TESTIMONY OF JUSTIN FORDE

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MIDCONTINENT COMMUNICATIONS

on

The Impact of Broadband Investments in Rural America

before the

Committee on Commerce, Science, and Transportation

Subcommittee on Communications, Technology, Innovation, and the Internet

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Chairman Thune and Members of the Subcommittee, thank you for inviting me here to discuss Midco's views on ways to improve federal broadband funding programs and other opportunities to expand broadband in rural America. The U.S. cable industry now offers 1 gigabit service to 80 percent of American households, and importantly this gigabit service is available in both urban and rural communities, including many that Midco serves in the Upper Midwest. Midco has developed innovative approaches to help get high speed and reliable broadband to all of our customers, and I'm excited to share our ideas 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 connectivity, 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.

Over 400,000 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. The majority of the 342 communities we serve, however, are very rural – nearly all have less than 50,000 people, with most having a population closer to 500 than to 5,000.

At the end of the day, we are a Midwestern company that is deeply committed to giving back to the communities we serve through service, financial grants, and broadband funding programs. For example, to date, the Midco Foundation has given or matched more than $4.2 million in grants to further the work of non-profits, local governments, and schools. We also promote the Midco Lifeline Program, administered by the Universal Service Administrative

Company. More than 3,700 qualifying low-income households benefited from reduced monthly interest or home phone rates through the Midco Lifeline Program.

Midco's History of Innovation

Innovation and foresight have shaped Midco's course for more than 85 years. In particular, we have made it our mission to ensure that our most rural communities 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.

Founded in 1931, Midco began by operating movie theatres, and then entered the radio business. In 1954, we 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.

Our commitment to innovation continues to motivate our business initiatives. 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

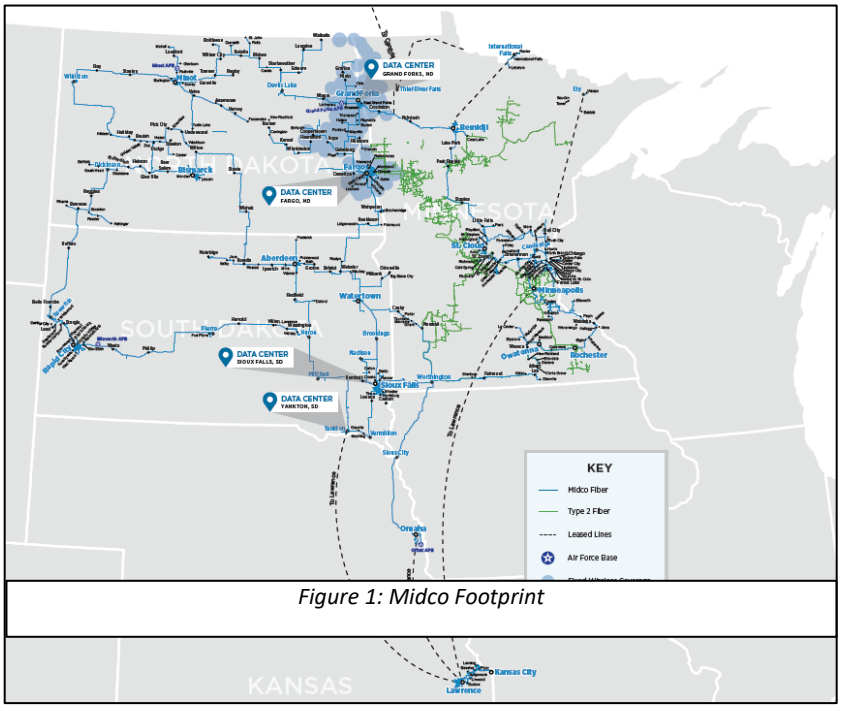


Figure 1: Midco Footprint

network. Our data centers are directly connected to our fiber backbone, giving businesses access to some of the fastest internet speeds in the country.

