TESTIMONY OF JUSTIN FORDE

SENIOR DIRECTOR OF GOVERNMENT RELATIONS
MIDCONTINENT COMMUNICATIONS

on

Realizing the Benefits of Rural Broadband: Challenges and Solutions

before the

Committee on Energy and Commerce
Subcommittee on Communications and Technology

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SUMMARY OF TESTIMONY OF JUSTIN FORDE,
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Midcontinent Communications ("Midco") is the leading provider of Internet and networking, cable TV, phone, data center, home security and advertising services in the Upper Midwest. More than 385,000 residential and business customers count on Midco services in 342 communities in South Dakota, North Dakota, Minnesota, Kansas, and Wisconsin.

Midco has a history of innovation. In 2017, it launched the Midco Gig Initiative – a commitment to bringing gigabit internet speeds to its entire service area. As of today, Midco Gig is available to more than 80% of its customers, and the rest of its customers have a choice to receive speeds anywhere from 50 Mbps to 250 Mbps. Midco has invested over $56 million in the Gig Initiative, in addition to the millions of dollars it invests in its network annually. In 2017 alone, it invested more than $125 million in capital projects.

Midco is also focused on expanding its service to unserved communities. There are challenges and high costs associated with building fiber in some rural communities, due to difficult terrain or sparse population. In areas where bringing wireline service to the area is not economically feasible, Midco has developed the innovative solution of using fixed wireless to provide broadband to more rural residents. Midco fixed wireless provides internet connectivity at speeds up to 50 Mbps download and 10 Mbps upload and higher, and allows Midco to reach remote, rural areas that are up to 50 miles away from its fiber network. Midco can implement this solution relatively quickly and without the effort or expense of constructing fiber networks.

Midco supports the Committee's hard work to ensure all Americans have access to broadband services, and greatly appreciates the bipartisan commitment of the Committee to produce bills that nurture a broadband deployment-friendly atmosphere. The Committee's efforts in the RAY BAUM'S Act and MOBILE NOW Act to include broadband deployment provisions like the Dig Once policy and a spectrum policy balancing licensed and unlicensed uses, and its thoughtful consideration of the ACCESS Broadband Act, have contributed to an environment in which Midco is able to more easily invest, expand, and deploy.

There are two ways Congress can help companies like Midco further advance the reach of broadband networks. *First*, scarce government resources should be targeted to those who will build out to areas that do not yet have access to all the benefits broadband provides. Congress should support efforts to focus broadband funding dollars on unserved areas. *Second*, to serve the greatest number of rural residents via fixed wireless, Midco must have the ability to use or purchase more spectrum. Congress should support the FCC in its efforts to expand the categories of eligible users for certain underutilized spectrum bands like 2.5 GHz, and support the FCC in adopting smaller license sizes and appropriate auction rules for bands that have potential for fixed wireless use in rural areas.

These actions will help all Americans – including those in rural America – receive the full potential of America's broadband networks.

Chairman Blackburn, Ranking Member Doyle, and Members of the Subcommittee, thank you for inviting me here today to discuss both the challenges we face and the solutions we are working on to bring the benefits of broadband to rural America. We at Midco have developed innovative approaches to help us get high speed and reliable broadband to all of our customers, and I'm excited to share them with you today.

My name is Justin Forde, and I am the Senior Director of Government Relations for Midcontinent Communications ("Midco"). Midco is the leading provider of Internet and networking, cable TV, phone, data center, home security and advertising services in the Upper Midwest. We also operate a regional sports network, Midco Sports Network, which broadcasts live, local high school and regional college sports.

More than 385,000 residential and business customers count on Midco services in 342 communities in South Dakota, North Dakota, Minnesota, Kansas, and Wisconsin. Midco community populations range from less than 100 in places like Dodge, North Dakota, to our largest community, Sioux Falls, South Dakota, which has a population of more than 180,000.

Innovation and foresight have shaped Midco's course for more than 85 years. At Midco, we have made it our mission to ensure that the rural communities we serve are at the leading edge of technology. Our goal throughout our footprint is always to continue to find ways not only to meet, but to exceed, the communications needs of our customers.

