Statement by

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"Broadband: Opportunities and Challenges in Rural America"

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Chairman Thune, Ranking Member Nelson and members of the committee, good morning and thank you for the opportunity to testify on broadband opportunities and challenges in rural America.

I am Mona Thompson, General Manager of the Cheyenne River Sioux Tribe Telephone Authority in Eagle Butte, South Dakota. I have also served on the Tribal Affairs Committee of NTCA–The Rural Broadband Association. Today I will describe the unique challenges of operating in rural America generally and Tribal areas specifically, as well as the opportunities promised by the deployment of robust and resilient broadband. My testimony will describe how, with the proper tools and resources, our rural areas and Tribal Nations can overcome these conditions for a brighter, more prosperous future. Our story also indicates that these gains are best realized through the deployment and sustainability of broadband networks that sit upon a foundation of entrepreneurial spirit, community buy-in, and programs that help make the business case for investment and ongoing operations.

An Introduction to the Cheyenne River Sioux Tribe Telephone Authority

The Cheyenne River Sioux Tribe is a Federally-recognized tribe; it is also known as the Cheyenne River Lakota Nation. Our members include representatives from four of the seven

bands of the Lakota. The Cheyenne River Sioux Tribe has a proud lineage. Our heritage is bound up in the heroism of great leaders such as Sitting Bull; our reservation was initiated by the historic Treaty of Fort Laramie (1868). At 4,226 square miles, the Cheyenne River Indian Reservation is the fourth largest Indian reservation in the United States. The 2010 Census reported a population of 8,090 residents; our population density is less than two people per square mile.

The Cheyenne River Sioux Tribe Telephone Authority (CRST) was founded in 1958 when the CRST Tribal Council purchased an existing telephone company. CRST was the first Tribally-owned telephone company in the United States. CRST was also the first Tribally-owned telephone company to partner with the Rural Electrification Administration, now the Rural Utilities Service (RUS). Fifty years after its founding, CRST relied upon a $37.8 million RUS Telecommunications Loan to upgrade its network to fiber. In December 2016, we completed our Fiber to the Premise (FTTP) Loan Project at a total cost of $27.5 million that deployed approximately 1,500 miles of fiber throughout the Reservation, which covers approximately 2.8 million acres in the Dewey and Ziebach counties of South Dakota.

Rural Challenges – and Much More

Deploying and sustaining broadband in rural America present significant challenges. Distance and density make the costs of building networks and delivering services far greater than the revenues one can expect in return from rural consumers. Indeed, smaller community-based companies like ours exist in the first place because, back in the "telephone days," larger providers could not make the business case to serve certain areas. We filled the gaps in unserved areas back then, and today, we deliver voice, broadband, and other advanced services across a cutting-edge network that, as I will discuss, is essential for economic productivity and community well-being in areas that are otherwise challenged. But, even with technological advancements beyond what anyone ever could have imagined back when telephone service was first deployed, it is still difficult to make the business case to deploy and then continue to operate a network in deeply rural areas. For these reasons, as described below, even the most community-committed operator like ours cannot deliver on the promise of broadband for rural areas and Tribal residents without a reliable partnership with key federal government initiatives.

Moreover, we face unique financial, geological, social and cultural factors serving Indian Country. For example, according to the 2014 American Community Survey of the U.S. Census

Bureau, nearly twice as many Native Americans live in households with incomes that are beneath the Federal poverty level. Such economic conditions unfortunately pave the way for other adverse conditions: lack of adequate income can prevent the acquisition of proper health insurance or health care; persistent poverty can feed mental health challenges or substance abuse; and, educational performance among the youth can suffer, making it more difficult to secure gainful employment in already-depressed economic regions.

While we do not view broadband as a miracle cure, it is essential to attracting, cultivating, and attracting businesses that will help rural communities generally and Tribal communities more specifically rise and thrive. Broadband enables users to connect to the world, increasing their access to economic opportunity, improved health care, and educational resources. Without broadband, as I explain more fully below, we cannot hope to make the connections that will lift and sustain rural communities that can otherwise be isolated and Tribal areas that too often lack in hope and opportunity.