Midco's innovation and continuing capital investment stems from our desire to serve the communities where we live and raise our families. In 2017, we launched the Midco Gig Initiative – a commitment to bring Gigabit internet speeds to our entire service area – from the region's smallest towns to its largest cities. Midco Gig is now available to more than 90% of our customers, while the rest of our customers have a choice to receive speeds of anywhere from 50 Mbps to 250 Mbps. And we continue to make upgrades to our network and services. In 2018 alone, we made a $91.3 million investment in capital projects throughout our footprint.

But Midco and our industry aren't stopping at 1 Gig. We also recently announced our involvement in the 10G initiative where we will invest $500 million over 10 years on a global cable industry standard that will provide ultra-fast symmetrical speeds of 10 gigabits per second, combined with low latency, unmatched reliability, and rock-solid security for a broad range of customers. This initiative is being built upon our existing fiber-rich infrastructure, and the industry through our R&D consortium CableLabs, is currently undergoing lab trials – and field trials will begin in 2020. This is the future of broadband and companies like Midco will be bringing it to America's heartland in the coming years.

We also leverage our extensive fiber backbone and connectivity to reach the most rural and remote areas of our footprint through our Midco Edge Out℠ strategy. We "edge out" our high-speed internet from our fiber backbone in urban areas to rural areas using fixed wireless technology. We use the initial fixed wireless expansion from our wired plant to meet consumers' immediate needs, and then leverage that expansion to justify a wired network buildout in the

future. While some rural areas may support that wired build, other, more remote rural areas will continue to be served with a fixed wireless solution.

I can personally speak to the benefits of the fixed wireless approach, as I am a Midco fixed wireless customer. I have been a fixed wireless customer for almost 10 years, and Midco recently updated my service to our LTE, 4.5G platform. I get my internet from the top of a commercial tower in Grandin, 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.

My neighbors are also Midco fixed wireless customers. One of my neighbors, for example, runs a cattle ranch. He uses our fixed wireless to sell his animals by auction where speed and capacity matter, and where many individuals are participating in the auction at the same time. He is a happy Midco fixed wireless customer running a vital and thriving ranching business in rural North Dakota.

Midco's Innovative Use of Fixed Wireless to Reach More Communities with Broadband

We recently made a large commitment to serving the most rural areas of our footprint using our next generation fixed wireless network through our participation in the Connect America Fund (CAF) Phase II Auction. The Federal Communications Commission provisionally awarded us about

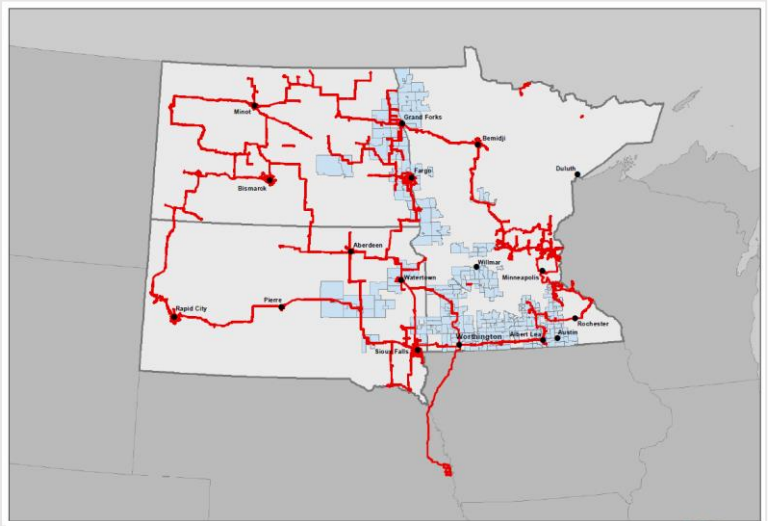
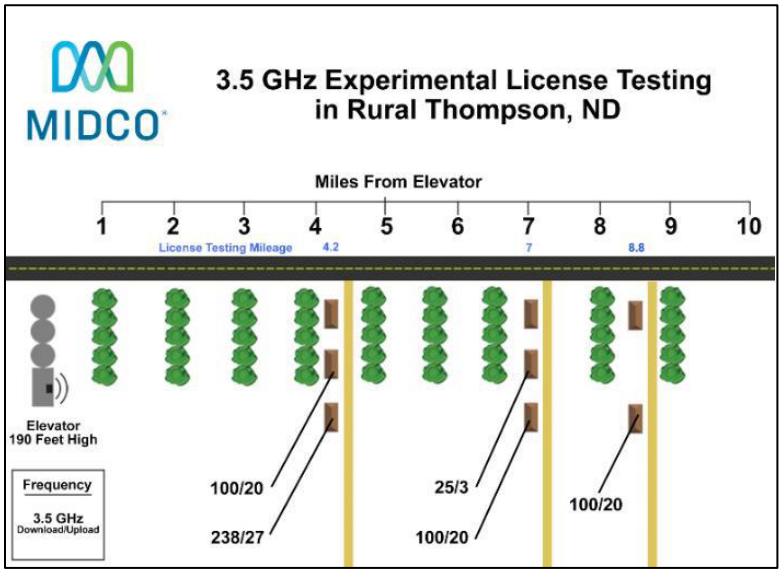