Midco's History of Innovation

Midco has a history of innovation in the Upper Midwest. Founded in 1931, Midco began by operating movie theatres, with a vision of always staying one-step ahead of ever-changing technology. Midco then entered the radio business, and in 1954, became the owners of the first television station in South Dakota. We continued to innovate with the introduction of cable

television and phone service, and on April 15, 1996, in Aberdeen, South Dakota, launched our broadband internet service, which today is the largest portion of our business.

Our commitment to innovation continues to motivate our business initiatives today. We own and operate four data centers in North Dakota and South Dakota to give local businesses a cost-effective way to secure critical data and their IT infrastructure. We provide solutions for regional and national banking, healthcare, energy, and government customers, among many other industries. We combine our data center services with powerful network solutions through our wholly-owned, operated and engineered Midco fiber network. Our data centers are directly connected to our network backbone, giving businesses access to some of the fastest internet speeds in the country.

In 2017, we launched the Midco Gig Initiative – a commitment to bringing gigabit internet speeds to our entire service area – from the region's smallest towns to its largest cities. Today, Midco Gig is now available to more than 80% of our customers – with more communities to come in 2018 – while the rest of our customers have a choice to receive speeds anywhere from 50 Mbps to 250 Mbps. In this regard, it is important to remember that the majority of the communities we serve are very rural. In fact, according to the U.S. census, nearly all of the 342 communities we serve have less than 50,000 people, with most having a population closer to 500 than to 5,000. To date, we have invested over $56 million to upgrade our network to deliver gigabit speeds to some of the most rural areas in America – in addition to the millions of dollars we invest in our network annually. In 2017 alone, we invested more than $125 million in capital projects in our service area.

We are also deeply committed to giving back to the communities we serve. This spring, the Midco Foundation awarded more than $97,000 in grants to charitable organizations. This

funding helped non-profits in 34 communities in our Midwest service area. To date, the Midco Foundation has contributed more than $3.8 million in grants to the work of non-profits, local governments, and schools.

We are also focused on expanding our service. Communities large and small want Midco to come to them – and we respond whenever we can, bringing our service to more and more cities and communities across the region. Last year, we extended our fiber-optic network to Littlefork, Canby, Porter, Tauton, Minneota and Ghent, Minnesota – six small communities that now have access to Midco's fiber network, Gig speeds, and our data centers.

Midco's Innovative Use of Fixed Wireless To Reach More Communities With Broadband

While extending the Midco network and bringing our service to rural communities has always been part of Midco's culture and priorities, there are still folks out there who lack access to our network, or to any reliable and affordable internet source. There are challenges and high costs associated with building fiber in many communities in our area, due to difficult terrain or sparse population in the vast farms of the Upper Midwest.

While thinking about a creative solution to this challenge, we were contacted by the rural community of Brooktree Park, North Dakota. Residents had appealed to their elected officials to help bring broadband to the area, and those officials turned to Midco. Midco quickly determined that bringing wireline service to the area was not economically feasible, but we partnered with InvisiMax, a fixed wireless provider, and we were able to provide broadband service to the area within 30 days. Recognizing the potential of the fixed wireless solution to provide broadband to more rural residents, Midco has since acquired InvisiMax, and has begun to expand fixed broadband wireless service more broadly in rural areas within our footprint.

A fixed wireless option is a huge benefit to our friends and neighbors who are not on Midco's wired network. Currently, Midco fixed wireless provides internet connectivity at speeds up to 50 Mbps download and 10 Mbps upload and higher, depending on customer need. Data travels over our fiber network to a tower fed by our fiber, called a "fiber backhaul tower," and then the signal is broadcast from tower to tower and ultimately to the customer using spectrum. Fixed wireless allows us to reach remote, rural areas that are up to 50 miles away from our fiber network, and we can implement this solution relatively quickly and without the effort or expense of constructing fiber networks. We can also deploy new fixed wireless networks during the winter months, when harsh weather makes fiber construction impossible.