Leveraging Broadband to Overcome Adversity and Create Opportunity

Broadband is rapidly and increasingly being viewed as an "equalizer" for its ability to conquer distance. Whereas telephone enabled only verbal communication, broadband enables

applications that encompass voice, video and data, allowing a great range of human experience to be shared across great spaces. There are several key applications worth noting as they help to overcome adversity and generate opportunity in rural areas and on Tribal lands.

Telemedicine

Chronic disease causes about 75 percent of health care costs and contributes to about 70 percent of all deaths in the United States. These conditions are exacerbated in rural areas. Individuals living in rural areas often have increased numbers of medical conditions such as: diabetes and hypertension. Rural residents also tend to travel further for medical care than urban counterparts. These rural health challenges are compounded by physician shortages and lack of access to nearby health care facilities. Although 25 percent of the U.S. population resides in rural areas, only 10 percent of physicians are in rural America. And, rural areas have 70 percent fewer specialists. Additionally, poverty increases the risk of complications from chronic conditions by decreasing the likelihood that individuals will have health insurance or otherwise be able to absorb the costs of treatment and preventative care. Unfortunately, Tribal lands not only share these challenges, but often experience more acute manifestations of them.

On the Cheyenne River Reservation, unemployment is a challenge, and more than two-thirds of the population subsists on less than one-third of the average U.S. income. And, yet, while such factors affect communal health, broadband offers a promising tool to combat such problems. Broadband-enabled telemedicine can help patients monitor chronic illnesses and maintain more consistent contact with their physician, leading to better patient compliance rates. Broadband-enabled applications can also be helpful, if not critical, in enabling distant physicians to consult on and assist with acute medical emergencies. Broadband-supported teletherapy can be deployed for physical, occupational, and speech therapy. And, for regions afflicted by high rates of substance abuse, teletherapy can be a tool in the prevention, treatment and rehabilitation from alcohol and drug abuse. Broadband-enabled telehealth/telemedicine thus holds the potential to improve the quality, cost and availability of health care throughout rural America. From avoiding transportation costs and lost wages to saving hospital costs and increasing revenues local labs and pharmacies, broadband-enabled telehealth can and does make a significant difference in rural areas, and on Tribal lands in particular.

A 2017 survey of NTCA rural broadband service provider members indicated that 75.9 percent of hospitals and medical clinics in NTCA service areas are connected by FTTP, with an

average maximum available speed in the service area of 734 Mbps. In relation to other NTCA members, CRST currently offers speeds up to 250Mbps and we are capable of providing higher speeds. The existence of such connectivity is essential to realize the benefits described above, but the job is not done – many more healthcare facilities remain to be served at such levels, and even once built, the job of operating and maintaining such networks and delivering high-quality broadband at affordable rates in sparsely populated high-cost areas is itself an ongoing challenge.

Education

The future of rural communities depends upon educating young people who can graduate with the skills necessary to fill the next generation of jobs. Data projections through 2024, however, indicate a decline in the number of Native Americans who will be enrolled in public K-12 schools, graduate from high-school and attend post-secondary institutions. Similarly, as compared to libraries elsewhere throughout the United States, fewer Tribal libraries offer students the resources necessary to obtain coursework, resources for homework, or other materials. This is troubling given that quality educational systems help both to keep people in a community and to attract new residents who see the opportunities presented. Robust broadband – both in the schools and at home – can play in essential role in making quality education a reality

in many rural communities, and perhaps in keeping within the educational system many students who might otherwise drop out.

Across the United States, K-12 schools and libraries are connecting increasingly to the Internet. Connectivity is exceedingly important in rural areas where that connection may be the student's sole access to cultural, historic or artistic resources. This is especially important where, for example, an insufficient number of students might not justify the offering of advanced or specialized coursework. In those instances, the aggregation of distantly placed students and their connection through broadband to an instructor can open theretofore unavailable educational opportunities. Here, too, rural achievements are high: a 2017 NTCA survey found that 63.9 percent of public libraries and 82.4 percent of K-12 schools in NTCA rural broadband provider service areas are connected by FTTP, with average maximum available speeds of more than 450 Mbps for libraries and more than a gigabit for K-12 schools. Like with telemedicine, our current speeds are up to 250 Mbps but we are capable of offering higher speeds.

