



Statement by

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On behalf of

NTCA–The Rural Broadband Association

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INTRODUCTION

Chairman Scott, Ranking Member Scott, and members of the subcommittee, thank you for this opportunity to testify about rural development, broadband, and the 2018 Farm Bill. I am Craig Cook, Chief Operations Officer at Hill Country Telephone Cooperative. My remarks today are on behalf of Hill Country, as well as NTCA–The Rural Broadband Association, which represents approximately 850 rural community-based carriers in 45 states that offer advanced communications services throughout the most sparsely-populated areas of the nation.

Rural Telecom Industry Innovation

Small, rural telecom providers like Hill Country 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. Fixed and mobile broadband, video, and voice are among the many services that rural Americans can access thanks to our industry’s commitment to serving sparsely populated areas. The rural telecom industry has always been innovative – leading the way in converting to digital switched systems, providing wireless options to their hardest to reach customers, enabling distance learning and tele-health applications, and where possible deploying future-proof all-fiber systems.

Hill Country Telephone

I have been part of the industry for nearly 30 years, spending the last two years at Hill Country. My experience has focused on telecom regulation and public policy, technical operations, engineering services, and business development. In addition to having worked for consulting firms and smaller rural service providers, I’ve also had the opportunity to work for larger service providers such as GTE. Hill Country is a local telecommunications provider with 111 employees serving a 2,900-square mile area – an area larger than the state of Delaware with only 4.4 subscribers per square mile. But, 22 percent of our customers reside in just three square miles, while the remaining 78 percent reside in the other 2,897 square miles – so the population density of the more rural areas is only 3.4 customers per square mile. We provide 12,700 total connections to wireline voice, high-speed broadband, and video services over a network that employs a mix of fiber and copper facilities. In actual network terms, we have deployed 3,842 copper route miles and 1,699 fiber route miles.

Our sparsely-populated service territory does not make an attractive business case for Wall Street and will not support multiple providers making the substantial capital investments needed to serve such a large area. For Hill Country, like many other NTCA members that serve agricultural communities and other rural areas, the challenges of distance and density hit close to home.

Rural Telecom and Economic Development

Broadband-capable networks are critical to helping rural communities overcome these challenges. Our networks allow agricultural producers and other rural 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 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.

Importance of USDA Financing

As this committee deliberates the upcoming Farm Bill reauthorization, please be mindful that access to capital for rural broadband projects is limited. Smaller broadband providers like Hill Country and other NTCA members have only a few options for financing network construction. Small rural broadband providers cannot walk into large commercial banks to obtain financing for a network that will serve a small number of people over a large area, with the payback measured in decades rather than years.

Cost-effective Rural Utilities Service (RUS) loans offered through the U.S. Department of Agriculture (USDA) are therefore an essential resource for small providers that serve rural America. Apart from RUS, only a few committed, mission-driven lenders like CoBank and the Rural Telecommunications Finance Cooperative (RTFC) typically provide financing to enable small rural providers to build networks in their communities. As a complement to financing, universal service funding (USF) then helps to justify the business case for such construction. The ongoing High Cost USF support ensures that consumers can afford the services offered over the financed networks now and in the future.

THE STATE OF RURAL BROADBAND DEPLOYMENT PROGRESS

Consumer Demand, Fiber, and Future-Proof Networks

Hill Country Telephone and other NTCA members have made remarkable progress in deploying advanced networks in their communities. A survey of NTCA members conducted last year found that 49 percent of respondents' customers are served via fiber-to-the-home (FTTH), up 20 percent from 2013. Twenty-nine percent of customers are served via copper loops, 15 percent cable modem, 6 percent fiber-to-the-node (FTTN), 0.5 percent fixed wireless, and 0.1 percent satellite.¹

The growth in fiber deployment is 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. Nonetheless, policies that encourage sustainable future-proof networks – such as fiber – 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.

Due in no small part to increased fiber deployment, rural customers have access to faster broadband speeds. Per last year's survey, 85 percent of NTCA members' customers can purchase broadband at speeds of 10 Mbps or higher. Seventy-one percent can now access speeds above 25 Mbps.

¹ NTCA 2015 Broadband/Internet Availability Survey Report (2016), NTCA–The Rural Broadband Association, Arlington, VA.

Eighty-two percent of Hill Country’s customers have access to 10 Mbps service. The remaining 18 percent of customers are served by long local loops that provide 1 to 6 Mbps service. We work with those customers on an individual basis to find solutions to their broadband needs. We anticipate that twenty-five percent of our customers will have access to FTTH in the next two years. Seven percent are currently part of a fiber build and will have access to FTTH by the end of 2017. We have deep fiber penetration throughout our service territory that allows us to provide more than the 10 Mbps to much of our customer base.