Figure 2: CAF Census Block Groups Provisionally Awarded to Midco

$38.9 million to bring our high-speed broadband to approximately 9,300 unserved homes in South Dakota, North Dakota, and Minnesota. In building out to serve these CAF locations, we will pass approximately 200,000 homes with high-speed, low latency broadband.

The combination of CAF and our Midco Edge Out℠ strategy allows us to deploy a carrier-grade, LTE network, currently capable of "4.5G." Assuming that we continue to have access to spectrum, we know that we can help close the Digital Divide. Using the Citizens Broadband Radio Service band on our experimental license, for example, we can currently offer speeds of 100/20 Mbps at a distance of 8.8 miles away from the Thompson, North Dakota grain elevator. Full access of this spectrum would allow us to expand the 100/20 Mbps service more broadly in our footprint.



We know that fixed wireless technology is a real solution for rural America. We know that we can reach remote, rural areas that are up to 50 miles away from our fiber network. We can also implement this solution relatively quickly and without the effort or expense of constructing fiber networks. Fixed wireless technology can also be deployed during the winter months, when harsh weather makes fiber construction impossible.

Opportunities to Improve Federal Broadband Programs to Better Serve Rural America

Midco appreciates the opportunity to discuss ways to better coordinate and refine federal broadband programs to ensure that they deliver the benefits of broadband to as many unserved

Americans as possible. 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.

We participated in the FCC's CAF auction last year. This was a competitive, reverse auction, and we believe a fair and economical method to fund those last mile technologies. Based on this experience, we would like to offer a few recommendations to ensure that future funding is used efficiently and effectively to expand the reach of broadband networks in rural America.

Improving Coordination Among Federal Agencies

With several federal agencies and a growing number of states dedicating funding to broadband deployment, it is increasingly important to ensure that all relevant agencies are coordinating with each other to avoid overbuilding other government-funded projects and areas served by those who have invested their own private risk capital to deploy broadband networks. The FCC's universal service high-cost programs, including Connect America Fund Phase II and funding for rate-of-return and mobile providers, spend about $4.5 billion per year, while USDA programs spend about $1.4 billion per year. Together, these programs, at these funding levels, should be able to make significant progress in closing the Digital Divide, provided that the agencies coordinate with each other to ensure that their efforts and subsidies complement each other. We have three suggestions on how agencies can better work together.

First, it is critical that all agencies work off the same map. Typically, the FCC and RUS use FCC Form 477 data on fixed broadband service and the associated map as a starting point to determine which areas are unserved. While there is widespread agreement that the map needs to be improved – and the FCC has an open proceeding to reform the data collection for the map – using a central reference point is essential to avoid confusion and broadband funding overlaps. As other agencies, such as NTIA, begin their own efforts to improve mapping, they should coordinate with the FCC and the RUS to harmonize the information and avoid conflicting maps that could deepen confusion and potentially lead to precious government dollars going to areas that already have broadband, furthering the Digital Divide.