Fixed wireless allows Midco to offer internet where the terrain makes it difficult, if not impossible, to provide fiber internet connectivity, such as through the Badlands of North Dakota and South Dakota, the granite fields in Northern Minnesota, or the limestone cliffs in Eastern Minnesota. This technology also allows Midco to reach vast areas of farmland where it is not economically feasible to run fiber to every farm, because there may be many miles between each farm.

I can personally speak to the benefits of the fixed wireless approach, as I myself am a Midco fixed wireless customer. I get my internet from the top of the grain elevator in Prosper, North Dakota to my small farmstead six miles west of Argusville, North Dakota. On a normal day, my three kids are streaming video or other content, while my wife is using the Internet to run a small business, so this service has been a great asset for our family. Even today, it allows me to keep an eye on the farm from Washington, D.C., through a video and security system enabled by fixed wireless.

How Congress Can Support Broadband Deployment in Rural America

As you can see, Midco supports your efforts to ensure all Americans have access to broadband services, and we have invested many millions of dollars to help make that goal a reality. We greatly appreciate the bipartisan commitment of this Committee to produce bills that include and reflect the key components of a broadband deployment-friendly atmosphere – prioritizing unserved areas, instituting competitive principles for awarding broadband dollars, and embracing technological neutrality. Your efforts in the RAY BAUM'S Act and MOBILE NOW Act to include broadband deployment provisions like the Dig Once policy and a spectrum policy balancing licensed and unlicensed uses, and your thoughtful consideration of the ACCESS Broadband Act, have contributed to an environment in which we are able to more easily invest, expand, and deploy. This Committee is leading the way in Congressional efforts to close the digital divide and should be commended for its efforts.

Today, I would like to offer two suggestions for how you might help us further advance the reach of broadband networks.

First, we recognize that government help may be needed to bring broadband to areas that are beyond the reach of private risk capital. In areas where it is not financially viable to build – because they are too difficult to reach, geographically remote, or are otherwise very hard to serve – broadband deployment grants can alter the financial calculation, making serving an area possible. It is critical, however, that such help and government resources used for this purpose are directed to bring service to areas that are truly unserved.

In the past, some government broadband funding programs have allowed funding to be used in places that already have broadband service. Midco has been overbuilt with our own tax dollars in places like Mitchell, South Dakota, as have others in our region. We believe that

scarce government resources should be targeted to those who will build out to areas that do not yet have access to all the benefits broadband provides.

We were encouraged, therefore, to see that the pilot broadband funding program in the Omnibus Appropriations Act directed that funds be used in areas that are at least ninety percent unserved, and that the Senate Farm Bill similarly limits funding to areas that are unserved. These approaches, implemented in a technology-neutral manner and with appropriate guardrails to ensure areas targeted are truly unserved, can complement the work of this Committee to make a meaningful impact in reducing the number of Americans lacking broadband access.

Second, we believe using alternative technologies like fixed wireless can help Midco and others reach those last, difficult hard-to-reach miles. But for us to make this solution a reality, we – and other wireless providers – need access to more and better spectrum.

To serve the greatest number of rural residents via fixed wireless, Midco must have the ability to use or purchase spectrum, through a license or lease system. But not all spectrum is equal when trying to deliver broadband service. Only certain bands of spectrum can broadcast a signal from tower to tower (called "point-to-multipoint" or "wireless backhaul") or to the customer (called "access" or "point-to-point"). While the rules for acquiring spectrum for wireless backhaul use are generally working well, our ability to acquire spectrum to deliver service to the customer is severely hampered by existing laws and rules.

The technology for delivering "last-mile" service to the customer can use spectrum in the 2.4 GHz, 3.65 GHz, or 5 GHz bands, but each of these bands has problems. The 2.4 GHz unlicensed band is simply too crowded for effective delivery of broadband service. Use of the 5 GHz band is similarly growing, and while well-suited for in-home Wi-Fi networking, lacks the interference protection we need to provide reliable fixed broadband access to customers, and has

regulatory power limitations for devices deployed in this band. Consequently, Midco does not typically use this band for fixed wireless. Instead, like many providers, Midco uses the 3.65 GHz band.