And our customers are demanding more and more speed. In 2016, we saw nearly 1,000 customers move from the basic 10 Mbps speed to a higher-tier package. Due to this demand, we continue to employ new technology in our FTTN and copper networks to meet demand, but also continue to deploy fiber. Our vision is to reach our entire territory with FTTH. The speed and sustainability of deployment, however, will depend on both reasonable access to capital to finance construction and the availability of USF support to make sure consumer rates on these rural networks, once upgraded, are not astronomical and unaffordable.

Unique Rural Challenges

Deploying networks across wide swaths of rural Texas is not easy. We face the need to cross hundreds or thousands of miles where the population is sparse, and to deal with all kinds of terrain. We must also address environmental and historical permitting concerns that can delay projects and increase their already high costs. Then, where fiber has already been built, we must maintain it over those thousands of miles and ensure customers can use it – that means technicians who travel all over our territory and customer service representatives trained to deal with questions about router and device configurations in ways that were unimaginable when we were just a “telephone company.”

And even the best 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 our customers’ bandwidth demands increase, so too does the cost of ensuring sufficient capacity on those long-haul fiber routes that connect rural America to the rest of the world.

More Work to Do

And many parts of rural America, including many locations in our serving area, still need fiber or other robust facilities. Fifteen percent of NTCA member customers don’t have access to even 10/1 broadband. In a country where 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 remains far behind urban areas despite the best efforts, innovation, and entrepreneurial spirit of companies like Hill Country and other NTCA members.

Particularly when one considers that even where networks are available many rural Americans pay far more for broadband than urban consumers due to insufficient USF funding, it becomes apparent that the job of connecting rural America – and, just as importantly, sustaining those connections – is far from complete. The rural broadband industry has a great story of success but also much more work to do.

THE ROLE OF RURAL UTILITIES SERVICE FUNDING

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 number of rural network users (as compared with more densely-populated urban areas) is too small to pay the costs of deployment and ongoing operations through customer charges. USDA's Rural Utilities Service plays a crucial role in addressing these 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 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 & Guarantees program and traditional Telecommunication Infrastructure Loan & Guarantees program make loans that must be paid back with interest – creating a win/win situation for rural broadband consumers and American taxpayers.

Hill Country's Partnership with RUS

Hill Country is well aware of the benefits of working with an experienced rural telecom lender like RUS, having received an RUS Broadband Infrastructure Program (BIP) grant/loan that helped upgrade 20% of our network connections, enabling broadband deployment to a much larger geographic area in a much more timely manner than otherwise would have been possible in the face of typical capital constraints. The RUS financing package facilitated deployment of a 148-mile fiber backbone designed to dramatically reduce subscriber loop length, enabling 25 Mbps broadband access for many unserved and underserved subscribers. Hill Country met all original project objectives and even added an additional 26 miles of fiber backbone while maintaining the overall project budget – exceeding what we originally set out to accomplish in some of our most rural and challenging service areas. RUS was a key partner in this endeavor, building upon a history of helping small providers meet similar challenges of distance and population density across the country for decades.

Farm Bill Considerations

The Farm Bill Broadband Loans & Loan Guarantees program was first authorized in the 2002 Farm Bill, and each subsequent Farm Bill has made extensive reforms with the goal of greater program accountability, efficiency, and effectiveness. Two rounds of program reforms in less than 15 years – the first of which was significantly delayed by the ARRA BIP program's use of the Broadband Loan Program mechanism – means that the Broadband Loan Program has been almost continuously “under construction” since its inception, rendering the program inaccessible to borrowers for long periods of time. While the program isn't perfect, it may be helpful to simply let borrowers use the Broadband Loan Program in current form and become familiar with it for a few years before undertaking another extensive reform effort.

The Community Connect grant program is a useful complement to the other RUS telecom programs with its focus on the niche of supporting deployment in some of the most difficult areas to reach and serve. Community Connect rounds out the RUS telecom portfolio. Rural providers would welcome more resources for the RUS telecom portfolio, but would oppose cutting all funds for one program to increase the size of another, as the last administration proposed to zero out Broadband Loans in favor of Community Connect in its FY17 budget.

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 are also vital to the ongoing deployment and maintenance of advanced communications infrastructure throughout rural America.

