform to those standards; this will almost certainly take many months rather than several weeks.

Finally, more time should be provided after that to allow USF recipients to install the solutions and "test the testing" – to ensure that the testing solution is integrated properly into the network and is accurately capturing the performance of the network in question. It is essential to do this right to strike a proper balance between accountability on the one hand and the potential for burdens, confusion, and uncertainty on the other.

Coordination Among Agencies is Critical to Achieve a Shared Vision of Sustained Universal Access

One very successful formula for the deployment and ongoing operation of communications networks in rural America comes in the combination of: (1) RUS loans that finance upfront network construction (with payback) in rural areas where there are often few financing options; and (2) the USF programs that help, as noted above, to support ongoing operations and ensure the affordability of rates on networks once built.

RUS has long played an important role in financing rural broadband construction. Throughout Golden West's history, we have obtained financing from RUS or its predecessor agency under the U.S. Department of Agriculture. RUS telecommunications lending has helped enable and unleash billions of dollars in private capital investment in rural communications infrastructure. It is important that the complementary roles of RUS upfront financing and USF ongoing support continue. In particular, we can make smart and effective use of federal resources by reaffirming and codifying 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.

Indeed, with the 2018 Farm Bill and the newly minted ReConnect Program, RUS will take on a larger financing role for rural broadband deployment through grants and loan/grant combination packages. These new and updated programs are much-welcomed and important tools in the federal government's toolkit to eliminate the digital divide. But it will be critical to promote the efficient and effective use of limited federal resources by ensuring that a new network built by one provider leveraging federal programs will not compete with and undermine the sustainability of an existing network operated by another provider that leveraged other federal resources and is already meeting federal broadband standards. Both the FCC and the RUS should therefore coordinate closely in administering their programs, and it is essential to avoid the prospect for two dueling federally-supported networks built in a rural area that cannot sustain either one without the assistance of federal programs.

Improving the Business Case for Rural Broadband Through Streamlined Permitting and Removal of Other Barriers to Deployment

Given the deeply rural, sparsely populated nature of the area we serve, Golden West operates across large swaths of federal land, including land owned or managed by the Bureau of Indian Affairs, Bureau of Land Management, USDA's National Forests, Department of Interior's National Parks, and Army Corps of Engineers. Barriers to broadband deployment such as disparate applications, fees, and reviews across federal and state landowning agencies can slow

down or stymie deployment of networks within and across such areas, and such barriers must be addressed as part of any holistic plan to promote and sustain infrastructure investment.

Efforts to standardize federal permitting processes and implement "shot clocks" for securing prompt approvals are important tools in promoting broadband investment – while they may not make the business case in and of themselves, efforts to eliminate regulatory barriers and streamline permitting can help to improve the business case and expedite the construction of networks, which is an important consideration in particular in places like South Dakota where the "build season" is relatively short due to environmental factors, namely winter. Streamlining permitting and other steps to remove barriers to deployment will also be critical in making sure USF dollars go further – that such resources are spent on building and operating networks rather than paying outrageous fees for mere feet of railroad crossings or spending hours and days to secure permits from a government agency.

Our industry appreciates this Committee's bipartisan efforts to reduce barriers to deployment of communications networks. Important measures like the MOBILE NOW Act have laid out a roadmap for important steps forward like the development of common form applications (which are particularly useful for small businesses like Golden West that work with multiple landowning agencies) and deadlines for agency action. Building upon such provisions through additional efforts here in Congress and recommendations and model provisions such as those developed by the FCC's Broadband Deployment Advisory Committee can help in realizing the benefits of broadband in rural areas.

CONCLUSION

Recent measures such as the FCC's December 2018 USF order will help in achieving our shared mission of universal service, and we are grateful to the FCC and of course to the many members of Congress who wrote repeatedly to the FCC on a bipartisan basis calling for such action. The continuing work of the RUS in providing financing for the construction of networks in the first instance is also a critical piece of the puzzle. Because of such efforts and initiatives, companies like Golden West can once again focus more closely on the business of deploying networks and delivering quality and affordable voice and broadband services.

There is certainly much more to do to overcome a digital divide between rural and urban America. But we must make such efforts and build upon existing initiatives if we want to promote the sustainability and vitality of rural communities, and to ensure American competitiveness in a global economy. Golden West and the hundreds of small companies and cooperatives like it look forward to working with this Committee, other policymakers, the FCC, and the RUS to fulfill our shared vision and national mandate of universal service.