The 3.65 GHz has its own issues. Today, we can use only two channels of 20 MHz each, but to offer the broadband Internet speeds that consumers and businesses demand today, Midco needs at least 80 MHz of spectrum – twice the amount that it currently uses.

It is important that rural Americans have access to broadband of a sufficient speed, so that they can stream video on multiple devices, attend webinars and virtual meetings, operate a home security system, and, importantly in Midco's service areas, use the Internet for a variety of precision agriculture needs. We need access to more spectrum so that our customers can engage in all of these activities.

The Federal Communications Commission ("FCC") is in the process of revising its rules for different spectrum bands, but it is important that those rules be implemented in a way that will allow us to use the bands for fixed wireless.

For example, the FCC is changing the rules for the 3.5 GHz Citizens Broadband Radio Service spectrum, which can be used for fixed wireless. However, under those rules, after 2020, we will lose our interference protection in the 3.65 GHz band, and we will then need to either use general authorized access spectrum, in which case our operations would not be entitled to interference protection, or bid on priority access licenses in the 3550-3650 MHz range that will be auctioned. Moreover, only 70 MHz of spectrum will be auctioned, and there is no guarantee Midco will be able to gain access to that spectrum.

In addition, the FCC's priority access licenses in the 3.5 GHz range will only be truly effective in helping rural areas if they are offered in small enough geographic areas that

companies like Midco that want to provide broadband via fixed wireless in rural markets can compete for their purchase. Large licenses are more expensive to purchase at auction and cover more territory than companies like Midco may serve. Moreover, large licenses that contain both urban and rural areas are often priced based on the urban market, pricing out rural service providers like Midco.

Fixed wireless providers should be able to compete for the ability to purchase licenses in this spectrum, and the licensing rules should not favor one category of provider who want this spectrum for use in populated areas, but do not plan to serve the rural residents that Midco can.

Beyond the Citizens Broadband Radio Spectrum, the FCC is also considering instituting different rules for the 2.5 GHz, or Educational Broadband Spectrum (EBS), band that might allow fixed wireless uses. The licensed spectrum in the 2.5 GHz band is attractive because it is powerful enough to provide speeds in excess of 100 Mbps download and 20 Mbps upload, and to beam through dense tree lines and forests. The 2.5 GHz band also provides an internet solution for precision agriculture and cutting-edge farm technology, since the spectrum (and the power levels allowed under the license) can penetrate through tree barriers and wind blocks often found in farmland. Currently, however, the 2.5 GHz band can only be licensed to educational institutions or other entities dedicated to educational purposes, who may then lease the spectrum to others. This is true even though much of the spectrum remains unused. Indeed, the FCC estimates that current licensees only cover about half of the geographic area of the United States today, with significant amounts of spectrum going unused in rural areas. Opening the 2.5 GHz band for licensing by other, non-educational entities would allow Midco to provide fixed wireless service to even more rural residents, including those living in dense tree areas and in hilly terrain – but use of this band is not an option for us today.

Finally, some have suggested that other spectrum bands could be used for fixed wireless. Even if those assertions are true, however, those bands will not be made available quickly enough to meet the needs of rural America. For example, the FCC is considering opening spectrum in the "C-Band" (between 3.7 and 4.2 GHz) for 5G wireless or shared fixed point-to-multipoint use, for example, but the band is used heavily today by cable programmers and cable operators, including Midco, to transmit and receive television programming that operators then distribute to customers via coax and fiber. Thus, at least in the near term, until interference concerns are resolved and existing users compensated for any transition, this band cannot accommodate the fixed wireless services Midco offers.

To better serve rural residents and businesses, like those in Brooktree Park, North Dakota, with fixed wireless, we need more spectrum options. We need access to more spectrum, and that must spectrum must offer an ability to limit interference so we can provide reliable service. I ask you today that when opening new areas of spectrum, you and the FCC keep in mind the need to ensure that companies like Midco, who are trying to use fixed wireless to reach otherwise unserved areas, are able to compete for access to the spectrum.

I commend the Subcommittee for its focus on ensuring that all Americans – including those in rural America – receive the full potential of America's broadband networks. Thank you again for inviting me here today, and we look forward to working with all of you on these important issues.