The Broadband Opportunity Council (BOC), which includes USDA as a member, released a report in September 2015 that recommended authorizing more USDA programs to make grants and loans for broadband infrastructure. The BOC's January 2017 progress report affirmed this recommendation. While more resources for rural broadband deployment are needed, involving more government entities and programs in broadband financing should be undertaken cautiously to avoid duplicating efforts and undermining a coherent, cohesive approach to financing and then sustaining rural broadband networks.

Along these lines, we understand that it is current RUS policy to avoid duplication of effort when financing broadband-capable infrastructure, and we encourage the committee to consider enshrining this principle in law – that is, Congress should codify a prohibition on USDA financing new fiber or other broadband-capable infrastructure through any RUS or other USDA program where an existing network deployed by a different carrier was also financed through a RUS or other USDA program. This non-duplication provision should apply to all USDA programs, and should also extend to preclude overbuilding of other carriers' networks that receive USF High-Cost support as administered by the FCC. It would be an utter waste of public resources if any USDA resources (regardless of the program) go to finance the construction of fiber or other communications network facilities in areas where another USDA program or the FCC's USF program has already enabled the deployment and operation of a network by another operator.

Finally, various permitting regulations present significant obstacles to broadband deployment – indeed, the project financed by the RUS grant/loan to Hill Country was delayed for about a year as we waited on completion of different reviews. While permits serve an important public purpose, we'd encourage streamlining federal approval processes to the extent possible, and to the extent that RUS can help in standardizing processes with land-managing and property-managing agencies and in improving timelines for historical preservation coordination, that would be a significant help in speeding and reducing the costs of deployment. Better, more coordinated sequencing of environmental reviews and approvals is also important, so that companies that are applying for financing do not need to expend substantial resources and staff time upfront in pursuit of loans that might not even be approved (which is a real deterrent to applications) or for environmental showings that might only need to be repeated in a few years once later phases of construction begin. Along these lines and as a related matter, we also support permitting reforms as proposed in Sen Thune's MOBILE NOW Act or as adopted and applied to larger projects in the FAST Act.

THE COMPLEMENTARY ROLE OF THE FCC’S UNIVERSAL SERVICE FUND PROGRAMS

RUS Financing and USF Support Work in Concert

RUS lending programs finance the substantial upfront costs of network deployment. By contrast, 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 enabled by the RUS telecommunications programs.

USF Reform and the Underfunded High Cost Program

NTCA has made significant efforts to seek some restoration of regulatory certainty to the USF programs in the wake of reform debates that stretched nearly a decade. In March 2016, the FCC adopted reforms to the USF mechanisms that defined options for telcos to elect either a “model-based” USF support mechanism that would provide carriers with additional support in exchange for incremental broadband buildout obligations or a reformed “non-model” USF support mechanism that would provide support to enable more affordable broadband rates for rural consumers and businesses.

Unfortunately, even as the March 2016 order resolved some long-running debates and took several important steps to more directly orient the high-cost USF program toward broadband, the order did not address a fundamental concern – the lack of sufficient funding under a budget that effectively provides telcos with less revenue today than they had prior to reforms adopted in 2011. And in the wake of reforms, it has become increasingly apparent that USF programs are insufficiently funded as many rural consumers face the prospect of paying hundreds of dollars per month for standalone broadband services.

The New A-CAM Cost Model Option

To be clear, the FCC thankfully did provide additional funding in the March 2016 order – \$200 million per year – to help facilitate the “model option” as part of the reforms described above. These funds will certainly help enable the expansion of broadband in areas where it is lacking today. But demand for model support far exceeded supply, confirming the insufficiency of a USF High Cost budget that was otherwise held constant at 2010 support levels. In fact, even with the additional \$200 million in support, USF funding for the model remains approximately \$110 million per year short of demand, meaning that tens of thousands of rural consumers will see lower speeds or no broadband at all – precisely what the reforms were intended to alleviate. NTCA and many other stakeholders are urging the FCC to provide full funding to enable the business case for greater expansion of broadband.

The Non-Model USF Support Option

A new cost model for distributing USF support that lacks sufficient funding is only part of the story. The reforms to the “non-model” USF mechanisms also did not address the underlying problem of insufficient funding. Due to the USF High Cost budget that has been flat for years, the non-model mechanisms look to be underfunded in the amount of at least \$140 million this year (and perhaps much more over time). As a result, the budget control adopted to cap the High Cost Fund will cut an estimated 10 percent of USF support this year on average for companies like Hill Country – cutting recovery of costs that we have already incurred in deploying networks and delivering services to consumers. Moreover, the budget control can and will vary from period to period, undercutting the kind of predictability that is called for by law and needed when evaluating future investments.