But here, too, the job is not done. Once again, delivering broadband involves more than the one-time act of deploying connectivity; it takes significant ongoing effort to operate and maintain these networks, and to deliver affordable, high-quality services that respond to

consumer demands. Moreover, even with a much-needed focus on connecting schools and libraries, reliable and robust broadband access at home is equally important to academic achievement. By definition, the “homework gap” indicates that learning does not begin and end at the schoolhouse door. Students should not be required to travel to libraries or community centers – or worse still, to try to “grab” WiFi in business parking lots – to complete homework. A national broadband plan that aims primarily to connect anchor institutions in rural America and does not include reliable connections at home as well risks failing rural America and leaving communities behind. This is one of the primary reasons why CRST has made such extensive efforts to deploy robust networks *throughout* its serving area, rather than delivering the highest-speed connections *only* to businesses and anchor institutions.

Economic Opportunities

Broadband is growth-enabling. A USDA report concluded that "wage and salary jobs, as well as the number of proprietors, grew faster in counties with early broadband Internet access." Other studies have found that broadband adoption can be linked to increases in several factors of economic prosperity, including higher growth in median household income levels, number of firms and total employment. These quantifiable benefits are joined by qualitative societal

benefits, including more capable public safety communications resources for security and emergency response capabilities; civic engagement; and enhanced communications capabilities that can benefit regional coordination and development, exist beyond the quantifiable benefits. A recent survey found, for example, that rural America is responsible for 15.5 percent of all consumer internet-driven transactions - a value of $10.8 billion each year. Another recent study found that rural communications providers contributed $24.1 billion in economic activity to the U.S. economy in 2015, through their own operations and the follow-on impact of their operations. C.R.S.T. contributes approximately $2.5 million to the local reservation economy. Such figures help highlight the importance of broadband as a driver of economic opportunity.

How Do We Best Promote and Sustain Rural Broadband?

The benefits of rural broadband described above can be achieved only if there are providers willing to take on the work of reaching these rural areas, as well as sound and rational policies that help support the deployment of broadband infrastructure in rural America. For example, sufficient and predictable high-cost universal service fund (USF) support has been critical in enabling rural providers to deploy (and maintain) better broadband further into rural areas. Recent caps, cuts and constraints that have been implemented in the high-cost program,

however, have had a damaging impact on rural providers' ability to meet important goals; CRST has seen decreases close to $1 million in high-cost support, and CRST has cautiously rolled out stand-alone broadband just recently due to pricing this service to be cost effective for CRST and reasonable to the customers. Time will tell. The decrease also impacts our ability to maintain the FTTP network and our certainty to pay back the debt for the FTTP deployment over the term of the loan. As a complement to federal universal service support that helps to make the business case for investment and allows recovery of costs while still charging rural customers reasonable rates, RUS loan and grant programs are important too in providing access to upfront capital and allowing companies to move forward with critical rural infrastructure projects. The RUS programs were vital to CRST's network expansion, and the continuing availability and viability of these programs will be important to finance broadband deployment in many of the most rural parts of our country.

Conclusion

There seems to be no doubt that the challenges of deploying broadband in rural America are known and acknowledged by policy makers. But, sustaining broadband in such areas is equally important – and often overlooked. Indeed, particularly in Tribal areas where unique

challenges can exist in terms of healthcare, education, and economic opportunity, the ongoing availability of robust and affordable broadband will be essential in overcoming such hurdles. We need to build broadband networks and then also enable the most effective use of them. For these reasons, those that share our view of the importance of rural broadband to American prosperity should look to leverage and improve the workings of programs like the FCC's USF and RUS financing – these coordinated programs have worked better than any others to make the business case for rural broadband investment, to sustain those broadband networks once built, and to enable effective use of those networks by Tribal residents and millions more rural Americans. It is by using and enhancing these proven USF and RUS programs that we can build upon and sustain the progress made to date, overcoming challenges and creating opportunities through better broadband in rural America.

Thank you very much for this opportunity to address the committee.