Second, federal agencies should coordinate their eligibility requirements to maximize participation and keep the programs rowing in the same direction. There is a learning curve for companies to familiarize themselves with government programs, eligibility requirements, service expectations, and accountability requirements – and that comes at a cost, particularly for smaller providers who have not traditionally received government subsidies. At a minimum, standardizing eligibility requirements based on best practices learned across agency programs would encourage a broader range of providers to invest the time to learn about and apply to participate in these programs. For instance, partnerships were eligible for the FCC's CAF Phase II auction, but apparently are not eligible for RUS's ReConnect program, even if they have decades of operational experience. Midco has operated as a partnership for almost 20 years, and our predecessor companies operated as partnerships for decades prior. We have invested well over $800 million in capital projects as a partnership, and remain committed to servicing our customers. We are a sound investment for the federal Government, and our legal status as a partnership should not preclude eligibility in funding programs. These types of needless

inconsistencies deter participation by qualified companies who could be part of the solution to reach unserved communities.

Third, this inter-agency coordination should continue throughout the entire life cycles of these programs. As providers receive funding, meet project milestones, and complete their required buildouts, information on interim and final deployments should feed back into the coordination process and broadband map to ensure that subsequent rounds of funding are not inadvertently used to overbuild this hard-earned progress. Indeed, with billions of dollars being spent each year to extend the reach of broadband in rural America, agencies and funding recipients must be accountable to show not only where the subsidies are awarded but also where and how these dollars are being used.

Making Programs More Effective

In addition to improving coordination among agencies, there are four steps that agencies can take to make their own programs more effective in serving rural America.

First, programs should operate in a technology-neutral manner. As long as providers are able to meet the specified broadband service requirements, it should not matter what technology they use to provide the service. For example, we have demonstrated that fixed wireless can be an effective tool to edge out our fiber backbone and connectivity, particularly in lower density rural areas where it can be very costly to deploy last-mile fiber.

Second, programs should prioritize projects that will offer higher speeds to ensure that communities receive the benefits of these investments for years to come. In the CAF Phase II auction, the FCC used a weighting system that favored companies willing to invest in networks capable of offering higher speeds of service. For example, our next generation, LTE fixed wireless network is currently "4.5G" capable – and will be 5G capable once the ecosystem has

developed. We can offer speeds of 100/20 Mbps currently (without data caps) and our speeds will keep increasing with more available spectrum and continuing innovation. Areas that are only upgraded to 10/1 Mbps will soon become the new "unserved" areas as demand for bandwidth increases. Simply put, it is a better financial investment than one made to build a network limited to 10/1 Mbps. Therefore, it is prudent for funding programs to make a cost-effective investment in networks offering higher speeds than to make repeated investments in a series of upgrades just to keep pace with the bare minimum of what is considered broadband.

Third, broadband programs should target funding to truly unserved areas. In the past, some government broadband 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 and Yankton, South Dakota, as have others in our region. In Yankton, South Dakota, for example, government dollars were used by a fiber company to overbuild two existing providers; and the new provider used those government funds to "cherry pick" a few business customers. We believe that scarce government resources should be targeted to those who will build out areas that do not yet have access to all the benefits broadband provides.

Fortunately, both the FCC and RUS have taken steps to direct new broadband funding where it is truly needed. The FCC requires areas receiving new funding to be unserved and, in the ReConnect pilot program, RUS requires that areas be at least 90 percent unserved. Additionally, both the FCC and the RUS allow stakeholders to supplement the initial eligibility maps with information about recent broadband deployment to ensure that funding is directed to areas that are truly unserved. This guards against using government subsidies to overbuild private investment or broadband deployment funded through other federal or state government

programs, ensuring that any such programs will make meaningful headway in closing the Digital Divide.