Providing rural broadband won’t leave a company with a cash surplus, so the unpredictability and impact of the budget control mechanism hits close to home. Hill Country’s USF support was reduced by approximately five percent in the last few months of 2016 and some estimates indicate that the budget control could increase to perhaps ten percent this year. This will translate into higher broadband prices for consumers, because the only place we can turn to recover those costs are our consumers. RUS programs are impacted in turn, because the unpredictable nature of the level of the budget control hinders our ability to plan for future investments in broadband networks.

Thus, as NTCA summarized in a recent filing with the FCC, “while much effort may have gone into rebuilding ‘the engine’ of non-model USF reforms, the ongoing lack of ‘gasoline in that engine’ (in the form of sufficient budget resources) risks rendering its operation inefficient at best and utterly ineffective at worst.” This budget crisis – captured in the form of the new budget control mechanism – will deter customer purchases of standalone broadband and ultimately undermine further deployment, as small telcos will need to factor estimated support reductions into future planning efforts and scale back investments.

Right-Sized USF Budget Key to RUS Success

Just as RUS will need sufficient resources to help rural America remain competitive, remedying this USF budget concern will be key to the sustained delivery of affordable, high-quality broadband to consumers that this committee and many other members of Congress hope to see in rural America. At a time when the focus is increasingly on deploying better infrastructure faster, the imposition of this budget cap at 2010 levels translates to a contrary result of lower-speed broadband to fewer locations at higher rates. The FCC has taken steps to finally adopt and implement reforms as discussed above, but there is still much more work to be done to make sure the reforms and programs work as intended and that these cornerstones of access to capital (especially RUS financing) and USF can once again operate in concert.

RURAL BROADBAND BENEFITS THE ENTIRE U.S. ECONOMY

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 quality of life of citizens across the country. A report released in April 2016 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 2015.² 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. In Texas, the direct economic impact of rural telecommunications was over \$1.3 billion with indirect impacts of nearly \$720 million.

Rural Telecom a Boon to Urban Economies

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

Additionally, the report found that the rural broadband industry supported nearly 70,000 jobs nationwide in 2015, including more than 6,300 jobs in Texas, both through direct employment and indirect employment from the purchases of goods and services generated. Jobs supported by economic activity created by rural broadband companies are shared between rural and urban areas, with 46 percent in rural areas and 54 percent in urban areas.

Immense Benefits for Rural Consumers and Communities

The direct and indirect economic impact of the investments and operations of rural telecom providers don't tell the whole story. 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.³ 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.⁴

Access to healthcare is a critical issue for rural areas as well, 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.⁵

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. For example, students in rural Minnesota can attend online music classes offered through the

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

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

⁴ "Searching for Work in the Digital Era" (2015), Pew Research Center, Washington, D.C.

⁵ "Telemedicine Consultations and Medication Errors in Rural Emergency Departments" (2013), Center for Healthcare Policy and Research and Department of Pediatrics, University of California Davis.

MacPhail Center for Music in Minneapolis.⁶ Broadband networks also enable farmers and ranchers to use the Internet to analyze weather data, manage nutrient application, map their crop yields, and adjust planting for the next season with modern precision agriculture tools, and gain access to new markets. Farmers are relying heavily on both wireless and wireline broadband technologies, resulting in monthly data usage of 30 to 40 Gigabytes.⁷

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 be \$1 billion higher.⁸

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. Small, rural telecom providers and lenders such as RUS must have regulatory certainty before they can justify greater investments in the networks of the future, and providers like Hill Country need sufficient ongoing USF support to avoid the prospect of charging rural consumers tens or hundreds of dollars more per month to recover the costs of operating in such rural and remote locations. And deploying broadband is only half the battle – rural areas must remain served at reasonable rates if they are to remain competitive.

Thus, the broader mission of universal service – and the economic benefits it delivers locally and to the nation as a whole – requires the resourcefulness and entrepreneurship of small businesses like Hill Country, access to capital from programs like those offered by RUS, and the availability of sufficient and predictable ongoing cost recovery mechanisms like the USF program so that rural consumers and businesses can indeed obtain services that are reasonably comparable in price and quality to those available in urban America.

⁶ “Bringing Broadband to Rural Minnesota” (2016), Center for Rural Policy and Development, Mankato, MN.

⁷ “Farmers Harvest Gigabytes with Broadband and Wireless Technology” (2016), CoBank Rural Infrastructure Briefings.

⁸ “The Economic Impact of Rural Broadband” (2016), The Hudson Institute, Washington, D.C.