Fourth, agencies should focus on grants or partial grants rather than loans. We've found that grant programs that will require a company to expend some private capital, in addition to government funds, create better investments and accountability. There have been too many recent examples of providers who received significant loan money defaulting on their obligations and being otherwise unable to meet their buildout requirements. Moreover, at least in the past, the RUS broadband loan program resulted in overbuilding of served areas rather than reaching unserved areas.

Additional Opportunities to Increase Broadband Availability in Rural America

Finally, it is critical to continue to foster a regulatory environment that encourages ongoing private investment, including in rural America.

Removing Barriers to Entry and Deployment

It is appropriate to examine the regulatory landscape at the federal, state, and local levels to ensure that obligations and costs placed on providers—whether they offer wireless or wireline service—are reasonable, lawful, competitively neutral, and not unduly burdensome.

As an example, some franchising authorities around the country have begun seeking additional "in kind" contributions beyond what is required by law, and even duplicative franchise fees, in order to grant or renew franchises. Given our deep connections to the communities we serve, we have generally been able to work effectively and collaboratively with our local franchising authority partners. But, we support the FCC's "Section 621 proceeding" to clarify that these extra fees and requirements are not allowed because every dollar paid in excessive fees

and taxes is a dollar that cannot be invested in broadband, making the rollout and upgrading of rural broadband slower and less ubiquitous.

Ensuring Equal Access to Spectrum for Rural America

Additionally, as Congress and the FCC work to free up additional spectrum, it is vital that companies like Midco, that provide high-speed and reliable broadband to the most rural areas of our country, have equal access to spectrum. It would be detrimental to rural America if valuable and limited spectrum was allocated only to 5G, especially as 5G requires a high concentration of small cells to operate.

Current 5G technology measures the distance from the small cell to the customer in *feet*. Rural solutions, however, must be measured in *miles*. In our area, for example, we may have one or two farmsteads every mile. These remote rural areas lack the heavy infrastructure needed to support a 5G small cell deployment, and such infrastructure is unrealistic to build to serve a few homes with mobile 5G when we can offer high-speed and proven broadband solutions. Therefore, 5G small cell, mobile technology is not currently a realistic solution to close the Digital Divide in rural areas. Fixed wireless, however, is a realistic solution – we are closing the Digital Divide now with our high-speed, low latency fixed wireless.

We can continue to serve the unserved in rural America if we continue having access to valuable spectrum, especially mid-band spectrum. Mid-band spectrum is especially valuable to fixed wireless operators like Midco because, as shown in Figure 3, it balances speed and propagation.

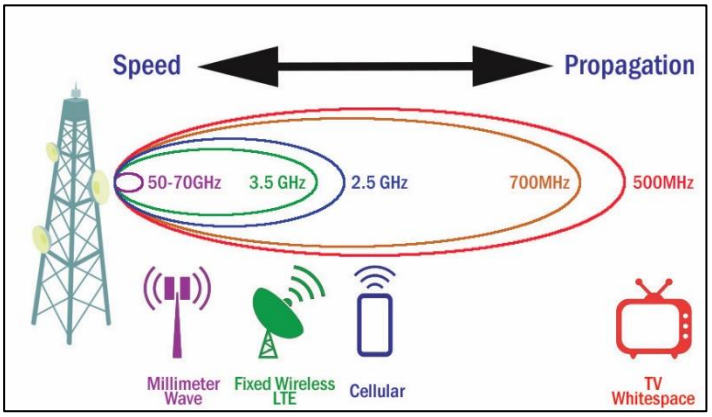


Figure 3: Simple Propagation Diagram

Midco strongly believes that any portion of the C-Band that can be cleared after protecting incumbents should be reallocated for terrestrial uses, including rural fixed wireless. We are concerned that proposals in the record about a private sale of this valuable spectrum would neglect rural America and exclude operators like Midco. We hope the FCC will balance the needs of incumbent operators, urban 5G deployments, and next generation fixed wireless's potential to close the Digital Divide. Additionally, any auction must be conducted by the FCC, because the Commission has the Congressional direction to auction spectrum, and the expertise to do so in an efficient and equitable manner. A Commission-led auction is especially needed when, as with the C-Band, there are multiple applicants with various technologies interested in the spectrum.

Moreover, when I testified last fall, I noted that that the FCC should make more effective use of the 2.5 GHz band. The band is attractive because its propagation characteristics and high power allowance allows the broadband signal to penetrate through multiple shelter belts and forests to provide broadband and an internet solution for our most rural customers. Currently, however, the 2.5 GHz band can only be licensed to educational institutions, who may then lease the spectrum to others. But, 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. Figure 4 shows the current 2.5 GHz

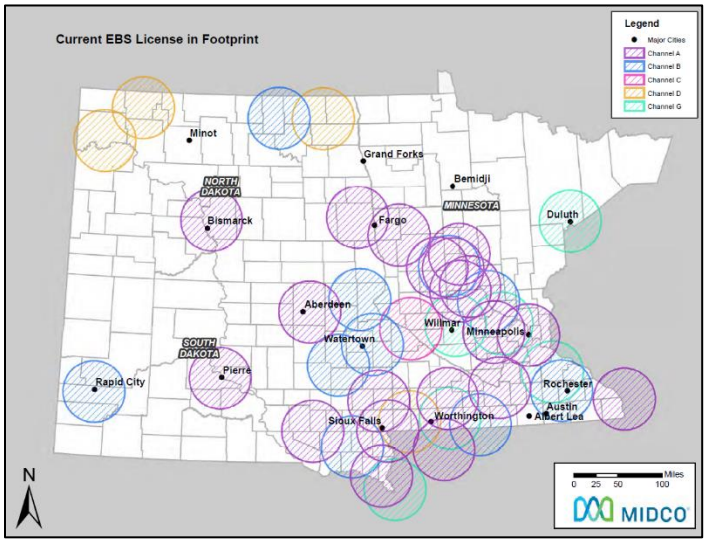


Figure 4: Current EBS Licenses from the 2.5 GHz Band in Midco's Footprint

"Educational Broadband Service" licenses in the three-state area – only 38% of this area has even a single license.

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. For example, as shown in Figure 5, the 2.5 GHz band would allow us to serve residents 18 miles away from the elevator. A single sector deployment at 200 feet on the Thompson elevator, for example, would cover 443.04 square miles and a population of 3,863. As technology continues to improve, we expect to be able to serve even more residents with high-speed fixed wireless.

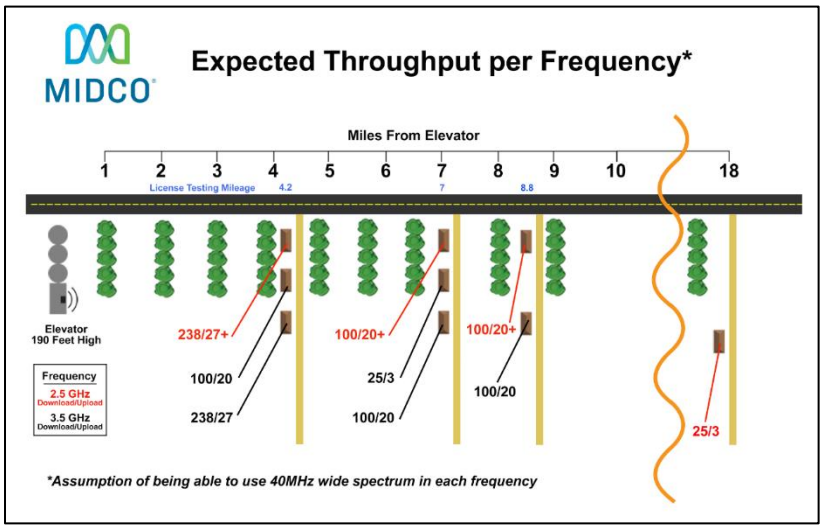


Figure 5: Service Ability with the 2.5 GHz

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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 you on these important issues.